Quality Coaching, Learning and Coach Development

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Abstract

Performance coaches are the architects of the coaching environment and responsible for leading and managing the coach-athlete-performance relationship. The effectiveness of the coach in leading and managing this relationship is important for producing appropriate outcomes such as physical and psycho-social development as well as competition results. The focus of this paper is on coaching within the performance environment, which includes development and high performance contexts. Firstly, this paper examines the notion of quality coaching; specifically, how we might conceptualise quality coaching. It is argued that a key understanding of quality coaching is associated with learning. The learners include all actors within the coaching context, including coaches, athletes and support personnel. In the second part of the paper, the multifaceted and serendipitous nature of coach education and development is discussed.

Learning is Central to Quality Coaching

Introduction

The pursuit of expert coaching has intrigued scholars, coaches, and administrators alike. Of coaching articles published between 1970 and 2008, some 13% of these papers related to coaching effectiveness and expertise. Despite the extensive research examining coach expertise and effectiveness, Lyle (2002) reported there remains “a lack of precision in terminology and approach, and a singular failure to relate effectiveness and expertise literature to any conceptual understanding of the coaching process” (p. 251); for example, authors define coaching expertise or effectiveness in several ways: (a) by athletes’ or teams’ level of achievement (win-loss records); (b) athletes’ personal attributes (e.g., satisfaction, enjoyment and improved performance), and/or (c) years of coaching experience (e.g., 10 years of coaching experience compared with two years) (Côté & Gilbert, 2009).

Conceptual ambiguity in defining coach expertise probably limits progress in the field of coaching science research but is not limited to vocations such as coaching. Conceptual clarity of the term expertise has also eluded other vocations such as teaching. Nevertheless, Lyle (2002), Côté and Gilbert (2009) argue for the use of terms such as effectiveness as a frame of reference for examining ‘quality coaching’. Nevertheless, the term ‘effective coaching’ has the potential to reduce the craft of coaching to a range of specific technical components, whereas the term ‘quality coaching’ is more subjective, inclusive, qualitative and holistic; and importantly considers the coaching context.

Quality coaching is associated with goal achievement. Nevertheless, quality coaching is bounded by time and place; for example, there is need to consider the quality of players and available resources. Successful performance outcomes are the primary criteria used to evaluate coaching performance;

however, whilst academics might argue moving beyond winning and losing in making judgements about coaching effectiveness (Mallett & Côté, 2006), the public and even those within the sport, typically base their judgements on the performance outcomes of those athletes and teams you coach. That is, successful athletes and teams are perceived to be associated with a high quality coach. If a team plateaus or declines in performance, most attention is directed to questioning the performance of the coach. Whilst there is some implicit acknowledgement of the importance of the coach in the coach-athlete-performance relationship in that perception, it begs the question: Is quality coaching a necessary pre-requisite for successful athletes and teams? Sometimes there are occasions in which the perception was that the athletes and teams performed well regardless of the coach. Although society at large seems to equate quality coaching with performance success, there is increasing evidence that the notion of quality coaching is understandably far more complex. Key questions might include: (a) How do we judge quality coaching beyond winning and losing? What are key criteria? (b) What are the links between quality coaching and variables such as: athlete performance; athlete learning and development; and coach learning?

In the 1970s and 80s, scholars informed by the behaviourist tradition, searched for the key qualities of successful coaches. A key assumption was that coaches with specific qualities or behaviours would determine athlete performance outcomes; that is, to be successful as a coach you should possess certain qualities or personality traits. The search for these successful qualities was purported to guide the recruitment and development of coaches. Moreover, the search for these qualities was intended to inform why some coaches were successful and perhaps through inference, why others were comparatively less or unsuccessful. Maybe this was also intended to acknowledge the contribution of coaches to the performance outcomes of athletes and teams. None-the-less, this emphasis on identifying key individual qualities marginalises the importance of the context. A conceptualisation of quality coaching should not be reduced to a set of individual qualities or competences, because it promotes an artificial separation between the coach and the coaching context. Hence, the significance of the context is underscored (Armour, 2004; 2010). Central to quality coaching is the matching of appropriate coaching behaviours to resolve the situational tensions at the time. As stated earlier, coaching is time and context bound, and more recent scholarship in coaching has identified the largely uncontrollable nature of high performance coaching and the need for adaptability and flexibility (e.g., Cushion, 2007). Therefore, before attempting to understand quality coaching, we need to be cognisant of what it is coaches do, that is, what is coaches' work?

Coaching is a general term often used to describe leaders, whose primary function is to assist individuals and teams. Coaches perform a wide range of tasks within the context of sport; but such a label loses its specificity without a contextual understanding, and consequently reduces its complexity to a simplified notion of coaching work. Understanding the specific nature of the context in which coaches operate is central to examining quality coaching. Consider the various forms of coaching from instructing novice golfers to coaching Olympic and professional athletes and how the work in each context is likely to vary significantly. The work performed by coaches in different contexts will reflect different coaching philosophies, goals, and competences (Armour, 2010); as well as varying athlete goals and conceptions of coaching.

In recent times, scholars have recognised there are different forms of coaching. Trudel and Gilbert (2006) proposed three broad types of coaches: participation, development, and high performance coaches. It is important to consider a typology of coaches in understanding similarities and differences in work that, in turn, impacts on how we might understand quality coaching.

In the context of recreational sport, participation coaches are likely to emphasize basic skill development, requiring low levels of intensity and commitment by the athletes. These coaches are also likely to emphasise

enjoyable and fun activities that facilitate social interaction and participation is most likely favoured over competition outcomes (Trudel & Gilbert, 2006).

Developmental coaches operate in a sporting context that includes a more formal competitive structure; an increasing commitment from athletes and coaches; a stable and enduring relationship between athletes and coaches over several years; and typically, athletes are selected based on playing and/or skill differences (Lyle, 2002; Trudel & Gilbert, 2006). The primary focus shifts from fun and enjoyable activities to more deliberate training with the central aim of enhancing performance (Trudel & Gilbert, 2006).

The work of high-performance coaches is typically organised, systematic, deliberate, but highly fluid and dynamic (Woodman, 1993). High-performance coaches undertake a range of tasks related to producing winning performances in international competition, which involves the highest levels of commitment by the coach and athlete/s to achieve public performance goals (e.g. Grand Final, Olympic medals). These performance goals are achieved through intensive planning, training and competition (Côté, et al., 1995; Lyle, 2002; Trudel & Gilbert 2006). High-performance coaches usually engage in highly complex decision-making tasks involving extensive data collection, analysis and management, and extensive interaction with a range of personnel (e.g., players, assistant coaches and support staff, such as sport scientists) (Trudel & Gilbert, 2006; Lyle, 2002). High-performance (HP) coaches, design and implement sophisticated, structured, and scaffolded coaching plans. Nevertheless, HP coaching is time and context bound and is therefore, complex, multifaceted, uncertain, and unpredictable (Jones, et al., 2004). HP coaches attempt to control as many variables as possible but the coach needs to be responsive to a dynamic environment. Cushion's (2007) term, "structured improvisation" captures both the complexity and the largely uncontrollable nature of high performance coaching. None-the-less, it is the head coach who attempts to bring order to this chaos. Although there have been attempts to categorise different forms of coaching, the boundaries between the various forms are not distinct. Even within the category of (elite or high-) performance coaching there is significant variation in what coaches do (Mallett et al., 2007). In other words, coaching work varies significantly from context to context and also within contexts (e.g., football), which makes comparative evaluations somewhat problematic. Finally, HP coaches are usually employed on a contract basis from around one to four years, which has issues for job insecurity, which will be discussed later in the paper.

A key question posed earlier was: What are the links between quality coaching and variables such as athlete performance, athlete learning and development, and coach learning and development? A second question might be: Who are the learners? It is the author's view that all actors within the coaching context are the learners.

Using the lens of Deci and Ryan's (1985) Self-determination theory (SDT) we might consider quality coaching as satisfying three universal psychological needs of humans – autonomy, competence, and belonging. Satisfaction of these three needs of the learner leads to promoting internal motivation and personal growth (Deci & Ryan, 1985). Recent SDT research has supported the adoption of autonomy-supportive coaching behaviours (Amorose & Anderson-Butcher, 2007; Lafrenière, Jowett, Vallerand, & Carboneau, in press; Mageau & Vallerand, 2003). Coaches whose identity and practice is developed from an autonomous internalisation or intrinsic motivation of coaching are likely to behave in autonomy-supportive ways, which include, (a) providing athletes some choices with boundaries in their training and competition; (b) taking their athlete's perspective into account, (c) providing their athletes with a rationale for tasks; and (d) encouraging self-initiative from athletes (Lafrenière et al., 2003; Mageau & Vallerand, 2003). If the coach's self-concept or self-image is contingent upon success (as defined by winning), it is more likely that coaches will use controlling and coercive behaviours – e.g., pressuring athletes to think and feel in particular ways; and the overuse of rewards and

punishment to shape behaviours (Lafrenière et al.). This controlled internalisation of coaching produces an oppressive coaching environment that, in turn, promotes obsessive rather than harmonious passion for the activity (Lafrenière et al.). Moreover, controlling coaching behaviours might lead to coach burnout and athlete dissatisfaction.

Coaches' behaviours influence the quality of the coach-athlete relationship as perceived by the athlete (Lafrenière et al.). Athletes who feel they are understood and valued by their coach are likely to develop a sense of belonging and become attached to the coach; whereas, athletes whose coaches intimidate them and use conditional regard are likely to feel resentment and anger towards coaches (Lafrenière et al.). Research has shown that coaches' autonomy-supportive behaviours promote athletes' feelings of being connected and understood by coaches (e.g., Alvarez, Balaguer, Castillo, & Duda 2009; Gagné, Ryan, & Bargman, 2003). Hence, autonomy-supportive rather than controlling behaviours, should foster better quality coach-athlete relationships (e.g., enjoyment, happiness, development, performance).

Although the satisfaction of the three psychological needs is considered universal, the use of autonomy-supportive coaching behaviours might have less appeal in societies that place more importance on the team rather than the individual. Moreover, research has shown the strong influence of the particular sporting culture (e.g., basketball) to perpetuate traditional practices and resist methods and approaches that challenge the orthodoxy. For example, coaches using autonomy-supportive behaviours are sometimes challenged by parents and players about this unorthodox approach to coaching, and consider this approach to be 'poor' coaching (Byrne, Mallett, & Tinning, manuscript under preparation). Using autonomy-supportive coaching behaviours does facilitate learning and development (Mallett, 2005); however, it does require time for athletes to become accustomed to that approach (Byrne et al.). For example, the extensive use of questioning rather than telling athletes what to do takes some time to become familiar with, particularly for those athletes who are used to being told what to do. There is the possibility that the use of questioning to make athletes think and take responsibility for their learning might be perceived by the athletes as the coach not knowing what to do (Byrne et al.).

The primary goals of coaching should be negotiated by the coach and the athletes they coach and the extent of the negotiation is probably dependent upon several factors, including both the coach and athletes' beliefs about learning, coaching, and performance (Armour, 2010). Coaches are considered to play a critical role in the development of talent and hence the centrality of coaches in shaping the lives of youth is underscored; however, it is important to note that whilst coaches have the capacity to positively influence the lives of sport participants, they also have the capacity to thwart their physical and psycho-social development.

Part of what coaches do can be observed and assumes that much of coaches' work can be specified in behavioural terms. In the development of the Coaching Model (CM), Côté and colleagues (1995) examined the work of expert gymnastics coaches and proposed that expert coaches develop mental models, which help organize knowledge that shapes what coaches do; This mental model of athlete's potential directs a coach's behaviour at training and competitions. The coach has a conception of what is required to enhance performance on the basis of the coach's mental model of the athlete's potential in conjunction with the coach's personal characteristics, the athlete's characteristics, and the context in which they operate. Basically, the expert coach has a good understanding of what is required for an elite athlete to achieve in terms of performance. From that knowledge they are able to determine the nature of the training and competition environments as well as the organizational requirements.

There is much to like about the Coaching Model. It is a conceptual model of the key factors involved in understanding the coaching process. Nevertheless, the model considers the perspective of the coach; however,

this formulation of a mental model may in fact be constrained by an uniformed and premature judgement about the athlete's characteristics. Perhaps coaches develop inappropriate mental models.

Coaches use what Bruner (1999) calls 'folk pedagogies' to make assumptions about what athletes should learn, how they should learn it, and why they should be able to learn it (Armour, 2004; 2010). These lay or implicit theories inform a coach's conception of an athlete and how and what they learn and this conception shapes subsequent coaching behaviours towards the learner (e.g., an athlete is an 'empty vessel' that needs to be filled). These assumptions beg questions such as: Who makes (and who should make) the decisions about what is important to learn? Coaching practices are usually underpinned by assumptions about athletes' preferences for learning and motivations, as well as an evaluation of the main performance deficits that are perceived by coaches as in need of fixing (Lyle, 1999).

Coaches' beliefs about learning, pedagogy, and athletes' personalities are manifested in their coaching behaviours, but sometimes coaches are unaware of their coaching behaviours. For example, coaches often report being holistic and athlete-centred in their approach to coaching; however, when they analyse their practice they often discover the inaccuracies of their perceptions. Coaches frequently reported these misperceptions about their coaching practice in their action research projects in our sports coaching degree. We also need to also consider the belief systems of the athletes and how they have come to see the world. However, coaches often lack information on athletes' views on learning and coaching, since it is unlikely that they have information about the life histories of athletes, which have shaped how their athletes view learning and coaching. These beliefs are also manifested in the way individual athletes respond to coaching. It is my view that elite and developing elite athletes have strong conceptions of what is quality coaching; although this conception has potential for some transformation over time. Hence, a key issue for coaches is acknowledging and responding to the idiosyncratic nature of individual athlete's views on learning and coaching in squads and teams. Understanding and responding to the perspectives of the athlete is pivotal to promoting athlete as well as coach learning.

Research by Mallett and colleagues (e.g., Mallett et al., 2008) has shown that coaches rarely receive feedback about the quality of their work. Mallett and Côté (2006) have argued for collecting formal feedback from the athletes, who spend more time with coaches than any other person; therefore, they have more information about the quality of coaches' work. Although athletes may have greater access to information about the quality of coaches' work, they are also influenced by their life histories and conceptions about what is quality coaching; in other words, the quality of the athletes' assessment of coaches' work is contingent upon their frame of reference. Therefore, athletes who have experienced variations in the quality coaches in the past may provide a better assessment than those who have not. A key issue for assessing coaches' work is the athlete's conception of what is quality coaching. Recent examination of coaching using action research and ethnographic methodologies have shown that athletes who have become accustomed to a particular view of coaching (e.g., autocratic leadership style) may consider more democratic approaches to demonstrate less competence as a coach (e.g., Byrne, et al., in preparation). Again, this highlights how belief systems are connected with the contextual nuances in understanding quality sports coaching.

Central to improving the quality of sport and its delivery is the development of sports coaches, who are respected for the quality of their work; therefore, in thinking about quality coaching the following is proposed. First, learning is central to quality coaching (Armour, 2004; 2010). Coaching work provides opportunities for learning for all actors in the specific context. Therefore, quality coaching should facilitate learning for coaches, athletes, and other support staff in the particular sporting context. The coach and athletes contribute to their own (Armour, 2004; 2010) and each other's learning in a significant way; that is, coaches, athletes and other

actors within the specific coaching context have the capacity to learn through ongoing symbiotic and functional relationships. Coaches, who should be focused on assisting athletes' learning, should be aware of how athletes experience these opportunities for learning (Armour, 2004; 2010; Brookfield, 1998), as well as how they as coaches experience the same learning opportunities. Some critical reflection of athletes' experience of learning (Armour, 2010; Brookfield, 1998) and the mediating role of their coaching behaviours in that process should facilitate the coaches' learning and subsequent development (Armour, 2004; 2010). Second, I caution against reducing quality coaching to a set of qualities or competences, because it marginalises the significance of the context. Each coaching context is unique and the notion of quality coaching is complex and bounded by time and place. What makes for quality coaching is complex and multifactorial and should consider the coach, athletes, other actors, and the context, making each coaching setting unique. Third, one's beliefs about learning, coaching and development shapes his/her conceptions of what is quality coaching. A key challenge for those responsible for coach development is the transformation of those belief systems that challenges some of the folk pedagogies used by coaches. Unfortunately, many coaches' behaviours are reflective of antiquated cultural practices and rarely challenged due to the strong influence of the cultural norms and practices. Nevertheless, this transformation will take place; although, it will take some time to shift one's frame of reference.

Coach Education and Development

The development of quality coaches is considered central to sustaining and improving the quality of sports coaching (Cushion, Armour, & Jones, 2003; Mallett, Trudel, Lyle, & Rynne, 2009). Coaches are considered the architects of the coaching environment, and therefore, pivotal to the quality of the sporting experience for sport participants (Mallett, 2005). Moreover, coach development is necessary for the professionalization of sports coaching (Armour, 2010; Lyle, 2002). However, coach education builds upon a foundation of knowledge and practice developed long before the coach's first foray into formal coach education. Early conceptions of coaching are forged by the life experiences of coaches, including their own playing experiences. Therefore, key questions might be: (a) how have the life histories of coaches shaped their learning and practice? And (b) how does coach education meet the needs of the learners (coaches)?

Key to understanding and analysing coaching pedagogy is understanding and analysing coaches' lives and careers that underpin their coaching philosophies (Jones, et al., 2004); that is, our life experiences shape our philosophies that, in turn, shape how we coach. Tinning (2010) defined the term pedagogy as referring to coming to know about processes of (coaching) knowledge re(production) and also the re(production) of values, attitudes, dispositions, subjectivities, and identities. Several coaching scholars have examined the importance of life histories to the development of coaches (e.g., Gilbert, Côté, & Mallett, 2006; Koh, Mallett, & Wang, in press). In the retrospective examination of successful coaches, researchers (e.g., Gilbert, et al., 2006) have identified three broad influences on the development of quality coaching – athletic/sporting experiences, coaching experiences, and formal education.

Sport participation experience. Coaches typically coach the sport they played (Trudel & Gilbert, 2006). Research has shown that coaches develop some conception of coaching work (how and what to coach) as a player (e.g., Bloom, Durand-Bush, Schinke, & Salmela, 1998; Cushion et al., 2003; Sage, 1989). Therefore, early coaching practice is strongly influenced by one's own playing experiences. Two key questions might be: (a) What makes some players (and not others) become coaches?; and (b) How important is the notion of 'identity' in deciding to become a coach? Maybe coaches were dissatisfied with their playing careers or perhaps the altruistic reason for helping others is pivotal for players becoming coaches? Nevertheless, this background in

playing the sport they coach seems likely to contribute to: (a) Knowledge of skills, rules, strategies and tactics (at an appropriate level); (b) Understanding the ‘culture’ of the sport – including the politics; (c) Self-efficacy in knowing about the sport (and perhaps gaining some credibility with parents and athletes); and (d) Perceived identity (sense of belonging) within the sport (Jones et al., 2003; Mallett et al., 2007; Mallett, 2010; Trudel & Gilbert, 2006).

How coaches were coached has likely influenced how they coach. Although coaches may have learned adaptive ways of coaching from their coaches, perhaps they also learned maladaptive ways of coaching. This reproduction of inappropriate coaching practices is problematic for progressing the vocation of sports coaching. Moreover, it is particularly difficult for coaches to use unfamiliar pedagogies to challenge the cultural practices of the past within the broader sporting culture. To coach differently might suggest a lack of understanding of what is coaching, which contributes to players and parents treating your coaching with suspicion and in some cases contempt (Byrne et al., under preparation). However, if coaching is to progress as a vocation then challenging some of the orthodoxy of cultural practices is essential.

Coaching experience. Coaching work has been identified as the primary source of coaching knowledge (e.g., Gilbert & Trudel, 2001; Lyle, 2002; Jones et al., 2003; Mallett et al., 2008). Most successful coaches have coached for thousands of hours (Gilbert, et al., 2006; Mallett, 2010) and there appears to be some consensus around the 10-year rule in becoming a high quality coach. Australian data shows that high-performance coaches had coached for around 10 years prior to employment as a high-performance coach (Lynch & Mallett, 2006; Rynne, 2008). Although the evidence shows that coaches might have extensive coaching experience, prior to becoming a high-performance coach, the emphasis should not be on the quantity, but rather the quality of that experience. It is the transformation of experience into coaching knowledge that is critical (Trudel & Gilbert, 2006). This transformation is possible only through ‘reflection-in-action’ (during coaching work), ‘reflection-on-action’ (post coaching work) and ‘retrospective reflection-on-action’ (after the season) (Gilbert & Trudel 2001; Trudel & Gilbert 2006). Coaches have extensively reported the centrality of self-reflection in how they make sense of coaching experiences and the subsequent contribution it makes to their development (Cushion et al., 2003; Trudel & Gilbert, 2006). The critical role of another in facilitating that self-reflection is underscored (Mallett et al., 2007; Trudel & Gilbert, 2006). Unfortunately, for most coaches much of this extensive coaching experience is unguided, which is problematic (Mallett et al., 2008; Rynne, Mallett, & Tinning, 2006). The lack of guidance by a more experienced coach is likely to thwart learning, because it relies to some degree on the use of ‘trial and error’ as the ‘modus operandi’.

Formal education. Gilbert and Trudel (2006) reported that most high performance coaches around the world are university educated. Research has shown that coaches highly valued university education (Mallett, et al., 2007; Mallett, et al., unpublished data; Rynne, 2008; Salmela & Moraes, 2003). Recent research has shown that coaches with university education valued that experience, especially in the middle and latter stages of their coaching career (Mallett, Billett, Tinning, Rossi, & Rynne, 2010). Coaches who were university educated report its value in developing critical thinking skills, which are considered important in high performance coaching. Moreover, for coaches with Physical Education/Sport Science degrees the development of foundational content and pedagogical knowledge for coaching was especially valued (Mallett et al., 2010). In contrast, coach accreditation/education has had minimal impact on high performance coach development (e.g., Cushion et al., 2003; Mallett, et al., 2008; Trudel & Gilbert, 2006). This limited valuing of coach accreditation/education through sporting organisations, is in part, due to the limited time spent in these courses, compared with other learning opportunities (Mallett et al., 2009).

Quality coaches by necessity must be lifelong learners and should value all opportunities for learning

from informal to formal (Mallett et al., 2008). Although it is important to recognise broad classifications of coaching work – participation, developmental, and (high) performance – it should be acknowledged that there is significant variation both within and between sports. These significant variations in what coaches do is challenging for those responsible for the preparation of sports coaches. Coach education systems around the world continue to struggle with the most effective and efficient means of accrediting and developing coaches. These coach education systems are evolving through a constant process of development and re-development (Mallett et al., 2009). Specifically, coach education personnel within each sport are challenged in developing an appropriate means of aggregating and accrediting coaches' varied learning experiences (Mallett et al., 2009). For example, consider the backgrounds of two coaches – one who has played at the international level for 10 years with little coaching experience and another who has developed their coaching craft over 10 years but had no national or international playing experience? To add to the challenge, we need to consider coach development in the context of the adult learners (Mallett et al., 2009). Although coach accreditation is important, I argue that the primary focus should be on continuing coach development. The notion of lifelong learning and the ongoing professional development of coaches is critical to improving the quality of sports coaching and the impact upon the quality of the sporting experience for sport participants (Armour, 2010). This improvement in the quality of the sporting experience has the potential to reduce some of the attrition from sport at key transition periods (e.g., post primary and secondary schooling) as well as facilitating the physical and psycho-social development of sport participants.

Often the terms 'education' and 'learning' are used synonymously; however, we might consider the term education to be aligned with those responsible for program development and delivery and learning to be concerned with the learner (Mallett, et al., 2009). Sports coaches participate in a range of learning opportunities (informal to formal) that contribute to their development to varying degrees. Coombs and Ahmed (1974) proposed three main classifications of education - formal, informal and non-formal – for which there is some degree of overlap.

Formal education is associated with guided (mediated) learning opportunities, with a pre-determined curriculum, which is usually sanctioned by governing sporting bodies, and mostly recognised with awards or certificates (Mallett et al., 2009). In these programs, the learner has little control over what information is valued and therefore what is to be learned. Furthermore, assessment drives learning. These formal education programs may also include formal mentoring programs. Nevertheless, there has been much criticism of formal coach education and accreditation programs, especially those aimed at elite coaching. Essentially, the criticisms revolve around the lack of authenticity, and the limited impact on coaches' learning, development and practice; however, coaches have reported the importance of higher coach accreditation as being a ticket to a 'higher' coaching position (Gilbert & Trudel, 2006; Lyle, 2002). Despite these criticisms formal tertiary coach education programs can and do address this issue of a lack of authenticity (Mallett & Dickens, 2009), which is discussed later in the paper.

Non-formal education is associated with continuing professional development activities, such as workshops, seminars, and lectures. These activities are probably best described as being less formal rather than non-formal, if you consider the typically structured format in delivery and content. These less formal experiences also provide opportunities for coaches to develop some social networks. Coaches often report learning through discussions with other coaches in the foyers at conferences - at meals and over a few beers at formal and informal social functions.

Informal education includes the valuable learning opportunities provided within the workplace, that is, doing coaching work (e.g., Cushion, et al., 2003; Mallett et al., 2008; Rynne, 2008). Central to the development

of (high) performance coaches is the interdependence between (a) coaching tasks, (b) other workers in the team, and (c) workplace itself (Mallett et al., 2008). Hence, a key strength of learning through work is authenticity; however, our research (e.g., Mallett et al., 2007; Rynne, 2008) has shown that coaches learn without much guidance from others during their day-to-day coaching experiences. Moreover, coaches can only learn *for* and *through* coaching activities to which they have access (Mallett et al., 2008). Often assistant and scholarship coaches are denied opportunities to engage in meaningful work, partly due to the head coaches' concern about job security (Mallett et al., 2010). To maximize the learning from these informal opportunities, some key principles are requisite. Firstly, coaches require sufficient internal (or self) motivation, autonomy (i.e., ownership), opportunities for engagement in meaningful work, and to make sense of their learning (Mallett, et al., 2009). Secondly, coaches' agency in facilitating their learning is also related to their work environment that provides opportunities for coaches to engage in routine and novel work tasks, engage in other CPD, as well as sufficient and informational feedback about the quality of their work (Billett, 2006; Mallett et al., 2008; Mallett et al., 2009; Rynne, 2008). Overall, there has been overwhelming evidence supporting the significant contribution of informal education to coaches' learning in recreational, development, and elite coaching (e.g., Cushion, et al., 2003; Gilbert & Trudel, 2001; Mallett, et al., 2008). None-the-less, it is noteworthy that Australian research (e.g., Mallett et al., 2008; Rynne et al., 2007) has shown that the highly contested nature of elite coaching presents several barriers to coaches' learning for and during work. Coaches' ego, the limited opportunities for coach employment, as well as the volatility of coaching employment, all contributed to a lack of collegiality that, in turn, thwarted coach learning and development (Mallett et al., 2008; Mallett et al., 2010). What does seem to be critical in facilitating coaches' learning is the sporadic and informal guidance from another throughout their career; however, this guidance tends to be less formal, and not consistent with the notion of mentoring (Mallett, 2010). Research by Mallett and colleagues has described the social relations between coaches and others as a dynamic social network; that is, a set of transient relationships between a coach and confidante/s whose loose membership is selected on a needs-basis in assisting with a specific and current issue (Mallett, 2010; Mallett, et al., 2008; Occhino, et al., under prep). In other words, coaches seek confidantes to help them solve current issues or problems. It is noteworthy that it takes coaches several years to identify and communicate with a confidante whom they trust and respect (Mallett et al., 2007).

All forms of education provide opportunities for coaches' learning and each should be valued for their contribution rather than what they do not provide. Formal learning opportunities are usually developed and packaged by experts with formal assessment to promote quality assurance (Mallett et al., 2009) and perhaps accreditation. Specifically, tertiary education in coaching has the capacity to develop critical thinking skills, including reflective skills (Mallett et al.). However, formal education might lack context & meaning; but, this can be overcome with recognising the need to contextualise formal education using authentic work experiences (Mallett & Dickens, 2009). The University of Queensland have used this model to develop a formal coach education program that engages coaches' work with concepts and ideas about quality coaching (Mallett & Dickens, 2009). This program has promoted consideration of a more evidence-based approach to coaching practice that at times challenges coaching orthodoxy.

Less formal education through apprenticeships, workshops, everyday working tasks are highly authentic (Mallett et al., 2009); however, informal education may lack opportunities to engage in novel coaching tasks, quality assurance, appropriate feedback and innovation, and perpetuate traditional coaching practices (Mallett et al., 2009). Moreover, the contested nature of coaching may limit the quality and quantity of guidance in the coaching context (Mallett et al., 2009). The complementary contributions of all forms of education each differentially contribute to coaches' learning. Hence, the key to quality coach education and development is

using all forms of education to promote coaches' learning and individualising that learning as coaches develop their coaching craft. Central to this idea is that coaches take responsibility for their own lifelong learning, that is, coaches' agency is central to what they learn and how they learn.

Concluding Remarks

The search for the holy grail of quality coaching will continue – but it is a futile search. There is no one answer, such as, a set of key characteristics that might represent the grail. What makes for quality coaching is multifactorial and considers the coach, athletes, and the context, making each coaching setting quite unique. However, self-reflection, guidance from others, as well as the belief and practice of being a lifelong learner are considered a necessary but not sufficient proxy for the grail of kinds. Quality coaches and their development is key to providing athletes with positive sporting experiences. Coach learning opportunities should build upon coaches' existing knowledge, skills, and understandings, but more importantly extends their capacity to engage in subsequent learning opportunities (Armour, 2004; 2010; Dewey, 1958) – this principle of *continuing experience* will arouse an enquiring mind and, in turn, facilitate internal motivation and hunger for more knowledge (Armour, 2010; Claxton, 2007; Dewey, 1958) – the more you know the more you realise what you do not know. The development of coaches should be focused on effective and purposeful change in coaching practice and its contribution to adaptive change in athletes' learning and development; that is, the focus should be on coach and athlete learning.

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