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Excellence in Coaching: The Art and Skill of Elite Practitioners

Christine S. Nash, John Sproule, and Peter Horton

During this study, 10 expert coaches were interviewed to examine their views on aspects of their individual coaching practice. Four themes emerged from the interviews: (a) the long-term approach, (b) the authentic coaching environment, (c) creating a learning environment, and (d) the quality and quantity of training sessions. These coaches were consistent in their attempts to facilitate learning experiences for the athletes, while setting high standards in both training and competition. The study's findings show that expert coaches have to orchestrate a large number of variables when planning and executing a training session, and their success depends on their coaching knowledge and their skill at contextualizing the necessary components for specific situations.

Key words: coaching knowledge, contextualization, expertise

Training sessions are the embodiment of the coach's art and products of their holistic skill-set. They are the mechanisms through which coaches bring all the elements of effective practice together and are the points at which coaches impart their craft to the subject, be it a squad, a team, a team-unit, or an individual athlete. Previous attempts to identify the correlates of coaching expertise have embraced various methodological approaches in the examination and analysis of training sessions (Bloom, 1985; Bloom, Crumpton, & Anderson, 1999; Douge & Hastie, 1993; Lacy & Darst, 1985). A surprisingly high percentage (70%) of the identified factors was derived from information available only during game time, with less than a third coming from prerequisite game information stemming from the coaching or practice environment (Trudel, Haughian, & Gilbert, 1996). It is suggested that

the collection of quantitative data related to coaching behavior has limited significance if the situational context is not considered, with such considerations as objectives, periodization, and sport culture being viewed as vital constituents of an analysis.

To understand better the interventions of coaches, it is imperative that those conducting the analysis should investigate the rationale underlying the decision-making processes of the coaches before conducting the more usual intervention analysis based on systematic observation (Jones, Housner, & Kornspan, 1995; Trudel et al., 1996). To achieve a meaningful understanding of the rationale for this, it is necessary to examine the whole coaching process, including the critical-thinking skills used by the coaches (Jones & Turner, 2006; Nelson, Cushion, & Potrac, 2006; Vallée & Bloom, 2005). Decision-making is at the very heart of an elite coach's practice because, as Williams (2006) maintains, the onus for making all decisions as to "how best to structure practice and provide effective instruction currently rests, by and large with the coaches. It is the coaches who decide what type of practice the athletes engage in and when or how to provide instruction" (p. 15).

In their review of research articles looking at "coaching science" over a 30-year period, Gilbert and Trudel (2004) identified that there was a dearth of published studies that considered coaches who exhibited exemplary styles or practices. A most significant observation was made by Jones and Turner (2006) when they identified that a

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very small number of coaches had gained their expertise through coach-education programs. Many coaches, in fact, had decided that formal qualifications offered little value and played no role in the development of their knowledge as elite coaches (Armour, 2004). Elite coaches maintain that existing coaching programs are not sufficient to further their development, whereas pathways embracing interaction with senior coaches and mentors are viewed as being far more productive (Irwin, Hanlon, & Kerwin, 2004). As in many professional contexts, successful coaches are those who can adapt their behavior to meet the demands of their particular working environment, and coaches clearly believe that interaction and engagement with senior coaches or mentors provides appropriate professional guidance (Jones, 2000; Lyle, 1999; Potrac, Brewer, Jones, Armour, & Hoff, 2000). Similarly, as coaches develop and work with high performance athletes, their role in practice also organically changes in response to the stimulus of working at this higher level, and clearly this requires better management and facilitation skills (Lyle, 1999). Hodges and Franks (2002) stated that "the 'practice session' itself can be considered a critical element in the development of skilled athletic performance" (p. 793). A series of specific and appropriately periodized, well-structured schedules for practice and competition can go a long way to ensure optimum development throughout an athlete's career.

The significance of the present study is principally grounded in the quest to understand better the principal constructs that underpin expert coaching based on the conclusions of Nash and Collins (2006). It presents information that demonstrates how expert coaches use knowledge to create an appropriate environment in their practice sessions. The discussion will also explore the dimensions of quality practice, specifically the aspects of preparation, execution, monitoring, and evaluation.

Method

Participants

This study analyzed the views of 10 expert coaches (men = 8, women = 2) in a number of different sports: football = 2, swimming = 2, basketball = 1, tennis = 1, squash = 1, skiing = 1, kayaking = 1, and hockey = 1. The coaches in this study were selected using purposeful sampling with four criteria: that they (a) held the highest coaching award from their national governing body, (b) had a minimum of 10 years continuous coaching experience, (c) were currently coaching at a representative level, and (d) had developed national-level performers over a number of years. All participants provided written informed consent, and all research was undertaken following the ethical guidelines of the University of Edinburgh.

More detailed information regarding the participants is contained in Table 1.

Data Collection and Analysis

In total, 10 separate, semistructured interviews were conducted, one with each of the coaches involved in this study (Gratton & Jones, 2004). The questions for the interviews were constructed by the lead researcher with the specific purpose of examining aspects of practice as evidenced by expert coaches themselves (Guest, Regehr & Tiberius, 2001; Mills, Bonner & Francis, 2006). The questions associated with each area were then given to two fellow researchers for discussion (Lindlof & Taylor, 2002). Following extensive debate, all researchers agreed that the questions were appropriate in terms of their potential to elicit responses to the topic under investigation (Miles & Huberman, 1994).

All interviews took place in a time and place of the coaches' choosing and carried out in an area free from distraction. All interviews were digitally recorded and transcribed verbatim. These interviews were inductively analyzed, using grounded theory (Glaser, 1992). This allowed the findings to be reported by theme-area with illustrative quotes to capture the richness of the participants' responses. The transcripts were analyzed using a selective thematic analysis (van Manen, 1998) in which categories/patterns/themes that contributed to the core theme were identified. Each transcript was read repeatedly, and significant statements relating to, and illustrating, the various dimensions of the essential theme were identified and marked (Kuziemy, Downing, Black & Lau, 2007). Following this process, the linkages between the themes in all transcripts were found and highlighted. Figure 1 illustrates how data are used within the constant-comparison process to establish categories and themes. Across transcripts, those categories and patterns that dovetailed in meaningful yet distinct ways were developed into four key themes.

Table 1. Participant coach details

Gender	Age	Sport	Coaching experience (years)	Pseudonym
Male	42	Tennis	25	Matt
Male	37	Squash	20	Andy
Female	36	Hockey	21	Trish
Male	47	Swimming	22	Robert
Male	43	Football	23	Graeme
Male	46	Kayaking	27	Alan
Male	61	Football	37	Scott
Male	58	Basketball	32	Jim
Male	45	Skiing	24	Brian
Female	53	Swimming	20	Jill

Trustworthiness of Data

“Without rigor, research is worthless, becomes fiction, and loses its utility” (Morse, Barrett, Mayan, Olson, & Spiers, 2002, p. 14). Because the analyzed data were elicited from semistructured interviews, the rigor in this research study was ensured by using a qualitative research methodology that embraces the concept of “trustworthiness” in four aspects: credibility, transferability, dependability, and confirmability (Guba, 1981; Guba & Lincoln, 1982, 1989). The data gleaned from the interviews was transcribed and, as mentioned above, after each transcript was read repeatedly, the themes and significant elements were analyzed (Kuziemy, Downing, Black, & Lau, 2007). In the interest of trustworthiness or credibility, and to ensure accurate interpretation and categorization of the coaches’ meaning, the coaches were periodically given opportunities to review the researchers’ interpretation of the data from their interviews (Guba & Lincoln, 1989; Koch, 1994).

Findings and Discussion

Four key themes emerged from the analysis of the interviews. These were (a) the long-term approach, (b)

the authentic coaching environment, (c) creating a learning environment, and (d) quality and quantity of training sessions.

The long-term approach reflects whether or not the motivation of the coaches was based purely on the performances of their athletes or teams in forthcoming competitions or was part of an ongoing, committed process (Lyle, 1999). The authentic coaching environment uses competition to enable the performers to practice in a situation that authentically replicates the demands of the competitive arena. The creation of a learning environment implies that the coach will give the athletes/teams opportunities for questioning, decision making, and problem solving, during which the coach will facilitate both the practice and the learning. All coaches in the study indicated that they insist on high quality performances in their sessions and, while time constraints and the timing of practice were mentioned, some emphasis on “quantity” axiomatically emerged as a dominant theme.

The Long-Term Approach

The coaches in this study were considered to be high-performance, elite coaches who fulfilled the accepted cri-

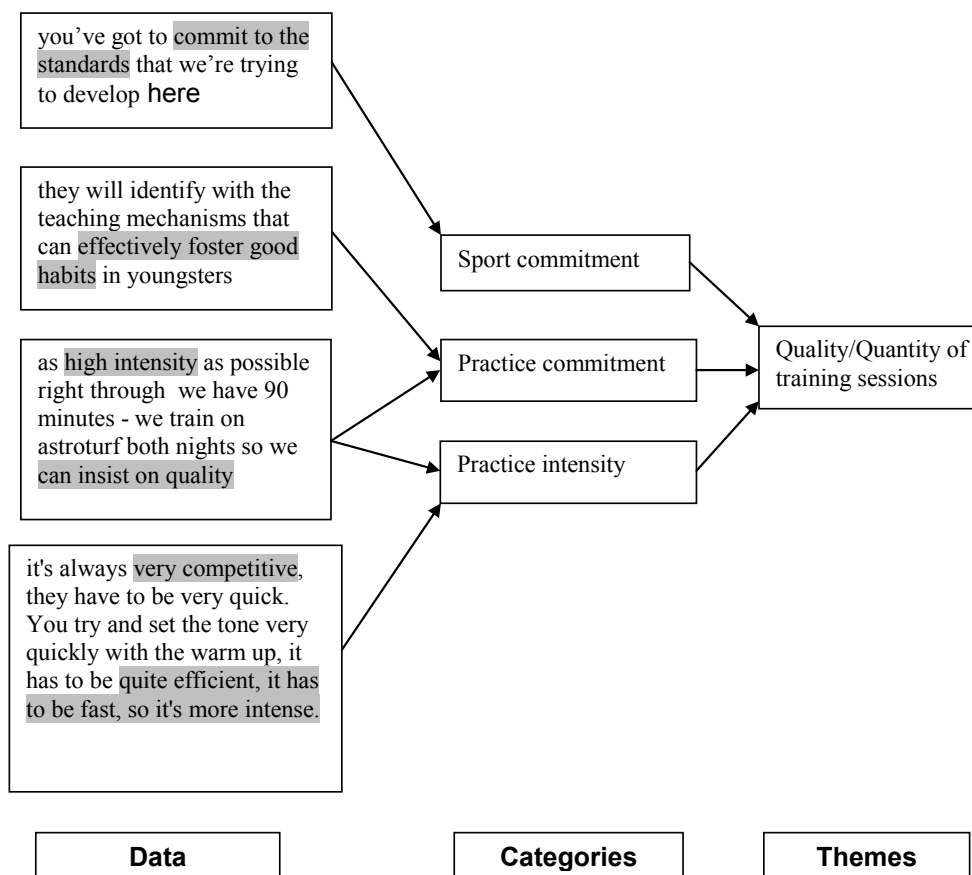


Figure 1. Example of data analysis.

teria of expertise. Consequently, the performance of their athletes was crucial, with the planning and preparation stage leading up to an event requiring anything from 1 to 4 years. All of the athletes they coached were competing at either international or professional level, as highlighted by the male skiing coach, Brian, who observed,

...two things—we work on a periodized program where certain things need to be done at this time of year, and I'm talking both in the gym and on the slopes, and secondly what does the athlete actually need to develop as well. Not all the athletes are on the same program, I'm not saying it's individualized for each athlete—it is in the gym, those are individual programs, but in terms of on slope, I'm just thinking, going through some of the athletes, there are currently 3 distinct development phases, and part of that is as much their different sizes and different strengths—some can do certain work and some others can't and that's how it's based. What do we need to do this time of year in technical development and also biological development?

This form of program planning reflects both a long-term aspect and a high degree of individual focus. It displays Brian's clever use of the training session as part of the long-term program and the potential to use it to measure short-term goals. The programming also demonstrates the depth of Brian's knowledge, not only of skiing and the procedures necessary for elite performance in the sport, but also how to contextualize all the necessary components to suit the individual performer's needs.

The squash coach, Andy, gave a very detailed account of his own approach to planning a season's coaching program, which also manifestly reflected his underlying coaching philosophy as well as the mechanics of his coaching:

Firstly, with any player from the start, I would say I'm a firm believer in building a strong technical base up. This is debated a lot with other squash coaches, as squash is a very tactical game. I think it's very important that you can't ask a player to perform tactically if they can't perform the skill technically in the first place. So I'm a strong believer in building up a very firm base in the technical skills and then gradually interlinking these together. So from technical developing to tactical practices and then bringing in the movement—it's building up in chunks. I look at coaching or learning the skills as a massive jigsaw, so you're working on little chunks, and then you join

two or three other pieces together, and after a while you can see how that links to another section, which joins together. It's one of these never-ending ones, you never finish the jigsaw. Sessions are mostly 40 minutes and it all fits in with the long-term plan, their ability level, whether they have a competition/tournament coming up, whether it's the off-season. If it's a time for developing skills, one or two of the players are working specifically on movement patterns and then, obviously, the tournament season comes in and it's trying to gear up for specific events, so we'll go in for more of the tactical practices. It's in the off-season obviously that you work on new skills for the next season.

In these comments Andy revealed what he considered an appropriate hierarchy of development for his performers, in which he envisioned that certain components of performance had to be added at appropriate times, using a jigsaw analogy. Andy felt that this allowed him to plan his 40-min sessions in greater depth and, similar to Brian, showed how he felt each training session fit into the long-term plan. As a coach of elite players, Andy also highlighted his use of part-progressive practice, best used by experienced squash players rather than beginners (McMorris, 2004). He appeared to display a rather rigid approach to the practice environment, unlike other coaches in this study who adopted a constructivist approach in their practice. Jim, the basketball coach, discussed the long-term impact of an appropriate practice environment:

I come back to the view that in practice as you get the more mature, slightly more experienced players, you've got to keep them on task because ego does tend to take over. ...I think the work ethic, the trust ethic developed over a number of years, that's the key to this. Athletes having a career is very important to consider, either it has to start with these younger kids, just tell them how to look after themselves, get good exercise habits, recognize that invariably there is going to be a balance in their lives between the academic and the lifestyle that they live outside, nurture the good athletic habits that when they come to practice, doesn't matter what sport, you've got to commit to the standards that we're trying to develop here because otherwise it's not going to be worth it for you.... So you get into systems where the expectations are there and the standards are implicit—I think that's the key—that when you play you're playing for a purpose.

He thoughtfully highlighted the importance of a long-term approach, not just to the planning of his coaching but to the overall long-term development of his athletes. This is essential for players who are planning to progress to winning at the elite level. Jim seems to be more concerned with the holistic development of his players, the educational concept of differentiation, and attempts to provide them with opportunities to process, construct, and make sense of their practice session.

All the coaches in this study considered the development of performers to be a long-term process, although there was clear acknowledgement of different outcomes, whether it was elite performance or life-long participation in sport. There were differences in their planning processes, with some adopting the same long-term approach to their coaching as they did with the development of their athletes. Others considered the long-term approach to be more holistic, as in the case of the implicit and explicit standards mentioned by Jim.

The Authentic Coaching Environment

The value of integrating aspects of competition into their practice in an attempt to make the practice sessions as authentic as possible, thus reflecting the stress and intensity of competition, was mentioned by all the coaches in this study. One of the football coaches, Scott, made an interesting point regarding performance:

I'm a great believer in performance, in the sense that let's make it public, and I think that's a part of the regime [*sic*]. If you include public performance in everything you do. The more you include public performance, people feel threatened. If you don't include that threat, and I use threat in the kindest way, you don't have an authentic day's work.

Scott's view was that athletes need to perform effectively in competition, so practice sessions need to include an element that simulates the competitive environment, ensuring that the players can become accustomed to the threats and anxieties implicit in a competitive environment. This notion was continued by the kayaking coach, Alan, who explained that he set up his sessions to allow his paddlers to construct their own knowledge in an authentic environment:

I try to create an environment which is open. Among the things that I try and do initially, I'm quite rigid initially, it's like teaching initially with a lot of input, and then, if I've done my job properly the session should run itself, I let them get on with it. That's the type of environment where things are quite

controlled to start off with and then very, very relaxed and you're able to move back from it. Then within that context, that's when the real learning takes place—you've got to acquire a lot of technical knowledge, procedures to follow when they've got to do stuff, but within that, the way they use stuff. The real context of teaching and coaching is the fact that they've got the technical skills, but do they know how to apply them?

Alan had a well developed knowledge base that permitted him to manage a potentially high-risk coaching environment by being able to give his paddlers the freedom to experiment in a secure learning environment (Berliner, 1996). The contextualization of practice (situated learning) is supported by 90% of the coaches in this study, who considered it to be a required characteristic of expert coaching (Nelson et al., 2006; Sullivan, 2005). One of the two swimming coaches, Robert, demonstrated his experience in coaching by being able to anticipate the effect that his demands could have on his swimmers:

If you don't make training replicate some aspect of competition, then you are not putting the swimmers under enough stress. They have to learn how to handle the stress, and it's best if they get their first experience of that during training. If you can make training as tough as possible—they need to be challenged all the time—then the competition becomes much less stressful and upsetting.

A significant proportion (70%) of this coterie of elite coaches made particular reference to the need for both man-management and confidence-building skills for coaching at this level of competition (Gilbert, Côté, & Mallett, 2006; Weiss, 2003). It is suggested that the coach not only must be aware of this, but needs to be able to put these skills into action in order to manage the individual athlete and the team effectively. The coaches should also be able to tailor their coaching sessions so that they facilitate the development of confidence and some ownership of tactics and strategies; this is particularly important immediately prior to competition. The hockey coach, Trish, considered the initial part of her sessions to be the time when her players would be settling down, adapting to the up-coming demands of the training session, focusing, and preparing to concentrate:

If you take the warm up, then it's quite individual and we can all have a bit of banter, catching up on day's events and generally unwinding. I think that's important because there has to be a transition between getting

to training and getting into the mindset you need to train at the right intensity, to do things as well as you would in competition. I think allowing this transition helps them to concentrate when they need to.

Creating such a tone in the practice environment, where athletes are relaxed but focused, requires great skill on the part of coaches as well as a very good knowledge of the psychological make-up of their athletes. Most importantly, it emphasizes the necessity for a good level of mutual respect between the coach and the athletes, which, by definition, will precipitate a positive working relationship (Ollis, Macpherson & Collins, 2006; Vallée & Bloom, 2005; Werthner & Trudel, 2006).

It can be deduced from the comments of the coaches in this study that constructing an authentic coaching environment is an essential aspect of their practice, and to be able to achieve this it is evident that a well-developed knowledge base and an understanding of how to manage and motivate athletes are necessary attributes for elite coaches, if not all coaches. It can also be inferred from their comments that the ability to contextualize practice sessions is regarded as a key skill of expert coaches. Thus, it is suggested that the inclusion of authentic competitive elements into practice sessions is a vital dimension in the coaching of elite athletes.

Creating a Learning Environment

From the analysis of the practice of these elite coaches, it can be deduced that they each have an individualized coaching style and approach, and consequently the range of instructional techniques that were used was vast. Because all these coaches worked with elite athletes, the size of their squads tended to be small, particularly for those working in individual sports. Most elite coaches in this situation work on a one-to-one basis (Lyle, 2002), and unique talents emerge in such a rarefied atmosphere. An example of such an individualized coaching approach can be seen in the following explanation from Alan, in which he outlines his use of individual-needs analysis:

It varies depending on what the situation is. If I'm working with relatively experienced people, I actually try to find out what they actually need, a very quick needs assessment with them, and then I work it out from there, devise some kind of program which meets these needs. The more advanced people are, the more skilled they are at talking about the higher levels of skills, you actually go through quite a detailed process, discussing with people what they're actually wanting.

His appreciation of his most experienced performers is clear, but what also became evident was that he earnestly believed that athletes at this level of performance should be able to contribute to their own learning, and characterized his role as more of a facilitator of learning than a director. This concern with managing activities during practice, rather than directing them, would facilitate motor skill development in the more advanced performer (Griffey & Housner, 1991). This ability to allow practice sessions to develop inductively is consistent with components of expertise that this particular coach has developed over time (Schempp, 2003). The other football coach, Graeme, explained why he liked to use one particular method of coaching:

...it tends to be guided discovery more than anything else at times. Rather than go in and say, 'Don't do this, don't do that,' I've learned that the fact that I said don't means they do it—they do the opposite. Now I turn the negative into a positive. That's something that I've learned just through a course I've been on at university, and I try and do that now all the time. I ask the player, 'How best can we do this,' and if he answers it's almost like he buys into it, and it's far easier for you to implement your methods if the players buy into it.

This mode of working cooperatively apparently had benefits for him, and Graeme believed this approach enabled his athletes to be able to carry this flexibility, decision making and reflectivity into a competitive situation. Teaching performers to make strategic decisions in training will increase their ability to make more informed decisions under both pressure and time constraints (Durand-Bush & Salmela, 2002; McPherson, 1993). The optimum type of practice environment that these expert coaches envisaged involves the maximization of the learning opportunities for their performers, coupled with a heightened level of authentic practice (competition). As McPherson (2000) suggested, a coach who successfully embraces such an approach, with athletes being able to use these methods, could be viewed as having a high level of expertise.

As a whole, these elite coaches understood the difficulties associated with the transfer of skills and tactics from the practice environment to the fast-paced and highly stressful arena of top-class competition. They considered that a key feature of athletes' learning and development was their ability to use new skills and tactics in the demanding environment of competition. Andy thought:

Throughout the session, if what you're doing has clicked, you'll see it working within game structures, conditioned games, or specific matches. I think it's good to see, obviously when you're a coach, watching a performer in

a competition and things that you've worked on for a number of weeks, months, whatever, is showing within the games.

Graeme, who worked with a Scottish Premier League (SPL) football team, reminisced about how difficult some aspects of learning were, especially in the tactical domain:

We always finish off with an 11-aside training game, where we stop and put all the things we've done in training into practice there and that's a great guiding point to us to see whether they have taken on board what we've worked on and generally, I must say, we still have to stop the training game into double figures. For a 30-minute training game, we still have to stop it 10 times and reinforce the points again and again. We've three ways of doing it. We talk about it, we show them on a tactics board, and then we go and let them do it, and we always find that when they do it they take it on far better than any of the other approaches.

Embracing a coaching approach based on creating a learning environment for their athletes should enable coaches to advance to the state of being facilitators, where their performers start to make their own tactical or skill choices to solve performance problems, just as they do in the competitive environment at an elite level. Having to do this and gaining, it is assumed, some sense of ownership of their own learning, it is suggested the athletes are far more intrinsically motivated. This motivation, and the sense of responsibility for their own learning and development, would concomitantly give them a sense of ownership of the production of their competitive sport performance.

Quality Versus Quantity

The type of practice environments that these elite coaches attempted to create reflected their views on the age-old argument of quality versus quantity in regard to the nature of the work done in training sessions. Some of the coaches in this study highlighted the intensity of the training environment. For example, Scott, who worked in the English Championship, said it had to be as:

...intense as possible—as high intensity as possible right through. We have 90 minutes—we train on astroturf both nights—that's my choice because (1) it allows quality, (2) the surface is very rarely off, (3) we play in the dark in this country six months of the season anyway so it's floodlit, (4) it's got comfortable surroundings to get changed in and showered and what have you, (5) it's very accessible, and

(6) we get it at a very cheap rate. Probably one of the most important things is you know you only have 90 minutes, so as a coach you have to make the best of that time.

The intensity of the training session here was partly driven by a pragmatic consideration, namely the cost of hiring the training facility; however, Scott emphatically believed that the heightened intensity was necessary to simulate match-play in the authentic game situation. The tennis coach, Matt, also tried to create a similar level of intensity from the start, but the motivation for this was based on an entirely different rationale:

It will vary. If it's development, it's always very competitive. They have to be very quick. You try and set the tone very quickly with the warm up, it has to be quite efficient, it has to be fast, so it's more intense. I always try and create this because this is what they are going to have to face on the tennis court. You're trying to make it very intense and workmanlike.

The emphasis placed on intensity by both of these coaches, albeit for very different reasons, demands that their athletes focus on the production of quality performances in these particular phases of their training regimens. This emphasis on proper training, enabling quality practice, is a critical element in the quest for expert performance (Noice & Noice, 2002). These coaches understood that “practice is always relevant to performance, always effortful, and not inherently enjoyable” (Ericsson, Krampe & Tesch-Römer, 1993, p. 366), and it is because they are so experienced and have such high-level knowledge that they can invoke these conditions in their coaching. Thus, this could be viewed as indicating the very advanced stage of development of their coaching expertise, which is consistent with their status in the upper echelons of their profession. As the principles of deliberate practice are not directly included in any mainstream coach-education courses in the United Kingdom, expert coaches such as these must have independently gained their advanced knowledge and coaching prowess either experientially or intuitively. In doing so they have morphed their craft into expertise or, it could be said, into their art.

Siedentop (2002) suggested that if players have knowledge, understanding, and an appreciation of their coach's expectations, then clear learning outcomes can be set and, one hopes, achieved. An expert coach accumulates knowledge of the sport, knowledge of learning environments, and knowledge of performers, which highlights the relationship between coach and athlete. For coaches and performers to reach this stage of mutual understanding, motivation and commitment are vital. At an early stage of an athlete's development, however, the

standards referred to by Jim, the basketball coach, also need to be established:

The assumption is that you learn good habits—learning can be both negative and positive, you can learn some bad habits. It seems to make sense to me that when you watch the good teams at Junior International level, their fundamentals are rock, rock solid and they wouldn't have got there unless that was the case. I think that the higher up you go, and if coaching is about developing expertise in some way, both for the coach and the players, nurturing these so-called good habits, then the details of these fundamentals have got to be there. If coaching is about developing expertise, then detail is important.

In the above statement, Jim raised some crucial issues regarding the ability of a coach, irrespective of coaching qualification or expertise, to foster good habits, instill the fundamentals of movement, and continue to insist on the maintenance of high quality behaviors throughout training and competition. He also broached the subject of coaches who allow their athletes to develop bad habits without censuring them.

Attaining and maintaining a balance between quantity and quality is a skill that these expert coaches have to continue to be aware of and to adapt or redevelop in their practice with every new group, team, or individual athlete they encounter, because each has different tolerance levels, as well as varying psychological and physiological make-ups. Consequently, training activities must be purposefully planned to provide appropriate training time, authentic challenge, individual and team developmental opportunities, and sufficient recovery periods. Much of the rationale presented by these coaches regarding the "quantity" approach reflected a concern for pragmatic economic and scheduling difficulties rather than being the manifestation of a considered belief in this approach. The instilling of good practice habits early in an athlete's development and the necessity for continuing to insist upon quality practice throughout their careers seemed to be a more prevalent belief.

Conclusion

The 10 expert coaches in this study had amassed a considerable amount of coaching experience (251 years in total). Although all but the two football coaches had previously worked in different sports, they had very similar coaching philosophies. For example, all believed that the development of performers is a long-term process that will inevitably involve changing coaches, clubs, administrative organizations, and even, for some, nationalities.

A dimension that emerged as being of major importance to all the individuals in this group of elite sports

coaches was that they emphatically believed that it is vital for them to embrace long-term planning in all aspects of their practice. All believed that they have to consider the holistic development of their individual athletes, even if they coached a team. They believed that they were themselves personally responsible for their athletes' holistic personal development and not just their sport-performance development. It was apparent that all the coaches felt that it was imperative that they should adopt a long-term coaching approach as a fundamental element of their coaching philosophy, consistent with recent research (Nash, Sproule & Horton, 2008).

The coaching environment and the attendant discourse are in essence consistent with a definitive teaching/learning situation. As members of the upper echelon of their profession, all of the elite coaches in this study demonstrated both a sound knowledge and understanding of learning theory and exhibited appropriate coaching (teaching) strategies in the planning and the conduct of their coaching sessions. They placed a considerable emphasis on helping the individual performers take responsibility for their own learning. Obviously, this could only have been achieved if the environments the coaches created were supportive of this attitude and if the general climate was socially wholesome. All strove to facilitate the learning experiences of their athletes, in terms of both training and competition.

All 10 coaches viewed the introduction of competitive elements into practice situations as being germane to the correct preparation of their athletes. All considered it vital that their athletes train in the manner in which they were going to compete, so that they would be able to perform when it mattered most, when they were actually competing. This the coaches accomplished by using a variety of methods; some embraced the use of physical or mental stress in their coaching sessions, while others emphasized the pressure of decision making, as demonstrated by the squash coach's work with his players' shot selection. From the data gathered in the interviews, it was evident that all the coaches, at appropriate times in their coaching sessions, used situated authentic practice to enhance their athletes' performances in competition.

The expert coach has to orchestrate a large number of variables when planning and executing a training session. Their practice sessions epitomize their skill and art as a coach. The success with which they manage to do this depends to a large extent on their knowledge of their sport; knowledge of their individual performers; appreciation of the skills necessary for elite performance in their specific sport; and the interpersonal skills to be able to effectively engage with athletes, teams, and the ever-increasing numbers of support staff. Key to this success, according to this group of elite coaches, was their skill at contextualizing their knowledge to suit their own unique practice situation. As with all professionals, this largely stems from their

own development and “education,” but in regard to this cohort of elite coaches this process was unclear.

This study shows that there is a need to study the construction of coaching knowledge, with particular focus on how these skills are developed and applied. The participating coaches demonstrated, in varying degrees, some of the key characteristics of expertise. Given that the coaches were working in a variety of sports and different contexts, future researchers could investigate whether this type of development is a common occurrence, and, perhaps more importantly, how it happens.

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