

The Development of Coaching Knowledge

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ABSTRACT

Coaches are known to fulfill many different roles including leader, psychologist, friend, teacher, personnel manager, administrator, fundraiser and role model. The papers presented in this special issue emphasize these different roles by highlighting how coaches learn and how they foster an optimal learning environment. In the first section of this discussion article, I will briefly summarize the main issues covered in the five target papers. I will then propose that the learning environment of coaches needs to be put into a larger conceptual framework that would allow one to account for the variability of experiences that coaches go through before becoming a coach. The third section of this paper will describe three different settings in which coaches learn their skills. Finally, I will offer some concluding remarks and briefly outline directions for future studies.

Key words: Coach Education, Learning, Sport Coaching

THE SPORT COACH AS LEARNER

In the first paper of this series, Rynne, Mallett and Tinning focus on the influence of workplace (i.e., the Australian Sport Academy) as an important source of learning for high-performance coaches. They suggest unique features of workplaces which create learning opportunities that would be hard to match in other settings. The technical, social and organizational competencies that coaches can acquire through their experience in a formalized coaching context, such as the workplace environment, become an important source of experiential learning.

In the next paper, Cassidy and Rossi expand on this notion of experiential learning in a coach education context. The authors discuss the concept of apprenticeship, mentoring and communities of practice as important sources of coaching competencies. The literature review suggests that learning should be at the forefront of coaching education programs as it allows coaches to move beyond the technical aspect of coaching and learn about 'the practice' of interacting with, communicating with, and motivating athletes.

Nelson, Cushion and Potrac advocate use of coach learning as a concept and highlight that coaches learn from a wide variety of formal, nonformal and informal sources. Formal learning may involve studying for a coaching certificate or a university degree; nonformal learning may include coaching conferences and workshops; while informal learning can range from previous experience as an athlete and coach to interaction with peer coaches, as

well as self-directed learning, such as reading magazine articles. These authors conclude that informal, self-directed modes of learning have relatively greater impact than formal and nonformal learning.

Hodge and Allen focus on a more specific, yet probably one of the most important aspects of coaching, which is the motivational climate created by coaches. They argue that coaches' responsibilities should involve creating a learning environment that promotes skill development as well as athletes' psycho-social competencies. This holistic approach to coaching highlights the development of a mastery motivational climate. By fostering a mastery motivational climate, coaches promote activities that center around effort and learning while promoting personal competencies and life skills.

In the final paper of this special issue, Cassidy, Stanley and Bartlett discuss the use of video feedback as a technological tool for coaches to improve their learning environment. Their analysis raises questions and issues about the type of learning environment that coaches are creating when using video feedback with their athletes. From a designer perspective, video feedback technologies are developed to facilitate coaches' work. Yet, coaches and coach educators need to consider these types of technological advances in light of the athletes' needs, level of development, and experiences.

Overall, the papers of this special issue highlight the role of the coach as a learner by providing various sources of coaching knowledge. The papers provide support for Bronfenbrenner's [1, 2] ecological systems theory, indicating that coaching development is more likely to occur when coaches engage regularly in social interactions and domain related activities that become increasingly more complex over time. Borrowing from Bronfenbrenner's ideas, 'coaching development' can be conceptualized as a chain of developmental outcomes and activities that occur in response to personal and contextual requirements over a period of time. From this perspective, the study of "coaches as learners" separate from the activities that coaches regularly engage in and the environment in which coaches work will not give a clear picture of coaching development. The papers in this special issue provide valuable insights into the social contexts and activities that are important in the development of coaches' knowledge and competencies.

The papers of this issue re-affirm the fact that three variables must be considered before setting up any kind of coach education program. First, individuals that are initiated into coaching come from different backgrounds, experiences and knowledge. Second, coaches work in various types of contexts with varying amounts of resources, equipment and facilities. Finally, coaches work with athletes that vary in terms of age, developmental level and goals. One can see that any changes in one of these variables (coach's personal characteristics, athletes' characteristics and contextual factors) may affect the learning environment and the type of learning that a particular coach needs. Hence, it becomes important that coach education programs have consistent match ups between the objective of an individual coach, the context in which the coach works and the developmental levels of the athletes.

FACTORS THAT AFFECT COACHES' LEARNING

Côté and colleagues' [3, 4] Coaching Model (CM) is a useful way to conceptualize the variables that should be considered in designing optimal learning environment for coaches. The CM identifies the conceptual and operational knowledge of coaching and is developed around the following six components: (a) competition, (b) training, (c) organization, (d) coach's personal characteristics, (e) athletes' characteristics, and (f) contextual factors. The CM can be divided into two levels of variables: those that *affect* coaching behaviors and those that *represent* actual coaching behaviors. Table 1 outlines the CM main components

and variables at the two different levels of analysis. Level 1 components are categorized as the “ambient components” and consist of variables related to the coach’s personal characteristics, the athlete’s and team’s characteristics and the contextual factors. Although fairly consistent, the ambient components, their variables and their interaction, have the potential to facilitate or constrain the environment in which coaches learn. Level 2 components are defined as “behavioral components” and include variables from three different settings: training, competition and organization. In each of these three settings, coaches have different but interrelated roles. Also outlined in Table 1, associated under the ambient components and behavioral components of coaching, are a number of variables that are likely to affect coaches’ learning environments and communities of practice.

Table 1. Components and Variables of Coaching

Level One: Ambient Components	Variables
Coach’s Personal Characteristics	Coach’s knowledge (e.g. knowledge of coaching principles, intervention strategies). Coach’s personal philosophy about coaching. Coach’s personal life demands (e.g. demands from family or other social activities).
Athletes’ and Team’s Characteristics	Physical characteristics (e.g. age, height, weight, physical fitness). Mental characteristics (e.g. commitment, effort, confidence, anxiety, communication). Personal and social demands (e.g. demands from school, friends).
Contextual Factors	Financial resources (e.g. amount of money available for traveling, availability of scholarship). Training resources (equipment, facilities, training time, coach/players ratio). Competitive environment (e.g. crowd, rules, level of competition, win/loss record).
Level Two: Behavioral Components	Variables
Competition	Coach-athlete(s) interaction before the competition (e.g. pep talk, pre-game routine). Coach-athlete(s) interaction during the competition (e.g. tactical strategies). Coach-athlete(s) interaction after the competition (e.g. reaction to winning/losing).
Organization	Planning training and competition (e.g. establishing a training and competition program that includes athlete’s and team’s preparation). Working with assistants (e.g. coach’s ability to interact effectively with assistants). Working with parents (e.g. interacting with parents, scheduling meetings with parents). Helping athletes with personal concerns (e.g. helping athletes that have problems with school, relationships).
Training	Intervention style (e.g. authoritarian, permissive). Technical skills (e.g. teaching sport specific techniques). Mental skills (e.g. developing athletes’ ability to deal with stress, use imagery) Moral and social skills (e.g. developing athletes’ sportpersonship). Tactical skills (e.g. developing and practicing competitions strategies). Physical conditioning (e.g. developing athletes’ strength, endurance, power).

The CM has been used as a directing framework for several studies conducted with coaches and athletes [e.g., 5, 6, 7, 8, 9, 10] and can serve as a comprehensive framework that highlights the important variables that need to be considered in the process of learning how to coach.

DEVELOPMENT OF EFFECTIVE COACHING SKILLS

There are three main settings in which coaches learn to coach: coach education programs, learning experiences as an athlete, and learning experiences as a coach.

COACH EDUCATION PROGRAMS

Comprehensive coach education programs have been developed in many countries around the world [11, 12]. These formal programs have many similarities in content and are typically structured around courses for general coaching theory, sport specific techniques and tactics, and supervised coaching practice. However, studies in different coaching contexts [13, 14] have shown that effective coaches invest a small amount of time annually in formal coach education programs.

Two main factors limit the impact of coach education programs. First, as described in the previous section, there are many variables that affect coaches' work and a brief course in coaching science hardly prepares a novice coach for the complexity of coaching. Second, researchers have criticized large-scale coach education programs for their inability to modify coaches' behaviors or philosophies once they return to the field [15, 10]. A possible reason for this lack of transfer to "real coaching situations" may be that coaching programs generally have been designed from a top-down approach (scientist to practitioner). The papers in this issue suggest that coach education programs need to be designed less like "knowledge transfer" courses and more like cooperative learning opportunities where coaching knowledge is shared and created in context.

EXPERIENCES AS COACHES

Several studies have suggested that coaches develop coaching skills and knowledge through actual coaching experience [16, 4, 17]. Gilbert and Trudel [17] recently studied the experiential learning process with youth sport coaches in an effort to understand how good coaches translate experience into knowledge and skills. A model of experiential learning was developed, based on reflection and comprised of six components: (1) coaching issues, (2) role frames, (3) issue setting, (4) strategy generation, (5) experimentation, and (6) evaluation. The last three of these components – strategy generation, experimentation and evaluation – comprise a sub-loop of reflection within the larger cycle of a reflective conversation. Model coaches often cycle through this sub-loop numerous times, without returning to the issue setting stage. Connected cycles through a reflective conversation often result in what coaches sometimes define as 'insights.' These somewhat spontaneous revelations are in fact the result of numerous cycles of reflective conversation. All the papers in this issue support the use of a reflective process, such as the one highlighted by Gilbert and Trudel [17], as a valid component of coach education programs. However, more studies are needed that focus on understanding how different learning activities and social contexts interact to stimulate coaches to reflect throughout a coaching career. There is also some evidence to suggest that, in addition to coaching experience, a coach's athletic career is an important source of knowledge in the development of coaching skills.

EXPERIENCES AS ATHLETES

Gilbert et al. [13] recently traced the athletic profile of successful coaches of U.S. high school softball, college football, and college volleyball. Success was defined as a career winning record over a minimum of five years. These successful coaches accumulated thousands of hours of 'pre-coaching' experience while competing in organized sports as athletes. The softball coaches had accumulated the greatest number of hours as athletes ($M = 6260.8$), while the community college American football ($M = 3106.0$) and Division I college volleyball coaches ($M = 3973.3$) reported similar total hours accumulated as athletes. A large variation in the total number of hours playing sport by coaches in all three sports was found, which underscores the importance of considering a minimum threshold of athletic experiences of around 3000 hours to become a successful coach.

Gilbert et al. [13] also showed that, on average, coaches participated in more than three sports as athletes and accumulated at least 13 years of athletic experience. The coaches were not consistently designated team leaders (i.e., team captains) during their athletic involvement, but they appeared to have been better than average athletes (i.e. 7 out of 10 in terms of perceived athletic ability) in relation to their peers. These results highlight the importance of designing sport programs that provide athletes with experiences and opportunities that can eventually be transferred into coaching skills.

SUMMARY

Coaches play critical and diverse roles in athletes' development. The coach's influence is better understood when viewed within a conceptual model of coaching that includes ambient and behavioral components. Due to the complex interaction of these components of coaching, the learning environment of effective coaches needs to be consistently revisited and adapted. From a limited number of studies on coaching development, it can be suggested that competence occurs when a threshold of coaching experiences is obtained. Formal and informal education, including experience as an athlete and coach, may be additives and contribute to the activation of the threshold. By focusing on the coach as learner, the papers in this series have provided valuable insight into the sources of coaching knowledge. Nevertheless, more longitudinal data on the activities and context that lead to successful coaching at the recreational, developmental, and elite levels are needed. The common thread that links the papers in this special issue is that effective coaches are lifelong learners committed to personal growth and that their development extends far beyond any formal training program.

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