

COACH DEVELOPMENT THROUGH COLLABORATIVE ACTION RESEARCH: A RUGBY COACH'S IMPLEMENTATION OF GAME SENSE PEDAGOGY

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Following on from the beginnings of interest in Action Research in the coaching literature this paper reports on a study that inquired into the capacity of AR to assist in a rugby coach's attempts to introduce player-centred (Game Sense) pedagogy into his coaching through a modified approach to AR. This approach, referred to here as Collaborative Action Research (CAR), involved equal collaboration between the coach as the practitioner and the first author as what we refer to in this paper as the 'sports pedagogue' who brought pedagogical knowledge and a theoretical understanding to the partnership. He also adopted the role of a 'critical friend' to assist the coach in his reflection as an essential aspect of a proposed new model for coach development, CAR.

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Introduction

Recent critical writing on coach development and coach education programs suggests that existing approaches are unable to provide the professional development required for coaches working in often increasingly complex, dynamic and demanding environments (Cushion, 2007; Dickson, 2001). Coaching involves a more complex process than just providing a cache of discrete skills and techniques (Brooker & Abbott, 2001; Cassidy, Jones & Potrac, 2005; Jones 2006) with professional coaches working under intense scrutiny and pressure for results (Abraham, Collins, & Martindale, 2006; Webster, 2007). Coaches can no longer rely solely on 'learning the trade' through experience yet formal coach education courses seem limited in their capacity to meet the development needs of coaches (Cassidy, Jones & Potrac, 2004; Jones, 2006). The demands of professional coaching also leaves coaches little time for a balanced life and critical review of their work (Calder, 2004). In response to these issues some researchers in the coaching field have begun to draw on educational research methods in suggesting that Action Research (AR) might offer a valuable means of promoting coach development (Ahlberg, Mallett, & Tinning, 2008; J. Butler, 2005; Cassidy, Potrac, & McKenzie, 2006). Building on this research this paper reports on a study that inquired into the capacity of AR to assist in a rugby coach's attempts to introduce aspects of player-centred (Game Sense) pedagogy into his coaching. This involved the use of a modification of AR that we developed as a means of involving the coach and an academic as equal partners in

the research process. We refer to this distinct approach as Collaborative Action Research (CAR) and this is the first time it has been used. It involved equal collaboration between the coach as the practitioner and the first author as what we refer to in this paper as the 'sports pedagogue' who brought pedagogical knowledge and a theoretical understanding to the partnership. The sports pedagogue also adopted the role of a 'critical friend' to assist the coach in his reflection which we see as an essential aspect of CAR.

Coach Development

This section outlines three ways in which coaches learn to coach and develop their coaching: 1) Learning through experience; 2) Formal coach education and; 3) Action Research.

1. Learning through experience

Coaches develop their personal views about coaching through ongoing engagement in the practice of coaching (Lyle, 2002), recognizing themselves that experience forms an important part of their development (Abraham *et al.*, 2006; Culver & Trudel, 2006; Gilbert & Trudel, 1999). One of the many criticisms of experience is its tendency to lead to the development of 'tacit' knowledge based upon 'weak' problem solving methods such as trial and error (Abraham *et al.*, 2006, p. 551). Coaches in this position often rely on 'craft knowledge' with much of this tending to be embodied as 'tacit' knowledge that often operates at a non-conscious level as instinct or intuition. As Lave and Wenger (1991) suggest, this apprenticeship style learning occurs over extended periods of time within particular communities of practice through participation in practice. Such learning includes learning the culture of the community with much of the learning implicit and difficult to identify. As such it not formalized and often unarticulated as abstract knowledge operating at a non-conscious level.

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2. Formal coach education

Attempts to structure coaching education and disseminate developments in coaching have seen the widespread growth of formal coach education programs. Typically these involve short intensive courses of study leading to formal qualifications in the form of certificates from introductory qualifications up to national and international level coaching accreditation. A number of scholars have recently questioned the ability of such programs to meet the development needs of coaches (Cassidy, Jones, & Potrac, 2004; Gilbert & Trudel, 1999; Jones, 2006). For example, in his examination of the Australian coach accreditation scheme Dickson, (2001) points out that it is actually unclear whether or not formalised accreditation leads to the development of confidence, competence or improvements in coaching. Despite these developments coaching, experience has been viewed as the major avenue through which coaches develop their expertise. Experience by itself, however, is not sufficient to make improvements and advances in learning as Bell (1997) argues:

It would be a relief to believe that one need only spend a certain amount of time teaching or coaching, and the lessons learned in the experience would elevate one to the next level of expertise. Unfortunately, that is not the case. To become better skilled at ones professional practice, a novice teacher or coach needs to do more than simply spend time on the job. (p. 25)

3. Action research

While experience is central to learning Dewey (1963) argues that immediate reflection upon experience is required to enhance and shape that learning. According to Dewey (1916/97) learning occurs through the original experience and though the experience of reflecting upon that experience. As Light & Wallian (2008) argue in regard to teaching swimming from a constructivist perspective, reflection provides a means of linking concrete experience and abstract learning. Learning through experience must also form part of learning as an ongoing and continuous process linked to other experience and learning as Dewey (1963) explains:

Scientific study leads to and enlarges experience, but this experience is educative only to the degree that it rests upon a continuity of significant knowledge and to the degree that this knowledge modifies or "modulates" the learner's outlook, attitude and skill. (p.10)

The criteria for learning through experience thus lies in the principles of continuity and interaction leading to ongoing growth and development and this forms part of the Action Research process. Action Research has been used extensively in education and in physical education (Dick, 2006; Gubacs-Collins, 2007) yet there has been little AR used in sport coaching. It has however attracted some interest from researchers in sport coaching with Cushion (2004) suggesting that it may provide a valuable, structured way of using coach experience to contribute to their professional development. AR has been used in some sports coaching settings (Ahlberg *et al.*, 2008; Barker-

Ruchti, 2002; Kidman & Carlson, 1998) but is still largely underdeveloped. According to Kemmis & McTaggart, (1988), the reflection involved in action research in the education field produces new knowledge about teaching, increases understanding of practice and improvements in teaching and learning. Reflective practice forms a central concern of AR as a process that enables professionals to plan and implement activities that are well thought out and based on previous experience.

Collaborative Action Research

Action Research was first proposed by social psychologist Kurt Lewin in 1948 as research with an emphasis on its capacity to address practical problems in specific situations (Dick, 1999; Street, 2004). Action research involves an intervention or change program centred on, and managed by, the participant(s) and situated in their practice. Carr & Kemmis (1983) proposed that action research is a learning process where there is change in what people do, how they interact with others in the work situation, and the meanings and interpretation they draw from the experience. Its aim is to address issues or concerns in specific situations. Kirk (1995), suggests that a number of elements are required to support the action research process including 1) collaboration, 2) that the process is self managed, 3) action is based on data, 4) it involves reflection by the practitioner, 5) is situated in practice and, 6) focuses on reforming practice.

According to Kemmis & McTaggart (1988), the use of reflection in the process of action research produces new knowledge about teaching, increased understanding of practice and improvements in teaching and learning. This emphasis on reflection is a prominent theme in the writing of Dewey and in the recent development of constructivist informed approaches to teaching such as Teaching Games for Understanding (TGfU) (see for example, Butler, 2006; Light & Fawns, 2003; Light & Wallian, 2008). Reflection on experience is a key idea of AR and enables professionals to plan and implement activities that are well thought out based on previous experience as Kruse (1997) suggests: "Meaningful strategies are not isolated random actions, but carefully coordinated and independent tactics designed to achieve important and valued goals by the participants in the action" (p. 47).

The Collaborative Action Research (CAR) used in this study introduces a 'sports pedagogue' who collaborates with the practitioner in an equal partnership and through which they both learn something about coaching practice. The coach is the expert in coaching practice with the research focused on improving his/her practice with the sport pedagogue bringing expertise in pedagogy and in the theories informing it. This does not, however, preclude him/her from also being an experienced practitioner as was the case in this study. Either the coach or the sports pedagogue can initiate the research but they work in an equal partnership through which they develop knowledge about coaching and player/athlete development. In CAR there is a strong

emphasis on the relationship between practice and theory as mutually informing entities that are both essential for the development of knowledge and the improvement of the coach's practice and confidence in his/her coaching.

Game Sense

In this study the coach used CAR to develop a more player-centred pedagogy and to engage the players more in the coaching process through developing better interaction with them and with a specific aim of getting better feedback from them. The sports pedagogue drew on Game Sense pedagogy to help achieve these aims. Game Sense pedagogy is briefly outlined below.

Game Sense is an Australian variation of Teaching Games for Understanding (TGfU) developed by collaboration between UK researcher Rod Thorpe, the Australian Sports Commission and Australian coaches (den Duyn, 1996, 1997). It is a little less structured than TGfU and rather than seeing it as an instructional model, as Metzler (2000) suggests TGfU is, we see it as a pedagogical approach. Game Sense at its most basic level is a game-based coaching approach for team sports that uses player questioning to stimulate thinking, and tactical understanding and self guided learning. Traditional, technical approaches to coaching based upon the premise that technique needs to be developed before playing any games tend to use a coach directed approach. Game Sense pedagogy involves a shift from coach centred to player centred pedagogy where learning is contextualized within games or game-like situations within which players have to solve the tactical and technical problems that arise. Rather than always tell players what they should do the coach constructs the physical environment for learning directing player toward developing understanding and tactical awareness through questioning and offering them opportunities to develop and try out ideas developed through discussion in groups or with the coach (for a fuller explanation see Light, 2004). Based upon a different conception of how athletes learn the pedagogy is different from a direct instruction approach. It also involves different relationships, between the coach and players and between the players that can create problems for coaches who are used to more directive, coach-centred approaches. Research suggests Game Sense has much to offer coaches, for example see (Kidman, 2001, 2005; Light, 2004) but it has yet to be widely taken up by Australian coaches. Some of the barriers identified being the different power relationships between coach and players, outside perceptions of what good coaching is and the time needed for it to take effect. (Evans, 2007; Light, 2004).

Research Methodology

The research employed a CAR approach involving collaboration between an elite level practising rugby coach and the first author as an informed, 'critical friend'. The first author knew the coach, referred to under the pseudonym of

Max, through his experiences of rugby coaching. The first author also has an extensive background in rugby coaching and has been conducting research on player centred approaches to coaching over the past three years with a focus on the Game Sense approach (den Duyn, 1997). In informal discussions about Game Sense with between Max and the first author Max expressed an interest in using some of the Game Sense ideas as a means of making his coaching more 'dynamic' and of introducing some innovation but felt that he needed help from someone more familiar with both the theory and the practice of Game Sense. This involved collaboration between Max and the sports pedagogue/critical friend.

The coach viewed the research as a possible means of getting authentic feedback from his players and of developing a more player-centred pedagogy. The process began with discussions between Max and the first author after which he provided Max with readings on constructivist-informed, player-centred pedagogy that could inform his practice during the CAR process. Max was also given reading material on the AR process and was guided through it by the sport pedagogue. The data collection utilized the coach's reflection across the review, planning, action, assessment and evaluation, and review stages.

Aims

The study aimed at evaluating the impact of a change in coaching pedagogy over an eight-week period as perceived by the players and the impact that the change had on the coach. The change involved 1) introducing training that was more relevant to match conditions and 2) involving the players more in decision-making about training. The coach utilized the sport pedagogue to collaboratively develop his practice, using him as his critical friend who assisted in his reflection upon his practice. We also sought his responses to the CAR process.

The participants

Pseudonyms have been used to protect the identities of the coach, the players and their club.

The coach (Max) was the Director of Rugby for a Premier Club in Sydney. He has been a professional rugby coach for over twenty years and coached successfully in Australia, United Kingdom and Europe. He entered coaching after a long period as a player and then as a part time coach before taking up a professional appointment when rugby became a professional sport. He has a Level 3 coaching accreditation with the Australian Rugby Union and coaches a first division team in the NSW Shute Shield competition, referred to in this paper under the pseudonym, the Boomerangs Rugby Club.

Five rugby players aged between 20 and 29 years ($M = 25.4$ yrs) participated in the study and were selected by the coach. The five players include both professional and semi professionals and train up to 5 times per week. Three were age group national representatives when younger. Oscar is an outside back who has represented Australia in under aged teams. Colin is an inside back and has been a fringe

player in a Super 14 training squad. Roger is a prop forward who has been a long-term first grade player and junior representative player. Sam is a lock forward who has been a long-term first grade player and Roy is a loose forward who represented Australia in the national seven-a-side team.

The sports pedagogue

The first author filled the role of the sports pedagogue. He collected data through observation, interviewing the coach and players and videoing practice for the coach to review. He also collaborated by drawing on his knowledge of Game Sense pedagogy and the constructivist theories of learning that have been used to understand how learning occurs (Light, 2004). We have adapted the term sport pedagogue from Culvers experience as a pedagogy consultant and sports psychologist as a facilitation role within a team or sports club (Culver & Trudel, 2006, p.105). As the sport pedagogue (critical friend) the first author facilitated coach pedagogical development by providing relevant journal articles and books on constructivist approaches to coaching to help in developing a Game Sense pedagogical approach. He also engaged with Max in discussions on the meaning and application of theory to practice, constructivist ideas on how people learn as well as on his experiences of changing his practice.

Procedure

After Max had completed his readings, discussions between him and the sports pedagogue, collaborative analysis of the CBS-S surveys and videos of practice and the pre-intervention interviews, an action plan was formulated for implementation by the sports pedagogue and Max. This focused on achieving two key objectives. The first objective was to alter training to make it more relevant to match conditions and to increase player motivation at training that included the use of modified games in training. These modified games involved the creation of game scenarios that focused on particular tactical aspects, decision-making and contested drills conducted in contexts that required some decision-making. The second objective was to involve players more in decision making about training and to empower them in two ways: 1) Players received individualized feedback from the coach using video footage and open ended questioning to stimulate their input into the analysis and, 2) Organizing player meetings for game reviews based upon reduced video footage, providing more time for questions and discussions by players and giving them more input into strategic and tactical decisions made for the next game. Max and the sport pedagogue agreed that both achieving objectives required the development of Max's questioning technique.

Mid way through the eight-week intervention the sport pedagogue and Max met to discuss his experiences of the intervention and the CAR process. This collaboration and discussions centred on how successful he thought the changes in pedagogy had been and what he saw the benefits of the CAR process being. At the completion of the eight-week intervention Max and the sport pedagogue analysed and discussed the video footage and field notes taken from the last training session. The sport pedagogue then

interviewed Max using open-ended questions to determine if he has identified any changes as a result of the process. The sport pedagogue also interviewed the players to determine any perceived changes at training and what benefits, if any, that they thought had resulted from the intervention.

Data collection and analysis

Data was generated through the use of five methods: 1) noted observations of the sports pedagogue; 2) coach and sports pedagogue dialogue about, and coach reflection upon, video recording of practice; 3) semi-structured interviews conducted with players and the coach by the sports pedagogue and; 4) the completion of a Coaching Effectiveness Self Analysis sheet and; 5) players' completion of the Coach Behaviour Scale for Coaches (CBS-S).

The sports pedagogue conducted the interviews before and after the intervention program. In these interviews the players were asked for their views on the relevance of training to matches, the adequacy of feedback from the coach, the specificity of training and their relationships with the coach. Triangulation of the data was achieved by using three points of reference, the coach, the players and the sport pedagogue to determine the impact of the changes on the players and coaching practice. The use of multiple data collection methods and the triangulation of data from three sources provide a level of rigour that supports the researcher's position in regard to reliability and validity. The choice of research methods reflects the research requirements (Branigan, 2003, p.1). Rigour is achieved in this case because the CAR method represents a rich and full approach that takes into account the coach's normal professional situation. The AR method is participative, qualitative and oriented towards action (Dick, 1999). Content analysis was employed and identified three major themes that emerged from the comparison of pre intervention data and post intervention data.

Results

The analysis of data focused on the three areas of: 1) the players' perceptions of the intervention; 2) The coach's responses to the intervention and 3) The coach's views on the CAR process.

1) Player perceptions of changes in practice

Player perceptions of the change in coaching practice by Max suggested the three major themes of: 1) Increased motivation; 2) An increased sense of player autonomy and; 3) Improvements in the relationship between the players and the coach.

Increased motivation

Noted observations, video footage of training before and during the changes in coach practice and player interviews suggested increased player enjoyment and motivation resulting from changes in training. The changes introduced were aimed at making training more relevant to match conditions and comprised the introduction of games, game scenarios and contested drills all aimed at introducing

levels of competition, decision making and the need to read conditions. Data strongly suggests that these changes lifted the intensity of training sessions and increased their connectedness with match conditions. This increased relevance to competitive match conditions raised motivation during training and enjoyment of it by the players as Colin suggests: *"training is more free flowing, we're enjoying training."* The players saw the new approach to training as being more active and less static than it had been recognizing how the use of games had contributed to as Roy told the first author in an interview; *"training is more active and dynamic with an emphasis on games."* The changes to training also created what some players saw as a level of training specificity as Oscar suggests in response to being asked what he saw the positive aspects of the changes being; *"the structure of training is geared towards the following game, more specific."*

Increased sense of player autonomy

Max's aim of involving players more in training and empowering them involved the use of the three strategies of: 1) providing individual feedback to players on a one-to-one basis with the coach and; 2) having regular meetings between the coach and the players to assess performance in matches and to discuss how training might address any problems identified and; 3) the coach using questioning in training instead of direct instruction to stimulate thinking and intellectual engagement. All the players interviewed reported a strong sense of increased player autonomy with them saying that they all felt they had moved into a position of decision making within the team environment. When asked about any benefits he thought there were from the changes outlined above Roger noted the increased role in decision-making by the players: *"reviews are run by the players... a lot more of the problem solving done by the players"*. This was a common response among the five players interviewed captured by Colin who said that it, *"feels like we have more input now"*. They also felt a little more autonomy because Max had worked at helping them understand the aims of different activities and drills and why Max was taking the particular approach that he was. They said that individual feedback on performance and group discussion sessions helped them develop a deeper understanding and awareness of training. In an interview Roy told the first author that he felt this helped the team understand the why of training: *"now we get feedback on performance and for me the why has been addressed"*.

Coach-player relationships

The coach/player relationship plays an important part in establishing an environment that is conducive to player satisfaction, positive experiences and learning (Ahlberg et al., 2008) and this featured as an area that the players felt was a positive outcome of the intervention. As Light and Fawns (2003) suggest in regard to teaching games in physical education using the TGfU approach, communication had moved from a monologue of the coach to the players toward a meaningful dialogue between them. Although Max scored a high 5.8 for positive rapport with players in the CBS-S survey the responses from players in interviews indicates a significant further improvement in this area. The intervention fostered a new coach player relationship

characterized, not only by more interaction between the coach and the players, but also a more equal distribution of power in the relationship. This was not only restricted to the three strategies Max implemented but extended to relationships in, around and outside training. The players suggested that Max was more approachable and personable in his dealings with them. When asked to comment on the impact of the changes implemented by Max, Sam said that, *"Max's been listening to players and physios (physiotherapists) about our training especially after a couple of tough games"*. The feedback provided by Max to players on a one-to-one basis and the opportunities for them to provide feedback on Max's coaching as part of the CAR process were also well-received as Colin response to the same question: *"I think it is really good how he takes players aside and works with them"*. This change in relationships extended to interaction beyond training as Oscar explained; *"he spends personal time with players...Social nights, non just rugby stuff"*

2) Coach's perceptions of changes

During the evaluation phase Max pointed out to the first author that he felt he had been able to change his coaching practices by: 1) working with the sports pedagogue to develop training activities that better replicated match conditions; 2) taking time to explain the aims and rationale of his coaching to players and introducing individual and group feedback sessions and; 3) using player questioning.

To make training more relevant to actual match conditions Max used game-based training, specific match scenarios and contextualized skill drills to include the need for perception, decision-making and competition. This involved his drawing on the knowledge of the sports pedagogue of Game Sense pedagogy and working collaboratively to design these training activities. Over the eight-week period of the intervention he commented to the first author on the raised levels of intensity exhibited by the players and in interviews said that he had been happy with the ways in which this had made training more dynamic and had established a flow. During the pre-intervention stage of the research collaborative analysis of video footage of training identified a concern for Max with the flow of his training sessions. He noted that the progression from the warm up to skills resulted in a loss of flow because of the movement from the use of the game to a static uncontested skill and sought to address this problem in the CAR process. He decided to use game-based training and specific match scenarios to maintain the flow that his warm up games established while still being able to focus on particular tactical and skill aspects of play.

As Light (2006) argues, while many coaches commonly use game-based training the emphasis on questioning makes Game Sense an innovation and this was an aspect of the intervention that Max felt he struggled with a little. Questioning was an area in which Max said he was having problems and was not sure of the extent to which he had improved his questioning over the eight-week period. This is common issue for coaches and PE teachers adopting player-centred/student-centred approaches because it requires the coach taking a step back from being in charge and telling players what to do to take on more of a facilitating role

(Light, 2004). The significant changes Max introduced during a competitive season presented a few problems for him in regard to the use of questioning and in his repositioning as the coach. He said that he had not felt completely comfortable with the changes but felt that they had been successful and was interested in building on what he had learned for next season.

3) The coach's views on the CAR process

In analysing Max's experience of the intervention it is difficult to separate it from his experience of being involved in the CAR process. In fact, in interviews and casual conversation over the period of the research he had difficulty separating the intervention from the research process. Central to this was the key role that the sport pedagogue played in the research through collaboration, his theoretically informed input and the ways in which he facilitated Max's critical reflection upon his practice.

Max was not only pleased with the experimentation that he and the first author conducted in order to improve his coaching but also with his involvement in the research process and the information it provided on his own coaching. This is seen in his response to a question on benefits of the CAR process in which he said that, it *"provides a process to get feedback on my coaching"* through which, *"You get honest answers, instead of players telling you what you want to hear"*. For Max the process of having a sport pedagogue as the critical friend provided an important link with developments in, and research on, coaching pedagogy and provided the opportunity for reflection upon his practice and professional interaction. When responding to the benefits of the process and the role of the researcher Max made this point; *"...by having a third person (sport pedagogue) it provides a forum for players"*. In addition Max commented that, *"its also about meeting some of the needs of players"* in relation to the benefits of CAR and his relationship with players.

Conclusion

There are two aspects to this study that have implications for coaching, the Game Sense intervention and the CAR process. The success of an intervention based on the Game Sense approach suggests the ways in which it can contribute to improvements in coaching rugby. Max's experience of being involved in the CAR process suggests that it may offer a useful means of self-directed coach development in which academics in coach education can make a valuable contribution toward both coach development and the grounding of research in the day-to-day practices of coaches.

The Opportunities Offered by a Game Sense Approach

The results of this case study suggest that the intervention in the coach's practice was reasonably successful in achieving his aims. Despite some difficulty in adapting to a more player-centred approach and the need to take on the role of a facilitator rather than an instructor Max appeared to be satisfied with his experiment and was looking to employ

some of it in his future coaching. He was pleased with the ability of the changes to maintain the flow of intensity, dynamism and player motivation established with his warm up games through the use of game-based learning and with the ability of his changes to involve players more in decision-making about training. Max was particularly pleased with the feedback he was able to get from his players on his coaching. Light's (2004) study on coaches' experiences of working with a Game Sense approach across a range of sports in Australia highlights the challenges involved in moving from a technical, direct instruction approach to a player-centred, inquiry-based coaching approach. In light of this and other similar studies it is not surprising that Max felt he needed more time to develop this approach and his questioning in particular. The player responses suggest that they also saw the changes in a positive light and were particularly happy with the more dynamic nature of game-based training that they saw as being more like match conditions and with the improved communication between them and the coach. Guided by the Game Sense approach to coaching the success of these changes suggests that elements of Game Sense can be used effectively in elite level rugby coaching.

CAR as a Model for Coach Development

The positive results of this study also suggest that CAR has the potential to meet a number of challenges in coach development identified in the introduction. In combining research with coach development it supports open learning and allows for coaches to take up professional development activities in their day-to-day work environment. Although there is justifiable criticism of coaches relying entirely on experience for their development (Abraham et al., 2006) it is highly valued by coaches and there can be no denying that it makes an important contribution toward coach development but it does not figure prominently in formal coach education programs. This study suggests that CAR offers a means of coach development in which coach experience is a central concern yet is informed by developments in coaching research through the role of the sport pedagogue. In CAR the sport pedagogue provides the opportunity for collaboration and interaction through which the coach learns and a supportive learning environment. The collaboration that has been reported on here could be instrumental in exposing coaches to theory that could inform their practice and have the opportunity to test within their work environment. CAR may also offer an effective way in which academics can be involved in coach development activities that are authentic, participative and offer them a chance to test their ideas and theories in real practice. This combination of coach development and grounded research may provide a viable alternative to formal coach education programs that do not always meet the needs of coaches.

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