Utilizing Video to Facilitate Reflective Practice: Developing Sports Coaches

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ABSTRACT
The professionalization of sports coaching has led to a constant need to develop and improve coaching performance and behavior. As a result, reflective practice has become common place within coaching and relevant to the development of sports coaches. This study aims to develop on traditional reflective processes, by identifying how video can be used to assist the learning process of coaches. Nineteen inexperienced coaches recounted their experience of using a video recording of a personal coaching practice, concentrating on: (a) the reflective process, (b) the use of video to assist this process, and (c) the practicalities of video reflection. Content analysis suggests increases in cognitive understanding of the coaching process and improvement in coaching performance are experienced through this form of reflection. Initial results suggest that video reflection can help improve inexperienced sports coaches by highlighting strengths and weaknesses in performance that may be overlooked by traditional methods.

Key words: Coach Behaviour, Coach Education, Reflection, Video Technology

INTRODUCTION
Within sport, reflection has become a widely employed tool to aid understanding and development [1] and is utilized by coaches to evaluate personal performance [2]. Reflection is suggested to be integral to developing experience within sports coaching [3]. Gilbert and Trudel [4] demonstrated that coaches utilize reflective practice to support the learning process. It could therefore be suggested that the use of reflection by inexperienced and novice coaches is more crucial as there could be a greater requirement of this knowledge for the learning process [5, 6]. Anderson et al. [7] suggest that the reflective process requires the practitioner to be questioning of his / her practice while examining each component in detail, therefore requiring some degree of introspection [2]. There are a number of methods and theories related to the process of reflection. Gibbs’ [8] cyclical model identifies six stages to progress through, enabling the practitioner to: (a) describe the situation; (b) become aware of his / her feelings during the practice; (c) evaluate the strengths and areas for improvement; (d) analyze these evaluations; (e) identify alternative behaviors or practices; and (f) formulate an action plan for future use. Ghaye [6] suggested a number of specific questions
that would encourage sport coaches to initiate reflective practice: (a) What is my coaching like? (b) Why is it like this? (c) How has it come to be this way? (d) What aspects of it would I like to improve? (e) Whose interests are being served (or denied) by my coaching? (f) What nourishes and/or constrains what I do? (g) What pressures prevent/limit me from coaching in alternative ways? (h) What alternatives are available to me right now? Other strategies related to the process of reflection include journal writing [9]; supervisor/mentor support [5, 10, 11]; shared learning experiences [12, 13]; and initiated learning experiences [9, 12]. The aim of all such practices is to facilitate self-development [6, 14].

Lyle [2] and Kidman [14] suggest that reflection is integral to coach education and the coaching process. Professional growth [15] and an increased understanding of personal performance [16] can both be developed through the utilization of reflective processes. Rather than ignoring or avoiding specific instances that have occurred within practice, reflection encourages the practitioner to deal with these issues and to work through a process either to limit/remove debilitating practice or to increase facilitative practice [17]. Reflective practice also encourages practitioners to gain autonomy of their performance [18]. Anderson et al. [17] propose that reflection on decisions and experiences augments the understanding and learning process of the practitioner. The overall benefit of reflection is the encouragement of practitioners to cognitively analyze personal performance to encourage learning and development [6].

Hammond [19] ascertained that performance analysis techniques utilized to develop athletic performance were also beneficial to sports coaching. He advocates the use of video within reflective practice, in order to encourage a more holistic evaluation of the instructional process in sport. Franks and Miller’s [20] identification that coaches are less than 45% correct in post-performance analysis and feedback adds further rationale for the use of video within reflection. Brewer et al. [21] suggest that retrospective approaches can be influenced by the event outcomes achieved and this can lead to casual conclusions being made. Simply, general post-performance reflection could be based on only partial information and as a result vital information could be overlooked. Most literature discussing the use of video within reflective practice has encouraged analysis of experienced performers [22]; however this neglects the benefits of personal experience within the reflective process. Byra [23] utilized video reflection of personal teaching practice within the education of pre-service physical education teachers and identified a greater depth of analysis was presented rather than a simple description of performance. Video has also been used to explore the cognitive aspects of coaching [24].

Borrie and Knowles [25] and Ghaye [6] acknowledged the value of reflective practice within sports coaching settings. Werthner and Trudel [26] discuss the benefits of combining formal education with personal coaching experience. Gilbert [27] highlighted a lack of contemporary literature related to effective coach education, while Demers et al. [28] called for further research specifying coaches’ analysis of personal coaching performance. Jones and Turner [12] suggest that any coach education program should be based on improving the participants’ ability to deal with the dynamic nature of coaching. This concept is further developed by Rodgers et al.’s [29] suggestion that coach education should emphasize desired coaching behaviors, the enhancement of desirable specific skills [28], and lead to increased coaching efficacy especially with inexperienced coaches [30]. The development of coach education programs is linked to the professionalization of coaching [2]. Initiatives to elevate coaching to a profession [31] should ensure that certain occupational standards are achieved by those undertaking sports coaching qualifications. Encouraging reflective practice by all within the coaching environment could assist with the attainment and advancement of these
The present study aims to address some of these issues by analysing the benefits of integrating video reflection to facilitate a coach education program with inexperienced sports coaches.

METHOD

PARTICIPANTS

Nineteen final-year undergraduate students (16 male; 3 female) on the B.Sc. (Hons) Coaching and Performance Development (n = 10) or B.A. (Hons) Coach Education and Participant Development (n = 9) degree programs at a North West England university took part in the study. All had at least a level-1 U.K. coaching qualification recognised by a sport governing body and had on average 20 (±6) months experience of practical coaching at school or youth-club level. Although not novice coaches, all could be considered inexperienced and in the early stages of their coaching career. Six sports were covered in all: soccer (n = 10), basketball (n = 3), rugby (n = 3), badminton (n = 1), field hockey (n = 1), and golf (n = 1). Coaches were selected due to their involvement within an applied sports coaching module and the video reflection contributed to the assessment for this module. They had previously or were currently attending similar modules related to sports coaching and reflective practice, the contents of which included: planning and structuring of coaching sessions; effective communication and feedback; motivational climates and strategies; motor learning and skill acquisition; and theories / models of reflective practice. Comparable with Knowles et al. [32], the learning outcomes of prior modules stated that students should be able to analyze contemporary literature in relation to coaching practice and to draw on this knowledge to identify strengths / areas for improvement within coaching practice.

DESIGN

Each coach video-recorded his / her activity during a full coaching session, conducted within his or her usual coaching environment with sessions ranging in duration from 45 to 90 minutes. The coaches were provided with guidelines as to how best record the session [33]. The recording was utilized, along with his / her background knowledge of effective coaching procedures developed in relation to the contemporary literature available, to reflect on his / her personal coaching. In general, coaches conducted an initial reflection using the video straight after the coaching session and a more detailed analysis was completed within the two following days, to allow for recall of the situation to be utilized in conjunction with the analysis. The average time for each reflection ranged between 90 and 180 minutes. Each coach was required to identify the strengths of their coaching practice and to highlight areas for improvement, providing a rationale that was supported by the existing literature. Each coach provided a 2000-word written report related to his / her observations and reflections, as well as a 500-word section related to how the reflective process had benefited him- or herself. This written report was utilized to gather further information related to the reflective practice process and the use of video within the process.

Each participant completed a pre-designed open-ended questionnaire related to their experience. The focus of this data collection method was split into three main areas: (a) the process of reflective practice; (b) the use of video to assist this process; and (c) the practicalities of reflecting using video. Each of the questions was established using an extensive range of current literature on reflective practice.
DATA ANALYSIS
A hierarchal content analysis was conducted on all the data sources, following the guidelines suggested by Patton [34]. Specifically, the following five-step process was employed: (a) all the participants’ responses were read and re-read to allow the researcher to become familiar with them; (b) significant statements, relating to the reflective process, were extracted from the data; (c) these statements were grouped together into like terms to form raw data themes; (d) the raw data themes were then incorporated into higher-order themes that described the participants’ experiences; and (e) each higher-order theme was compared and categorized into one of two general dimensions (Reflective Practice or Video Reflection).

Trustworthiness [35] was established principally by the triangulation of data sources. Concurrent analysis of different data sources assists building a coherent justification for the themes identified [36]. Further credibility was achieved by member checking and negative case analysis. An audit trail, detailing all data and data analysis procedures, is available for additional inspection.

RESULTS AND DISCUSSION
Content analysis revealed 34 raw data themes that were coalesced into five higher-order themes: (a) Reflective process; (b) Purpose of reflection; (c) Video reflection in coaching; (d) Personal learning from video; and (e) Practical implications (see Figure 1).

REFLECTIVE PROCESS AND PURPOSE OF REFLECTION
The benefit of reflective practice to the learning process was highlighted [3], with most coaches stating this method helped them to improve their performance (e.g., “It was a way of identifying my personal needs, to look back at the session and identify ways to improve.”; “It allowed me to gain more knowledge of the subject.”), and as such is suggested to be an integral part of any coach education program [37]. The development of autonomy in the learning process is encouraged by self-reflection and coaches should become accustomed to self-awareness and self-improvement in order to develop their personal coaching skills [38]. Comments made by the coaches included: “I’d never really thought about what I did when I was coaching, or why I did it. This [reflection] made me question my actions and consider improvements to my personal performance.” Although the coaches who participated in this present study had some experience of reflective practice and the theory behind it, further understanding of these processes may be necessary in order for a more detailed analysis to be achieved. Knowles et al. [9] identified this to be an issue and suggest that reflective skills are not conventional responses and need to be developed through practice. The majority of responses are concerned with the negative aspects of the coaching performance (“Reflection allowed me to see what I had performed badly”; “[Reflection] highlighted where I needed to improve”; “I was able to look back at problems and identify how to eradicate them, making me a better coach”) and little reflection related to the positive features of the coaching, consistent with previous literature of equivalently experienced coaches [32]. Reflection on weaknesses rather than strengths will inherently help improve performance, but this may limit the overall development of each coach. With only negative feedback acknowledged, a range of issues can arise, particularly those related to motivation [39].

VIDEO REFLECTION IN COACHING
The major advantage of video within reflection is that it reduces the emphasis on memory and allows for a greater range of coaching behaviors to be analyzed. Coaches suggested that video reflection “identifies more incidents that occur during the session”, “shows more stuff
• Identifying the positive and negative aspects
• Looking back on what was done
• Identifying ways to improve
• Analysing personal performance

Reflective Process

> Reflective Practice

• Allows for continuous learning
• Evaluate personal performance
• Establish future learning areas
• Improve performance
• Identify specific issues in personal coaching
• Overcome coaching weaknesses

Purpose of Reflection

> Video Reflection in Coaching

• Reduced reliance on memory
• Identification of more incidents
• Identified greater range of strengths and weaknesses
• Can analyze actual occurrences
• Improves understanding of participants viewpoint
• Allowed for easier reflection
• Beneficial to rewind and re-analyse
• Can analyse both coach and performer
• Enables breakdown of session
• Highlights critical incidents

Video Reflection

> Personal Learning from Video

• Weak communication
• Non-verbal communication needs improvement
• Positioning was poor
• Need to improve coaching practice knowledge
• Lack of experience
• Lack of focus on all groups
• Timing of progressions poor
• Confident performance

Personal Learning from Video

> Practical Implications

• Gained greater knowledge of coaching process
• Access to decent video recording equipment
• Time and space to video could be limited
• Poor sound quality
• Participants can “play up” to camera
• Need to be regularly coaching

Practical Implications

Figure 1 – Content Analysis Results
than you remember”, and “highlights errors that I hadn’t noticed before”. Similarly, it can reduce the opportunity for inappropriate or incorrect reflections being drawn [1]. One coach explained: “I thought that I’d performed this demonstration really well until I saw it on the video. I’d actually got my foot positioning wrong, which confused the player”. In particular, the coaches found the video reflection valuable as it allowed for a more detailed analysis of performance to take place. Coach responses noted “it allowed me to rewind and review the session on multiple occasions” and “the video made the reflection easier as I couldn’t remember some of the things that I did during the session”. This may improve the overall benefit of reflective practice, specifically by reducing incorrect analysis caused by poor recall. Video reflection does appear to assist cognitive development of coaches [24]. Further research is required to establish the extent to which video reflection benefits performance development above traditional reflective practice methods; and whether these increases are significant in relation to the added time associated with their set-up. An interesting point was provided by one coach who suggested that “the major benefit of the video was it allowed me to see me coach from the performers’ point of view”. This could add more depth to the reflective process and greater understanding of personal coaching performance, allowing the analysis from an alternative perspective.

PERSONAL LEARNING FROM VIDEO

In relation to personal coaching performances, the majority of coaches identified similar behaviors, mostly related to communication, confidence and coaching style. Of concern is that a large percentage of the responses related to weaknesses with communication (“I noticed that some things I say do not need to be said, which changes the emphasis and meaning of my communication”; “I was too repetitive”; “I used a number of technical terms during my session that the players didn’t understand. I hadn’t realised until I watch the video back”). While in general coaches are continually trying to develop their communication skills [40], it would be anticipated that these skills were more advanced in university based students. Although no specific data exists for each coach’s perceptions of these skills prior to the recorded session, most suggested that they were surprised by their actual performance (“I didn’t realise that I was so limited in my communication. I just kept saying the same things over and over” and “I just seemed to say things for the sake of saying something. If things went quiet I would just shout something out, like ‘keep it up’”). There was a tendency for coaches to rely on comments such as “good job”, “nice try” and “well done”. This was corroborated by the coaches during the reflection (“I thought that I’d told the players some really good things, but from the video it’s clear that I really didn’t. I just told them to keep trying”). The video was the first opportunity for these inexperienced coaches had to critically analyze their personal performance. The recommendations made by each coach within their written report provide support for the utilization of video within a coach education program (“It allowed me to analyse my coaching more deeply and relate it to the literature easier. Therefore my knowledge of the coaching process was expanded because I could see how everything was related”). A number of areas, such as positioning of the coach, speed of progression and non-verbal communication, may not have been identified by traditional reflective practice processes.

Again personal reflection concentrated on the negative aspects when analyzed from the video. Within the written report, the “areas for development” section outweighed the defined strengths and all coaches suggested recommendations concerned with how to improve weak performance (“The space I used was not sufficient, I needed to put much more space between the performers”; “I lacked confidence, which made me very authoritarian in my coaching
style”; “My positioning was poor and that meant I didn’t progress the activities quickly enough”; “My body language was really bad, I spent most of the time with my arms folded and not looking interested”). A similar identification was made within the questionnaire responses, with only three coaches describing positive aspects. All three respondents suggested that they appeared more confident than they perceived during the session (“I was confident and direct with my communication”; “I was more confident than I thought, which allowed me to deliver a good, clear and progressive coaching session”; “I was pleased with my performance and was more self-assured than I thought”).

PRACTICAL IMPLICATIONS

With regard to the practical implications, all coaches reported a number of difficulties in conducting video reflections (“I didn’t know how to use the video camera”; “The batteries didn’t seem to last very long and I was constantly having to check it was still recording”; “Finding the best place to put the camera is difficult. You need to make sure that the coach can be seen all the time, but making sure that it’s not too close or far away, and is not going to get knocked down”). The primary concern related to the quality of recording equipment available, particularly with a lack of sound quality when coaching outdoors. Wind interference can make reflection on the coach’s verbal communication almost impossible and should be taken into account when recommending this type of reflection. The performers within the coaching session also raised some concerns, as they had a tendency to act differently in front of the camera, especially young performers who were partial to “playing up” to the camera. Observational analysis guidelines, as suggested by van der Mars [33] should be followed to limit this interference. Other limitations related to the time available to conduct this reflection outside of university course work.

All the coaches did suggest that they gained a greater understanding of the coaching process by utilizing the video to critically analyze personal performance, especially when this was underlined by contemporary coaching literature (“...comparing my practice with the theory helped me get a better understanding of what I had learned during the course” and “I didn’t understand some of the theory before I saw myself actually use it in the video”). This provides strong support for the introduction of video reflection on a more regular basis to coach education programs designed to increase coaching efficacy. With some knowledge of generic coaching skill requirements, inexperienced coaches could improve their coaching through a greater understanding of personal performance [12]. The provision of contemporary literature to support the rationale behind the reflection is also suggested to aid the learning process [15]. In order for critical analysis of personal performance to be effective, the coach could benefit from utilizing a range of coaching theories. By identifying good practice from published literature, the cognitive understanding of the coach could be developed [2].

LIMITATIONS

The homogeneous nature of the participants may be an influencing factor within this study. All coaches were at a similar ability level, had similar coaching experience, and had undergone a similar coach education program. Their previous encounters with reflective practice could have been influenced by the specific tutor delivering the reflective practice module in terms of the specific areas reflected upon and the reflective practice model that the coach based their reflection on. Similarly, with the underlying principle of the process being related to coursework that was assessed, the practice engaged in by the coaches may have been biased by the marking criteria set by the tutor.
Future research may need to refine the data analysis procedures, specifically utilizing individual interviews to gain an in-depth understanding of each coach’s personal opinion. Furthermore, it is suggested that each coach should reflect on the session prior to the video analysis, as this would allow for a comprehensive analysis regarding the use of the video within the reflective process. There can also be some discussion concerning the ability of inexperienced coaches to reflect. The coach may be constrained by their prior knowledge of the coaching process, good coaching practice and reflection, and therefore the question is posed “can inexperienced coaches truly reflect?”

The process of video reflection could be easily implemented within any coach education program. Similarly this approach can be done independently by coaches wishing to develop personal performance. The greatest influence is related to the time needed to conduct the reflection. Findings of the present study suggest the principle importance of the video is to aid accurate reflection and avoid reliance on memory. Therefore any time that could be allocated to video reflection may be beneficial to performance development. Further research is necessary to establish if a specific amount of time is required for a comprehensive reflection.

Further investigation is required to ascertain the most effective method to integrate video reflection within large-scale coach education programs. A suggestion would be to encourage inexperienced coaches to work with a mentor for the initial reflections, until competence in the process is developed, but this may be limited by group size. Whole group sessions could be conducted utilizing pre-recorded videos to introduce the important components of video reflection to large groups. Côté [41] suggests that coach education programs should incorporate more “cooperative learning opportunities”. As with any reflective process, experience should lead to more detailed analysis and as such awareness of the process should be implemented early in the program.

CONCLUSION

Although greater knowledge of the coaching process allows for a more detailed analysis, the use of video reflection highlights strengths and weaknesses of practice. The development of digital technology to assist athletic development is becoming common place [42] and coaches could use this technology to improve their coaching performance. The ability to analyze performance accurately, especially in relation to best practice, should allow for better cognitive understanding of the coaching process. Initial video reflection will be related to the identification of areas for improvement. The coach should be encouraged also to analyze good performance and to contemplate further development of these areas, particularly in relation to occupational standards and good practice.

REFERENCES


