

Coaching effectiveness: how to encourage a reflective strength and conditioning coach

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OVERVIEW

The aim of this article is to synthesise the literature regarding reflective practice in sport and to provide practical recommendations on how to improve coaching effectiveness through reflective practice. Guidelines will be recommended to increase depth and quality of reflection by questioning and challenging underlying beliefs, assumptions and attitudes related to tangible behaviours.

Introduction

This review is an attempt to provide a summary of the reflective practice (RP) literature, together with practical recommendations on how to improve coaching effectiveness through this practice. Within a review of the literature, Côté and Gilbert⁷ created a definition of coaching effectiveness which they described as ‘a consistent application of integrated professional, interpersonal and intrapersonal knowledge to improve athletes’ competence, confidence, connection and character (4Cs) in specific coaching contexts’. This definition encompasses three components: the coach’s knowledge, athlete outcomes and coaching contexts. Coach’s knowledge was defined using Collinson’s model of teacher knowledge content including three forms of teacher knowledge: professional, inter-personal and intra-personal knowledge.⁶ Professional knowledge includes understanding the sport sciences, sport-specific knowledge, and pedagogical knowledge. Interpersonal

knowledge includes relationship management skills and an understanding of effective communication and leadership. Intrapersonal knowledge involves understanding of oneself and the ability for introspection and reflection.⁷ Knowledge can be thought of as tools of the craft, in the form of ideas and concepts which a coach uses in the art of coaching, whereas reflection is the process of using these tools to transform information from experience into new knowledge and understanding.

Coaches are required to use their knowledge to control and organise unpredictable intra- and inter-personal (eg, behaviours and interactions respectively) factors influencing performance. This complexity can be illustrated by an analogy of a snooker table representing a game of soccer, with the balls placed in an organised manner and representing individual players, and the white ball being struck and continuing motion for the same amount of time as a game (~60 minutes). The movement of each ball (ie, the behaviour of individual players)

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and the resulting interactions with other balls makes prediction difficult, given the time available to the coach to make an effective decision. This pattern of ‘organised chaos’ illustrates the unpredictability of a game. The coach’s knowledge of the game (sport-specific knowledge), knowledge of player abilities (interpersonal knowledge) and readiness to perform (sport science knowledge) will collectively influence the decisions made to influence the outcome of the game. RP is one possible means of facilitating the integration of these forms of knowledge within the decision-making process. Additionally, RP enables self and team evaluation to take place retrospectively to inform future actions. Therefore, RP is likely to facilitate the effectiveness of coaching through feedback and feed forward processes that result in self-awareness and more effective decision-making respectively.

RP and critical thinking are related concepts and therefore any argument considering reflection should include critical thinking. Marie¹⁷ captures the working concept of reflective practice by using an analogy of a person with blindness using a stick to navigate their surroundings. The stick represents the individual’s knowledge and the surrounding environment represents the problems and issues to be solved. The movement of the stick is the process of reflection or utilising knowledge to negotiate uncertainties.¹⁷

This idea can be extended to integrate critical thinking, which is an outwardly directed process of thinking about and developing conceptual understanding through multiple lines of enquiry.²² Critical thinking is concerned with the exchange and development of knowledge by engaging with other perspectives, or as Swanwick et al describe it: looking through the mirror as opposed to simply reflecting on oneself.²² Extending the analogy of the man with blindness, critical thinking is involved in developing one’s knowledge and understanding (eg, creating the stick to be used via RP to navigate uncertainty). Consequently, RP and critical thinking are interdependent as a deeper level of knowledge and understanding will facilitate the effectiveness of RP in negotiating uncertainties by providing more possible solutions and avenues of thought. RP and critical thinking are processes of thinking either inwardly or outwardly and can be illustrated by the analogy of both looking at and through the mirror at oneself while considering alternative perspectives.

RP and critical thinking should therefore be considered essential processes for deepening the learning process and the foundation of learning to be an effective coach. This review will discuss how to use RP and critical thinking in the context of coaching. However, it is necessary first to define RP before practical recommendations are suggested for strength and conditioning (S&C) coaches.

What is reflective practice?

Reflective practice has been previously defined by Boyd and Fales⁴ as: ‘the process of internally examining and exploring an issue of concern, triggered by an experience, which creates and clarifies meaning in terms of the self and which results in changed conceptual perspective’. Reflection is a method of introspection that generates knowledge, self-awareness and intuition that would be difficult to learn otherwise.^{2,8,20,23} Therefore, RP facilitates independent and autonomous learning that teaches the coach to be questioning and engaged in analysing and providing solutions to real-life problems.^{10,16}

Reflective practice, in the form of video feedback-facilitated discussion, can result in favourable changes in coaching behaviour. Specifically, decreases in the amount of feedback given, increases in the duration of silent observation and increases in questioning behaviour have been demonstrated with video feedback which was perceived as providing a structure to the reflective conversation.¹⁹ This indicates that video feedback can form a useful trigger for discussion, particularly from the perspective of a coach-mentor relationship. Additionally, this demonstrates autonomous changes in behaviour that were the result of the realisation of a discrepancy in perceived and actual behaviour. This discrepancy was the motivating factor for the coach to take remedial action to align their behaviour with the perception of an ideal coach.

Research has also investigated the effect of reflection on the long-term development of athlete performance.¹⁴ Specifically, athletes demonstrating higher levels of questionnaire-assessed, self-reported reflection at baseline progressed to a higher competitive level 2.5 years later.

Thus, self-reported reflection seems to distinguish future levels of performance indicating some evidence of the benefits of reflection on performance.

Although RP is recommended by professional sport coaching bodies as an essential skill for coach education, few attempts have been made to directly teach and nurture this practice. However, research focus has recently shifted from what coaches do to how they think.¹⁵ This change in attitude may lead to the adoption of more effective practices by professional coaching bodies, with a renewed focus towards developing critically reflective sport coaches. It is evident that cognitive skills, such as decision-making and critical thinking, are central to coaching expertise.^{1,15,21} These skills can be focused and directed towards coaching experiences (positive or negative) through RP, thus facilitating explicit and tangible opportunities for learning. Reflection will also engage coaches mentally with their practice,¹⁵ stimulating learning that may otherwise be neglected.

Thus, reflection supports the integration of theory and practice and should be encouraged as a method of developing coaching practice.²³ Coaches should therefore be encouraged to analyse experiential evidence as a method to both understand and replicate good performances and find solutions to poor performance. The analogy of looking both at and through the mirror, together with the analogy of the blind man using a stick to navigate uncertainty, are useful models to visualise the idea of critically reflective practice. Coaches should be encouraged to analyse their experiences, considering alternative perspectives (the mirror analogy) while continuing to develop their knowledge, which is required to navigate uncertainty more effectively (developing the blind man and his stick analogy).

How to reflect

Typically, reflection is completed in the form of journal writing.²⁵ However, some practitioners oversimplify reflection, reporting engaging in activities that simply involve thinking about their practice. The lack of critical analysis and subsequent lack of clear outcomes potentially makes the coach perceive the whole process as time-consuming and pointless. This indicates a possible misconception with regards to how we should reflect on our practice; it also necessitates the positioning of reflection within a clear theoretical framework to clarify how a coach can apply these skills.

The author has chosen to discuss reflection from the established framework of

experiential learning (EL).¹⁶ Within EL theory, knowledge is developed through the transformation of experience. Reflection facilitates the development of knowledge by transforming information from a concrete experience into an abstract concept which is subsequently tested through active experimentation (see Figure 1). For example, the process of writing or talking about an experience may result in analysing the reasons why a young athlete did not engage with a training session. The coach may begin to think about their own actions and how they communicate with the young athlete.



Tom Daley reviews a training dive with coach Jane Figueiredo (April 2015)

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This may lead the coach to consider the type of language used to convey instructions. The coach may then conclude that the language they use may be too complex and the athlete either does not understand the drill or is overthinking the movements.

The coach now has two testable hypotheses as above: the athlete does not understand the drill and the athlete is overthinking the movement. These hypotheses can be tested in this situation by initiating a coaching conversation with the athlete about the way that they learn most effectively and the way that they like to be coached. Further questions can be asked to examine what is going through their mind when they are performing the movements they are learning. The information from this conversation may lead the coach to a conclusion that the language they use is too complex and an action plan for future training sessions can be developed to improve athlete learning. This example followed the experiential learning cycle by reflecting on a concrete experience and forming a testable hypothesis that was tested through talking to the athlete. This would probably result in a favourable change in coaching behaviour. ELT is therefore a framework for conducting experiential research and considers the learner to be actively engaged in the process of learning through experience. However, due to the time commitments required to reflect, coaches may not believe it is a worthwhile endeavour.

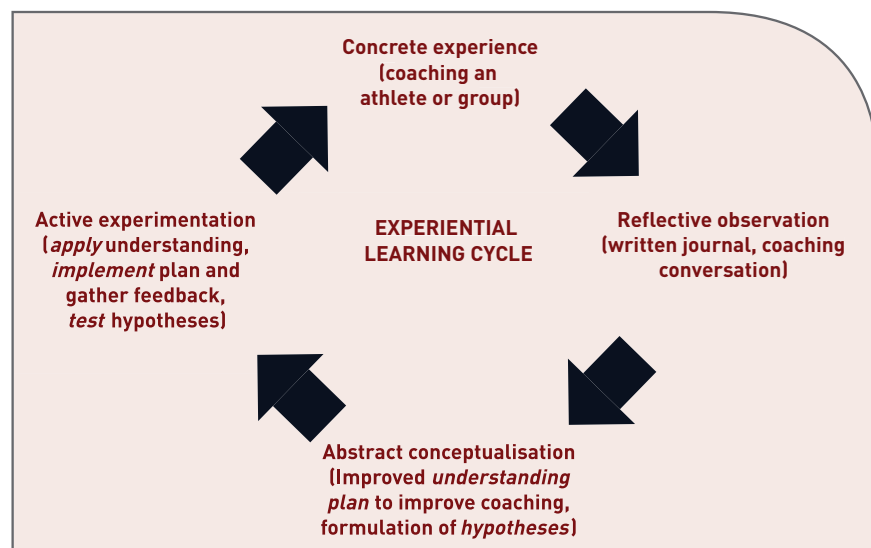
Barriers to reflective practice

Many coaches see reflection as time-consuming and therefore avoid engaging in the practice, possibly due to a sense of uncertainty regarding perceived outcomes and being busy with other professional duties that seem to take priority.⁵ Irwin, Hanton and Kerwin¹³ reported a lack of engagement with reflective practice, creating a problem when considering the benefits in regards to encouraging the careful examination of practical delivery, thoughts, feelings and behaviours associated with a training session. Therefore, as well as emphasising the importance of written critical reflections, practical and time-effective methods of reflecting on practice are also needed to engage coaches. Acceptance of time constraints should facilitate a solution-focused approach to encouraging coach engagement with RP. One potential solution includes the organisation of practices along a continuum of complexity, with the more involved methods of RP resulting in deeper reflection and increased time commitment (see Table 1).

The author has chosen to visualise the depth of understanding by aligning the complexity involved in reflection with the structure of the observed learning outcome (SOLO) taxonomy, a commonly used taxonomy that assesses the quality of learning in higher education.³ The taxonomy describes levels of understanding illustrated through increasing levels of complexity. The levels within the framework include pre-structural, uni-structural, multi-structural, relational and extended abstract. Pre-structural indicates that the individual has no knowledge or understanding of a topic. Uni-structural refers to the ability to understand one relevant concept. Multi-structural indicates the ability to understand more than one concept independently. Relational refers to several independent constructs being integrated into a structure (relating concepts). Extended abstract refers to understanding at relational level being generalised to a new domain.

An example of this within coaching is the understanding of feedback affecting athlete learning (uni-structural). A multi-structural understanding will include an awareness of how external cues and internal cues both differentially affect motor learning. Internal cues include instructions that direct attention to the coordination of body movements, whereas external cues involve

Figure 1. Experiential learning cycle applied in the context of coaching. Adapted from Kolb¹⁶



instructions that direct athlete attention to the effects of their movement on the environment such as the movement of a barbell.²⁶ A relational understanding would acknowledge the interactions between these two concepts and consider the different effects external versus internal feedback has on motor learning. This may affect the inclusion of external versus internal feedback in the coaches applied practice.

Finally, an extended abstract level of understanding will generalise this understanding and the coach may consider how the benefits of giving external cues may affect youth versus adult coaching. The use of external cues could be applied in the form of analogies and games that increase enjoyment and fun from a youth training perspective. For example, a coach may ask children to imitate animal movements and align a fun game-like

Table 1. Descriptors of reflective practice based on degree of complexity and time commitment

DEGREE OF COMPLEXITY AND TIME COMMITMENT	REFLECTIVE PRACTICE DESCRIPTORS
Low (5-10 minutes)	Coaching conversations (eg, peer assessment of coaching with follow-up conversation)
Moderate (10-30 minutes)	Journal writing describing and analysing practical and observable coaching experience, behaviours, outcomes, performance
High (30 minutes+)	Journal writing involving deep analysis of thoughts, feelings, biases alongside observable experiences that encourages changed conceptual perspective

Table 2. Type of reflective practice aligned to the descriptors of understanding based on the SOLO taxonomy. Learning descriptors are described relevant to the strength and conditioning coach

TYPE OF REFLECTIVE PRACTICE UTILISED	LEVEL OF UNDERSTANDING	DESCRIPTOR OF UNDERSTANDING	LEARNING DESCRIPTORS
Not applicable	Prestructural	Incompetence, no understanding	Incompetent, misses the point, unable to identify simple concepts or technical points
Conversational reflection	Unistructural	One relevant concept	Identify good or poor performance, follow a simple procedure
	Multistructural	Several relevant independent concepts	Describe good and poor performance, list strengths and weaknesses
Journal writing (also involving reading and analysis of written content leading to the challenging of beliefs and resulting in a changed conceptual perspective)	Relational	Several relevant independent concepts integrated into a structure	Analyse good and poor performance, explain causes, relate understanding of good coaching to observed behaviour, criticize own coaching, justify coaching behaviour
	Extended abstract	Several relevant independent concepts integrated into a structure and generalized to a new domain	Create a plan to improve poor performance and replicate good performance, theorise and suggest changes to professional practice. Noticing biases and/or challenging beliefs (by reading and analysing your own reflection) that results in changed conceptual perspective and changed/improved coaching practice.

‘To initiate reflection, a question is usually identified to direct thinking towards an area of practice’

situation with the demands of an exercise during a training session. Consequently, reflection can be engaged with at various levels of complexity that seems to align with the widely-used SOLO taxonomy of learning. For descriptors of these levels of understanding please see Table 2.

Coaching conversations

Conversations can be valuable learning opportunities: they have been shown to enhance and improve practice in similar professions such as teaching.^{12, 24} Arguably, there is some relevance and association between teaching and coaching. However, the current author is more concerned with the process of professional experiential learning. Due to the practical utility of conversational reflection, coaches may be able to utilise the associated benefits without the time demands of extensive writing. This is not intended to mean we should avoid deeper and more critical written reflections. This is simply intended to provide alternative, practical and time-effective methods of gaining benefit from and engaging with RP. This would be especially useful at moments when time is scarce or the coach works infrequently and/or voluntarily. Follow-up written reflections should be encouraged (if time permits) that summarise the reflective conversation and clarifies the dialogue while deepening the analysis. Understandably, time pressure will dictate the duration of time spent reflecting through writing. However, when coach learning begins to plateau, due to having become sufficiently competent, time spent reflecting may be a more salient influence on their continued learning and development.¹¹

Although it is straightforward and practical to engage in coaching conversations, the current author recommends that written reflections be made post-conversation as a form of consolidation and as a method of developing explicit action plans for future training sessions. A post-conversation written reflection will likely deepen learning, particularly if the practitioner engages with additional research (eg, by utilising scientific literature to inform further learning), thereby facilitating the integration of theory and practice through critical reflection.

Triggers for the reflective conversation

To initiate reflection, a question is usually identified to direct thinking towards an area

of practice. The desired result is a deepening of understanding and a changed conceptual perspective. The coach is encouraged to reflect on thoughts and feelings experienced while considering alternative viewpoints. To achieve greater depth, the writing process can be complemented by reading through the written work with an analytical mindset. Giving yourself space to read your own thoughts provides first of all an opportunity to notice assumptions, biases and attitudes, providing insight into the underlying beliefs and values you hold. Subsequently, the coach can challenge these beliefs, assumptions, biases and attitudes by exploring alternative perspectives that may subsequently lead to a change in professional practice.

The whole process requires the coach to cultivate honesty with themselves, often identifying and analysing mistakes, problems and weaknesses encountered throughout their professional experiences. Often this can prove challenging as we often approach self-analysis with biases. This prevents accurate perception of actual behaviour, creating a discrepancy between perceived and actual coaching behaviour.¹⁸ Subsequently, accurate recall of experiences becomes biased towards the perceptions of the coach, creating a barrier to learning and development.

A particularly useful method for triggering accurate recall of behaviour and experience is video feedback.¹⁹ This method explicitly demonstrates any discrepancies between actual and desirable behaviour and has been shown to result in long-term changes in coaching behaviour, with a development towards a more athlete-centred coaching style. This is evidenced by the decrease in average instruction and feedback, with an increase in questioning and silence.¹⁹ This indicates that tangible changes in coaching behaviour are possible through reflection facilitated by video analysis. Additionally, an increase in self-awareness is possible with individuals being more able to identify discrepancies in perceived and actual behaviours.¹⁹

By utilising freely available mobile technology, a coach can gather accurate, valid and reliable information about the way they conduct training sessions that may be used to trigger reflection. Video feedback can be used individually as a means of triggering self-reflection or alongside peer review with a coaching mentor/colleague to enhance the learning experience. However, it is important to consider what to look for

when reviewing video feedback and this is illustrated by what the current author refers to as the 'tone of reflection'.

The tone of reflection – problems versus strengths?

Often, individuals will approach reflective practice with an aim to solve a problem or reduce errors in their practice. This approach has been challenged⁹ and although coaches should be encouraged to continue problem-solving, it is recommended that a strengths-based approach is also utilised. In practice this means that coaches should be encouraged to identify and reflect on successes and good performances/behaviours, with an aim to understand what caused them and how they can be reproduced.⁹

Summary and recommendations

RP and CT are related skills that support learning from experience. To encourage coach engagement in RP, the current author has defined a time-dependent framework to identify practical methods to reflect, based on the time available to the coach. Methods of deepening RP have been illustrated by aligning the depth of reflection with a widely-used framework of learning (the SOLO taxonomy). To ensure simplicity and practicality, coaches are recommended to engage in both conversational and written reflections. Greater depth of analysis can be achieved by reading written reflections with a critical and analytical approach by applying critical lenses to their reading. More specifically, coaches should be encouraged to read their written reflections while actively looking for evidence of biases, assumptions that may direct them with a questioning mindset to clarifying their attitude and mindset and subsequently their underlying beliefs about coaching.

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