The impact of video-based practice on the development of elite youth footballers

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The Impact of Video-based practice on the Development of Elite Youth Footballers

by

Simon Middlemas

Submitted in partial fulfilment
of the requirements for the degree of
Doctor of Philosophy, at Loughborough University

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‘No man is an island, Entire of itself. Every man is a piece of the continent; a part of the main. Any man’s death diminishes me, because I am involved in mankind. And therefore never send to know for whom the bell tolls; It tolls for thee’ - John Donne
ABSTRACT

Whilst video is increasingly recognized and utilized within elite sport settings as an appropriate medium for delivering information about performance (MacRae, Miller-Perrin, & Tinberg, 2003), the exact role of the video as a development tool within youth football remains unclear (Groom, Cushion & Nelson, 2011). It is argued that further research is needed which is grounded in the day-to-day realities of the players, coaches and practitioners using video to develop players for senior football. Drawing from a wide range of scientific disciplines, the term ‘video-based practice’ is employed throughout this research to represent the overall activities and processes surrounding video delivery in youth football settings. The main aim of this research project was to gain an in-depth understanding of video-based practice within elite youth football.

Mixed-methods were undertaken to tackle these applied research questions. Forming a two-part investigation, study one focused on developing an understanding the perspectives of the key participants in the VFB process within youth football. Interviews were conducted with eleven coaches and twelve players currently based with elite youth football environments. A thematic content analysis yielded rich data pertaining to their perceptions of the factors involved in the delivery of video feedback within youth football. In study 1a with coaches, 421 distinct raw-data quotes were abstracted into 111 lower-order themes, and 17 higher-order themes; while in study 1b with players, 490 distinct raw-data quotes were abstracted into 104 lower-order themes, and 16 higher-order themes. These higher order themes were grouped together under three general dimensions. These focused on (i) the psychological processes engaged during delivery, (ii) the impact of using different delivery strategies, and (iii) the impact of the delivery climate surrounding video-
based practice. Whilst a broad range of common themes were identified, the findings also highlighted differences in the way coaches and players perceived the VFB delivery process.

In the second part of this research, the emphasis shifted from exploring the factors influencing delivery, to directly exploring their impact from within elite youth football settings. In study two, an ‘individual-focused’ video intervention – based on the tenets of self-modeling theory - was delivered to five players within a single-case design to explore its effect on subcomponents of performance and selected psychological variables during a competitive football season. The findings were mixed. Whilst positive changes were observed on certain subcomponents of performance for three of the four players who received the video intervention, the findings showed that no impact was observed for other subcomponents. The findings also highlight the potential mediating influence of a number of psychological variables in the video-performance relationship, including self-efficacy, affect, imagery and motivation.

Finally, in study three, a two-year narrative-based reflective piece is presented of the principal researchers’ experiences working as an practitioner within video-based practice within an elite professional youth football setting. Using reflective journals and observations in the field, a number of practical, philosophical and ethical issues were explored through the perspective of the coach-practitioner relationship. Overall, the findings of this thesis reveal the central importance of psychological factors in influencing the effectiveness of video-based practice in youth football, and suggest that the skill and expertise of the Sport Psychologist may add significant value to video-based practice alongside the coach and performance analysis practitioner.
### GLOSSARY OF TERMS

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<th>Abbr.</th>
<th>Definition</th>
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<td>Video Practice</td>
<td>-</td>
<td>The generic term video-based practice is used frequently in this thesis when referring collectively to the practice of delivering video information to athletes.</td>
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<tr>
<td>Video Feedback</td>
<td>VFB</td>
<td>Essentially, video feedback involves showing an athlete a video clip of his or her own performance of a particular skill.</td>
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<tr>
<td>Video Modeling</td>
<td>VM</td>
<td>Also referred to as observational learning. Typically described as the process of learning new responses by watching the behaviour of own self or another person.as a process of watching others to assist in the learning of varied skills. Can also include watching the self.</td>
</tr>
<tr>
<td>Video Self-modeling</td>
<td>VSM</td>
<td>A process whereby athletes learn from images of their own adaptive behaviour as seen on videotape. A method of allowing individuals to view themselves being successful, acting appropriately, or performing new tasks, depicted with only positive imagery.</td>
</tr>
<tr>
<td>Video Self-observation</td>
<td>SO-VSM</td>
<td>A form of video self-modeling. A process whereby the athlete watches raw, unedited footage of their behaviour, without adulteration or emphasis. Also referred to as ‘Raw’ video feedback.</td>
</tr>
<tr>
<td>Positive Self-Review Video</td>
<td>PSR-VSM</td>
<td>A form of video self-modeling. A process whereby the athlete uses only positive images of the self as a model for improvement. “I did it before, so I can do it again”.</td>
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<tr>
<td>Pre-match preparation or motivational videos</td>
<td>-</td>
<td>Conceptually linked to self-modeling. Typically, successful performance are compiled together with music, meaningful images and replayed prior to competitive match or impact on the psychological preparation of a group or individual.</td>
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1.1 Introduction

The inception of the Football Association (FA) Premier League in 1992 and the publication of the F.A.’s Technical Department's Charter for Quality (1997; www.thefa.com) became a catalyst for the transformation of elite youth soccer development in England (Pain & Harwood, 2010). Alongside the restructuring of the F.A.’s youth international programmes, it led to the development of professional academies and centres of excellence within the 40+ Premier League and Football League clubs. A significant reorganization of this youth development system - initiated by the Premier League (http://www.premierleague.com) - culminated in the adoption of the Elite Player Performance Plan (EPPP) in 2012. The general aim of these programmes is to create an environment geared towards the development of players who are able to perform at first team level or to generate income through the sale of marketable assets. Within the youth international system, the goal is to develop players who can make the transition onto the world stage. These experiences represent a key stage of a young players’ development within the highly organized and structured community of the academy spanning more than a generation, from the ‘foundation phase’ (ages 5-11), ‘youth development phase’ (ages 12-16), and through to the ‘professional development phase’ (ages 17-21). It is during the ‘professional development phase’ that clubs and National Governing Bodies invest real time, money, training and resources into helping players make the final transition to senior level football (Green, 2009). These young players will spend the most intense period of their development within their professional club environment, receiving high-quality coaching and training facilities (Stratton, Reilly, Williams, & Richardson, 2004). Within elite youth football in England, the academy
system is the highest ranking development scheme in the country. In essence, 
academies are special training schemes set up and funded by professional clubs with 
the primary objective of developing players to the professional level (Mills, Butt, 
Maynard & Harwood, 2012). In elite football’s developmental pathway, these club-
based structured programmes represent the main access point for any player wishing 
to accomplish their goal of becoming a professional footballer.

Due in part to its high profile, the elite football culture and the dream of a 
career as a professional footballer has an almost magnetic attraction for young 
football talents (Brown & Potrac, 2009). It is well documented, however, that the 
process of making a successful transition into professional sport is complex and 
demanding for athletes (Burner, Munroe-Chandler, & Spink, 2008). Evidence 
suggests that within football over 85% of those who join an academy fail to make it 
as a professional (Brown & Potrac, 2009; Williams, 2009). In real term, very few of 
those who show early promise achieve this elite status. The pursuit of junior players 
by professional clubs is also regularly highlighted in the media, and reports of 
teenagers being traded for large sums of money are not uncommon (Hytner, 2011). It 
is easy to see why this environment has been described as all consuming, physically 
demanding, and extremely competitive (Roderick, 2006). Given these factors, and 
the subsequent need to maximise development opportunities, the importance of 
linking scientific research and applied work has become increasingly accepted in the 
professional game (Williams & Reilly, 2004). In particular, research is needed 
which is able to sensitively capture the complexity inherent in the learning process 
within professional football.

1.11 Video Research in Sport
With rapid technological advances, falling costs, better quality analysis software and greater accessibility, digital video has come to be more recognised and utilized as an appropriate medium for enhancing performance within sport (MacRae, Miller-Perrin, & Tinberg, 2003). For the next generation of football players, technology is now commonplace. The modern athlete now has extensive experience of the internet, audio-visual technology, and computer and multimedia technologies (Bennett, Button, Kingsbury, & Davids, 1999). Indeed, Dowrick (2012) argues that as video editing has become so accessible that most 8 to 28 year-olds are now using digital media intuitively. In the last decade, these technological advancements - coupled with increases in both applied practice and academic interest in video technology use – have meant that video could now be considered to be the most popular use of technology in sport (Liebermann, Katz, Hughes, Bartlett, McClements, & O’Donoghue, 2002). Trained professionals in performance analysis and sport psychology have begun to strategically use video interventions for the purpose of performance enhancement (e.g., pre-performance routines to focus attention, mental imagery, motivation, increase confidence, and emotional management; Ives et al., 2002). The growing popularity of the motivational video within elite football is shown in this quote following Barcelona FC’s victory in the 2009 European Champion’s League final:

Triumphant Barcelona manager Pep Guardiola could add film director to his burgeoning CV after producing the perfect images to inspire victory … in the Champions League final. Guardiola showed a specially made film to his players in their dressing room 10 minutes before the final … the film highlighted action images of his players’ finest moments - featuring every member of the Barca squad - and Guardiola had clearly done his homework … ahead of the final in the Stadio Olimpico. The pictures were set to a soundtrack from the Russell Crowe film Gladiator and the opera Turandot
performed by Italian legend Pavarotti. The film had the desired effect as Barcelona went on to outclass United to become champions of Europe for the third time … before showing the film to the Barca squad, Guardiola gave members of his staff a sneak preview, moving several of them in tears (Oliver, www.bbc.co.uk, 2009).

It is easy to see why video holds an intuitive appeal to coaches and practitioners working in sport. Video enables the coach or athlete to view, analyse, interpret, and evaluate performance of individuals, as well as that of the team and opponents. Crucial visual performance information about the execution of complex motor skills and tactical strategies is not always available to the learner, especially during fast, crowded areas of the field or quick passages of play. Researchers have reported coaches’ retrospective recall of game information as low as 45% correct in post-performance analysis (Franks & Miller, 1991). The video also provides the coach and athlete with a valuable opportunity to reflect accurately on performance and consider how it might be improved (Williams & Ford, 2008). For athletes, it provides attention-drawing, post-performance movement pattern feedback, which they can subsequently use to detect errors, compare to existing models of performance and modify performance. Researchers have also highlighted this ability to reflect on and learn from performance as crucial to their progression (Liebermann et al., 2002).

Reflecting the growing role of multimedia and digital communication within sport, the past two decades have seen an increased academic interest in the use of video-based technology in sport. From an applied perspective, video has a long history as a tool for coaching when used as a feedback instrument and has been used successfully to enhance skills (Bertram et al., 2000). Within sport, video use has been debated from a number of research perspectives, including perceptual and cognitive
skills assessment and training, behaviour modification in educational and clinical psychology, for feedback and modeling purposes in the motor domain, and as a consultancy tool within sport psychology (see Dowrick, 1999, in the social sciences) and Ives, Straub & Shelley, 2002, in sport, for reviews). One of these areas - Performance Analysis (PA) - has contributed significantly to the knowledge of identification of movement and performance patterns within competitive football (Hughes & Franks, 2004), and other areas, such as the identification and use of key performance indicators (James, Mellalieu, & Jones, 2005), and the role of motion analysis techniques to gather information relating to work rate data (Carling, Reilly, & Williams, 2008). Sophisticated match and notational analysis systems (e.g., Prozone®, www.prozonesports.com) have been developed in the past two decades, initially in response to the problem of inaccurate reporting of observed events from both experienced coaches and novice coaches (Hughes & Franks, 2004). These systems, capable of quickly recording and processing the data of all players’ physical, technical and tactical contributions throughout an entire match, are now being regularly used in elite sport environments (Hughes & Franks, 2004). It has been argued that PA is now widespread within professional football over the world in some form or another (Carling et al., 2008; James, 2006), with most professional football clubs now employing practitioners to provide PA or access PA data. This has led to the suggestion that video-based performance analysis ‘… is now widely accepted among coaches, athletes and sport scientists as a valuable input into the feedback process’ (Drust, 2010, p. 921).

The focus of the research is on the use of video by coaches and practitioners within the player development activities of a youth football setting. It could be argued that the primary goal of the professional youth set-up is to supply a steady
flow of players to the first team (Carr & Prosser, 1997). The importance of using video within the performance review cycle is well established, as coaches need to continuously assess the performance and potential of each individual player (Holt & Dunn, 2004). Given the broad scope of video technology as a learning tool in elite sport, it is understandable that football coaches and organizations have drawn on expertise from within sport science to help extract the maximum impact from this technology. Most football academies will now employ a practitioner to film their weekend league fixtures, such as a performance analyst/sport science practitioner, or a professional cameraman (James, 2006). While the practitioner role varies across these contexts, it will generally be focused on the capture and analysis of the game and the preparation of video footage for the coach to use with the team. The delivery options are extensive; the performance can be replayed in its entirety, or more commonly, coded (live, or post-game), and analysed according to key performance indicators.

1.12 Statement of the Problem

Despite often capturing and analysing performance, PA or VFB research has not yet adequately addressed how video information can be delivered to inform the development of performance expertise. In particular, research is needed which is able to sensitively capture the complexity inherent in the learning process within professional football. Subsequently, less appreciation currently exists about how effectively technologies such as these are being translated and adopted by practitioners to prepare and develop members of their squad (Carling et al., 2008). Stratton et al., (2004) suggest that ‘it is not yet clear how to best integrate this technology into coaching practice’ (p.132). The over-emphasis on the application of
methods for analysing athletic performance has left practitioners speculating about how they should incorporate these technologies and techniques into applied practice. Although a number of these practitioners have contributed applied guides for delivering video within sport (e.g., Trinity & Annesi, 1996; Forzoni, 2006), it is argued that more in-depth research is needed in this area.

This situation is mirrored within the sports science literature more broadly. Williams and Kendall (2007) have highlighted a disconnection between sports science research and the issues that are important for elite level coaches. Specifically, elite level coaches highlighted two major concerns with the current direction of ‘applied’ sports science research: (i) that more research based in natural settings is required, and (ii) that such research is only of value if elite athletes are used (Williams & Kendall, 2007). Therefore, from a methodological perspective, for this research to be more useful to coaches and practitioners working within youth football, this work needs to be conducted with elite populations. As such, the findings will better reflect the realities of elite sport settings. Such an approach would necessitate a shift from ‘researcher driven agendas’ towards ‘collaborative research approaches’ with participants within sport settings, creating a situation where the delivery process may best be understood when players, coaches, and practitioners are “active collaborators in telling the story” (Gilbert, 2007, p. 418).

Without clear research frameworks available to practitioners, it could be argued that this situation will lead to a disconnection between the academic study of PA and the realities of the application of PA practice by coaches in the field. It is unsurprising that there is little consensus regarding how this information should be delivered to best achieve performance gains (Ives et al., 2002). In a recent review paper on the use and misuse of video technology within golf, Bertram, Marteniuk,
and Guadagnoli (2007) argued that sport science is currently lagging significantly behind the technological advancement in the area. They argued that coaches working within sport would benefit from a “…framework for how and when to use video in the training environment and, more importantly perhaps, how and when not to use it” (p. 38). With technological advances now potentially outpacing the knowledge regarding its impact, it is argued that researchers need to move away from the capture and analysis aspects of video work, towards a greater emphasis on the human element of this technology (Saury & Durand, 1998).

Given these arguments, the aim of this research is to gain an understanding of how players, coaches and practitioners experience, understand, and subsequently work with the delivery of video technology in youth football. The research aims to advance current knowledge in this area and offer outcomes that serve to guide coaches, sport scientists, and managers in the process of integrating video into the context of their day-to-day environment (Potrac, Brewer, Jones, Armour, & Hoff, 2000). It is important to acknowledge that the delivery of VFB within elite sport is still a fairly new and under-represented area within sport research. With no overarching sociological or psychological theory currently available which can help make full theoretical sense of coaches’ and athletes’ experiences using video feedback, this research draws on a number of disciplines, including sport psychology, motor learning, sport pedagogy and performance analysis in an attempt to provide a comprehensive picture of the research in this area. Reflecting these broad influences, there are various terms that are synonymous with the same process in video research (e.g., video feedback, video modeling, video-based performance analysis, video replay). The term ‘Video-based practice’ is employed throughout this
research to represent the overall activities and processes surrounding video delivery
in youth football settings.

1.13 The Research Questions

In summary, whilst each study in this thesis will focus on specific research
questions, the overall research is driven by an interest in investigating three broad
and fundamental questions:

1. Beyond the capture and analysis of performance, what is the role of video for
player development in youth football?

2. Which factors are perceived by players and coaches to have greatest influence
on the effectiveness of video-based practice within youth football? And in
particular, what is the role of psychological factors within video-based
practice?

3. Using knowledge generated from these grounded studies, how can video-
based practice be optimized within youth football? Specifically, what role do
practitioners play in supporting the video delivery process?

1.14 Methodological Approach

I will adopt an interpretivist approach to guide the exploration of video-based
practice in the present thesis. From an interpretivist perspective, reality is seen as a
function of individual perspective. That is, reality is ‘objective’ only to the extent
that individuals experience, process and label it as such (Sciarr 1999). Advocates of
qualitative approaches accept that there is a real material world, but view this world
as ever changing, and believe it is not a fixed or a measurable phenomenon
(Merriam, 2002). As Smith noted, while physical things do exist independent of
ourselves, interpretivists' stress that the mind plays a foundational role in the shaping
or constructing of social reality, and therefore, what exists is not independent of, but
in a very significant sense, dependent on our minds (Smith, 2010).

In sum, interpretivism is the process of inquiry is a matter of interpreting the
interpretations of others. Thus, in order to understand the reality of video-based
practice in youth football, it is the intention of the researcher to engage directly in
dialogue and interaction with the players, coaches and practitioners regarding their
actual and real-life perceptions and experiences of using video for performance
enhancement and learning purposes. By focusing on the particular ways in which
players, coaches and practitioners construct their meanings of a given phenomenon,
in this case video-based practice, I hope to advance knowledge within this area.

Using qualitative methods, the relationship between the researcher and the
participant is often less formal than in quantitative research, suggesting it is more
suitable for the less formal interactions which can characterise the applied
environment (Smith, 2010). Qualitative research addresses qualities that are often not
quantifiable such as human emotions or experiences and thus ‘(i)instead of trying to
control extraneous variables, qualitative research takes the view that reality is
socially constructed by each individual and should be interpreted rather than
measured…’ (Johnson and Waterfield, 2004:123). The use of qualitative research is
acknowledged as being an increasingly important area in sports studies (Gratton and
Jones, 2004). However, according to Sandelowski (1997, cited in Johnson and
Waterfield, 2004) ‘there is still a sense of distrust of qualitative research, related to
its perceived inability to produce useful and valid findings, beyond a supplementary
role to quantitative research.’ (p.122).
It is noted that where appropriate, qualitative methods were combined with quantitative methods in order to explore the research question in greater depth. For example, when conducting an applied intervention within the club environment, a single-case design was adopted to structure the data collection and control for a number of confounding variables. This approach is based on the principle that it is possible to generate knowledge from the research data across multiple studies in order to elaborate further on the research context concerned (Pope, Mays, & Pope, 2007). By combining both quantitative and qualitative elements it allowed for the engagement of multiple perspectives and realities within the thesis, thus enhancing and enriching the meaning of this applied process. The growth of alternative research (qualitative, ethnographic, mixed-methods) in the field of physical activity may have been due, in part, to those who felt that the conventional methods (i.e., quantitative methods) of interpreting data may have been too limiting when investigating people and their situations (Eisner, 1997). Ultimately, the focus throughout the research was on capturing rich, in-depth data regarding the participant’s experiences of video-based practice within youth football.

1.15 Organisation of the Thesis

To answer the research questions adopted in this thesis, three extensive studies were conducted. The first study is a two-part qualitative investigation into players and coaches perceptions of the factors underpinning video-based practice in youth football. This is presented in Chapters’ three to six. Study two, which is presented in Chapters seven and eight, focuses on examining the impact of a pre-match video intervention on the performance and psychological responses of five professional youth football players. In the final study (three), which is presented in
Chapter nine, a reflective piece is presented exploring the researcher’s experiences working as a video practitioner within a full-time professional football academy over a two-year period. In Chapter ten, a summary is presented from the three studies in conjunction with a general discussion that critically examines the overall contribution of these studies to the literature. Specific attention is given to practical considerations for coaches, players and practitioners that stem from this research.
CHAPTER TWO
2.1 Review of Relevant Literature

Video has been used for numerous purposes within sport, including technical, tactical, biomechanical and perceptual training, to name a few. Within sport, video-based practice has been mainly employed in two ways to improve behaviour within applied settings; first to provide feedback on a behaviour that has already been completed and second to display a model of the correct behaviour to be demonstrated in the future (Dowrick, 1991). Much of the video research within sport to date has been focused on understanding how these approaches help ‘beginner’ level athletes to learn new skills. A number of different approaches have been utilized within the literature to study the effects of VFB and VM. The most common design used to assess the impact of a video intervention (i.e., VFB and VM) is an experimental pre-test/post-test design, either with or without verbal instructions from a coach. In some cases the impact of video has been studied in conjunction with other conditions, such as verbal feedback (e.g., Bertram, Marteniuk, & Guadagnoli, 2007; Guadagnoli et al., 2002; Herbert & Landin, 1994), video and verbal feedback from a coach (e.g., Bertram et al., 2007; Herbert & Landin, 1994), peer modeling (e.g., Starek & McCullagh, 1999), and imagery (e.g., Atienza et al., 1998).

2.11 Previous approaches to understanding video-based practice in sport

Within a youth football setting, video feedback (VFB) can be typically delivered as part of the post-match team debrief, in one-to-one meetings with the coach and player, in pre-match briefing meetings, or as part of other coaching interventions such as motivational videos, opposition analysis, scouting, and modeling. Young footballers may also engage in VFB in their own time away from these coach-led activities (with video footage saved on portable equipment e.g.,
tablet computers, laptops, smartphones). The use of video for feedback purposes has been well-established in football, and VFB has been described as ‘a fundamental component in the process of coaching and instruction’ (Franks & Maile, 1991, p. 232). The importance of providing athletes with performance information has long been accepted as a means of correcting and reinforcing performance in sport (Franks & Miller, 1991; Greenleaf, Gould, & Dieffenbach, 2001; Farrow, Chivers, Hardingham, & Sachse, 1998).

Alongside VFB, VM has also received a substantial amount of research within sport. Bandura (1986) suggested that observing the self and others, referred to as modeling and/or observation, is one of the strongest mechanisms of transmitting behaviours, attitudes, and values. Expert video models (Atienza et al., 1998; Baudry et al., 2006; Hall & Erffimeyer, 1983), self-models (Baudry et al., 2006; Clark & Ste-Marie, 2007; Starek & McCullagh, 1999), and peer-models (Atienza et al., 1998; Herbert & Landin, 1994), have also been demonstrated to be useful technique for acquiring motor skills within sport. As noted, video can also be used as a model for the observation of the self. Dowrick (1999) identified two main forms of self-observation within the social science literature: self-modeling and self-observation. According to Dowrick, self-observation refers to viewing oneself on video, with no changes to the content of the video (SO-VSM). In contrast, in the self-modeling video, the content is edited to show only adaptive behaviour (Dowrick, 1999), and can be delivered as a feed-forward (FF-VSM) or as a feedback method, known as positive self-review (PSR-VSM). Whilst there is a wide range of techniques or approaches available to coaches to aid them in their work with players, little is known about how coaches or players use learn using video.
The body of evidence in the area of video analysis and its effectiveness in motor learning has produced interesting, if somewhat contradictory, findings to date. The only major review written on VFB in sport was published over 35 years ago (Rothstein & Arnold, 1976), providing a fairly inconclusive picture regarding the effectiveness of video feedback within sport. Since the Rothstein and Arnold review, numerous studies have investigated the effectiveness of video (often supplementing video with classic training techniques, such as verbal or written feedback) to help athletes learn and perform complex sports skills. In general, team sports have traditionally been under-represented within the video-based practice literature to date. Indeed VFB and VM studies have mainly focused on individual athlete performance, such as gymnastics (e.g., Magill & Schoenfelder-Zohdi, 1996), golf (e.g., Guadagnoli, Holcomb & Davis, 2002), and swimming (e.g., Clark & Ste-Marie, 2007) rather than team sports. Although recent studies in volleyball (Zetou, Fragouli, & Tzetzis, 1999; Ram & McCullagh, 2003), American football (Kozub & Weigand, 1998; Harle & Vickers, 2001), and basketball (Stokes, Luiselli, Reed, & Fleming, 2010) have contributed to our knowledge of the effectiveness of video feedback for team sport athletes, football is a sport which has been relatively overlooked to date. Although VFB and VM techniques have received much attention as a coaching or instructional technique for skill acquisition (Lieberman et al., 2002; Ste-Marie, Law, Rymal, O, Hall, and McCullagh, 2012), limited work has explored video use within competitive sport performance environment such as professional football.

A number of studies have shown that video-based feedback is a useful tool to enhance sports skill acquisition (Bunker et al., 1976; Hazden et al., 1990; Rikil & Smith, 1980), especially when the feedback is individualised rather than delivered to
a group (Hazden et al., 1990). A review of the relevant studies in this area suggests
that the use of video in sport holds a great deal of potential for assisting athlete
development. However, the underlying mechanisms associated with gains in
performance are as yet not yet fully understood. In this regard, the precise impact of
video-based feedback and video-based modelling upon performance appears to be a
complex phenomenon. It is likely that a number of interrelated personal (i.e., athlete
characteristics), task design (i.e., skill complexity), acquisition/training period), (i.e.,
and environmental factors (i.e., learning environment created) all play an important
role in the efficacy of such delivery strategies. Further, the inquiry paradigm which
has dominated the use of video-based feedback within sport largely conforms to
(post)positivism. However, it remains unclear as to how well these findings transfer
into ‘real world’ environments, where athletes rather than participants, and coaches
rather than experimenters are employed within real sporting contexts.

It could be argued that VFB and VM studies in sport to date have failed to
take into consideration the interplay between coach, athlete, practitioner and
environment which epitomises the applied setting. Writing about video modeling
research, Ste-Marie et al., (2012) note that,

While laboratory settings are useful for eliminating confounds and enabling
control, there are inherent weaknesses…there is a need for transference of the
research into applied settings, such as the physical education classroom, sport
club facility or rehabilitation programme. Research that integrates
observation interventions with ecologically valid tasks and settings will only
help to expand our knowledge on the factors that influence its success (p.
168-9).
The equivocal findings emerging from the video-based practice literature regarding its effectiveness, has subsequently led researchers to question whether providing an athlete with augmented video information of a past-performance is as intuitively effective as first believed (Ives et al., 2002; Bertram et al., 2007). This has also led to Dowrick (1999) to suggest that caution should be exercised when using video feedback within applied sport settings. The augmented use of video within the performance review cycle to provide players with feedback or modeling information from their performances in games has been demonstrated as a useful tool for football coaches (Groom & Cushion, 2005). Typically, it is argued that video-based analysis should inform ‘feedback’, however Sharp (1992) suggests that feedback may only be advantageous if the individual understands what has been delivered, and is able to interpret the information correctly. It is argued that investigation is required from a naturalistic perspective to better understand the impact of video-based feedback and video based modelling within sport.

2.12 Limitations of the Video-based practice literature to date

Recent studies have shown that the actual process of VFB delivery is far from straightforward and objective as it appears (Cassidy et al., 2004; Groom et al., 2011). An insight into the challenges facing the coach using video within team settings can be seen within an applied case study of an elite female Olympic football player presented by Pensgaard and Duda (2002). The authors describe a scenario whereby a video of the team’s performance in an earlier round of the competition is introduced by the coaching team to help the team prepare mentally for their forthcoming semi-final match. However, despite the successful outcome and performance of the team, the player played poorly in this match, citing a negative response to the video -
experiencing anxiety and triggering a loss of confidence which led to a negative impact on performance. This example highlights the impact of subjective interpretation within the video delivery process, and the impact of individual psychological responses to team interventions. It may be that representing learning as the provision of ‘feedback’ information over simplifies the process which is tied to the construction of meaning, and interaction with complex and interchanging environmental and social inter-dependencies (Cushion et al., 2010).

2.13 Video-based PA and learning

The development of digital technology, such as video, to assist athletic development is becoming common place (Ives et al., 2003) and coaches and players are both able to use this technology to improve their performance. The weekly structure of a football academy is fairly stable, and involves a process of continuous review and development of which reflection is a part of an iterative action-research cycle. Learning can happen through a number of means; for example, through experience, reflection, study or instruction (Nelson et al., 2006). By combining aspects of coaching, psychology and performance analysis, the delivery of video feedback could be seen as an integral part of the learning processes within the life of the youth footballer. For example, the post-match team debrief meetings provides a weekly opportunity for group reflection on the performance of the team, units and individuals, and to agree future goals. Other video-based opportunities to reflect on performance are provided for the players in one-to-one video feedback sessions and video self-reflection, and for the coach in the form of post-match analysis packages and training videos. These processes provide coaches, players and staff alike with an opportunity to provide unequivocal, honest and open feedback coupled with the
promise of support and potential action. The team and individual meetings especially provide a vehicle for promoting the coach-athlete relationships, and helped the players to better understand what is expected of them and how (in co-operation with the coach) they can achieve it (Potrač et al., 2002). Effects on player learning have been found to relate to different preferences for receiving performance analysis feedback, thus demonstrating the importance of understanding athletes as individuals (Groom et al., 2011, Nelson, Potrac & Groom, 2014). In addition, the effectiveness of coach–athlete interactions has been highlighted to be effected by a number of complex interacting social factors such as coaching knowledge, power, respect and the suitability of the learning environment (Groom et al., 2011, Nelson et al., 2014). It short, it is a valuable learning opportunity woven into the fabric of the academy system.

MacKenzie & Cushion (2013) argue that understanding learning in relation to PA requires a consideration of the learners (e.g. athletes, coaches) and the world they inhabit and internalise. Arguably the best theoretical framed explanation for how coaches and athletes informally learn has come from Gilbert and Trudel’s (2001) experiential learning model. Experiential learning is defined as being intentional and can be mediated or unmediated, and is different from learning from experience which is largely unintentional. Schön’s (1983, 1987) theory of reflective practice provides an effective framework for analysing and explaining how people frame their knowledge and learn from practice experiences. MacKenzie & Cushion (2013) highlight the potential of using a learning theory, such as Schön’s (1983) Experiential Learning Theory (ELT), as a tool to help researchers understand and structure experiential learning to develop domain-specific knowledge in the context of professional practice (Gilbert & Trudel, 2001, 2004). It has been argued that this
informal learning occurs through reflection triggered by practical dilemmas that occur and is governed by a role frame, an individual’s frame of reference that is formulated on experiences and perceptions (Gilbert and Trudel). Role frames acted as filters that influenced which scenarios were and were not considered worthy of reflection. Research by Groom and colleagues (2011) has demonstrated how these role frames play an important part in the way coaches deliver PA within professional soccer. It is clear that learning from PA cannot be viewed as occurring in a vacuum, but as a part of complex realities associated with modern day sporting environments, which involve interactions between individuals of different ages, class, experiences, gender, philosophies, race and values (Potrac et al., 2002).

Reflection - a concept which has been linked to video replay (Groom & Cushion, 2004, 2005; MacKenzie & Cushion, 2014) –has been identified consistently in the sport literature as a useful framework to understand informal learning. The use of reflection within video-based learning seems intuitively beneficial. Within sport, reflection has become a widely employed tool to aid understanding and development (Cassidy, Jones & and Potrac, 2004), and is a key process which athletes, coaches and practitioners can use to cognitively analyse personal performance to encourage learning and development (Ghaye, 2001).

Gilbert & Trudel outlined three forms of reflective practice: reflection in action (i.e. during the action present), reflection on action (i.e. within the action-present but not in the midst of activity, as in half-time video feedback) and retrospective reflection on action (i.e. outside of the action present, as in post-performance video feedback).

performance may also be 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. Fraser (2008) explored how video can be used to assist the learning process of nineteen inexperienced coaches. Nineteen inexperienced coaches recounted their experience of using a video recording of a personal coaching practice, identifying five themes pertaining to the use of video in reflection: (a) Reflective process; (b) Purpose of reflection; (c) Video reflection in coaching; (d) Personal learning from video; and (e) Practical implications. The coaches reported that video reflection helped them improve their coaching by highlighting the strengths and weaknesses in performance that may be overlooked through their formal coaching experiences.

The importance of understanding how video fits within this complex and interchanging environment is demonstrated in a recent study by Pain and Harwood (2007). The author’s explored coaches, sport scientists and players perceptions of the performance environment within international youth football squads in England. This study used a ‘…semi-structured protocol with a prospective sample [of], national coaches (n = 6), sport scientists (n = 3), and players (n = 4), [who] were interviewed directly following international tournaments about the factors that positively and negatively influenced performance’ (2007, p. 1307). They found support amongst coaches and performance managers for the usefulness of video within the performance environment as tactical tool, a pre-match preparation tool, a post-match evaluation tool, and as a process for improving the coach-athlete relationship. At a macro level, the coaches identified the importance of positive impact of integrating video work into the long-term goals of the team, e.g. via a consistent tournament strategy. At a micro level, the results show that the coaches saw video as an effective
psychological tool both pre- and post-match, and as a source of team and self-
efficacy information an interesting component. While this study offered some
support for the role of video-based practice in youth football, it also highlighted the
relevance of using qualitative methods to explore the applied setting. To date,
however, there remains a limited understanding of the complex role video-based
practice plays in the development of youth footballers from a learning perspective.

To be able to understand the range of factors at play with video-based
practice researchers have recently begun to argue for the development of empirically
grounded models of performance analysis use ‘in action’ (Cushion, Armour & Jones,
2006), in response to the overly-simplistic, unproblematic and idealistic models
proposed for the analysis of performance which have dominated the research to date.

It is acknowledged that within the elite youth football settings, understanding the
attitudes, actions and behaviours of coaches and players is be central to the creation
of effective learning and performance environments (Gilbourne & Richardson,
2006). Research has shown that how the coach facilitates learning in the athlete is
crucial to enhancing performance (De Marco, Mancini & Wuest, 1996; Moore &
Franks, 1996). As coaching behaviours during practice have been found to directly
relate to the quality of the experience for the athlete (Smoll, Smith, Barnett, &
Everett, 1993), it is logical to assume that the behaviours of the coach outside of
practice also directly influence the quality of athletic performance. This makes the
study of coaches’ behaviours an important area of applied research. Indeed, if
coaches are to be successful, it is essential that they acquire knowledge of what
coaching behaviours are desired by, and most effective for, their athletes (Laughlin,
Whilst experimental studies have dominated video research to date, recent qualitative research within the Performance Analysis (PA) literature has begun to provide a more in-depth understanding of the factors which influence the delivery of video-based practice within sport. This research represents a shift in PA research in recent years towards understanding performance analysis use ‘in action’. Arguably, this follows a recent move in terminology from ‘notational analysis’ to ‘performance analysis’ (Hughes & Franks, 2008; Hughes, 2008) or ‘match analysis’ (Carling et al., 2005), representing an attempt to reposition the method closer to coaching practice. As such, performance analysis has been recently located within the coaching process (Carling et al., 2005; Hughes, 2008; Hughes & Franks, 2008). Traditionally, PA research has primarily concentrated upon the methods and procedures of analysing sports data in a ‘reliable’ and ‘accurate’ manner (e.g., Hughes & Franks, 2004; Glazier, 2010). Indeed, although performance analysis studies have analysed ‘real’ sporting performance, often the research questions and directions of studies do not appear to have high levels of applied efficacy for elite practitioners, such as coaches (Williams & Kendall, 2007). Dowrick (1999) warned against the indiscriminate and ill-considered use of video feedback by coaches, and suggested that this may offer insight into the question marks hanging over the effectiveness of video technology in sport.

2.14 Most recent PA studies in football

A review of the PA/VFB research to date has revealed that there is very limited academic or applied research which has identified how coaches and athletes interact with PA. Few studies have explored how coaches and athletes use this technology to impact on player development and performance, which has potentially
led to a gap developing between researches and coaching practice within this area. However, in recent years, a number of qualitative studies have attempted to bridge this gap, by acknowledging the influence of sociological, psychological and cultural issues on the use of PA. To date, these studies represent the first attempt to provide an in-depth understanding of video-based practice within sport. The final part of this literature review will focus on these studies, and will conclude by identifying areas for future research.

One of the earliest studies to explore the use of PA in football was conducted by Blaze (2003), who employed interview techniques to explore coaches’ perceptions of the performance analysis support they received within their football club. An interesting finding from this unpublished dissertation was that coaches felt that they held significantly greater belief in the ability of performance analysis to improve performance than the players themselves. Consequently, if players lacked belief in the impact of PA, this may impact on their motivation to use it, and the effectiveness of the work. The only study to explore player perceptions of video-based practice in football was conducted by Groom and Cushion (2005), who examined the impact of a coach-led VFB program on ten youth players during a regular football season. A central finding of their study was the emphasis placed on the importance of psychological processes in influencing the players’ response to the video work. Selected self-report measures highlighted a range of psychological outcomes, such as (i) confidence (in their own ability and in the team), (iii) pride in the team, (iv) determination to do well, and (v) commitment to the team. Also highlighted was the value of considering players’ learning style when presenting information, leading the authors to recommend that in order for video feedback to be effective, a balance between positive and negative video examples should be utilized.
Nelson, Potrac, and Groom (2014) presented a case-study approach documenting the experiences of an international ice hockey player to different coaches’ delivery of video. Data for this study were gathered through a series of in-depth, semi-structured interviews and a reflective log relating to those interviews. Their study highlighted the role of the relationship between the coach (as deliverer) and athlete (as receiver) within video-based practice, and the impact their interaction had upon his athletic learning and development. The authors found that the athlete’s response to the video was often linked to their existing perception of the coach, and the level of ‘respect’ held for the coach. The findings of this study suggested that delivery may be influenced by the coaches’ ability to obtain, maintain, and further develop a level of trust and respect afforded to them by the athletes in coaching contexts (Cushion & Jones, 2006; Potrac, Jones, & Amour, 2002).

It has been argued that the primary function of video-based practice is to provide information to athletes involved in sporting performances to modify behaviour and improve understanding (Court, 2004; Groom et al., 2011). If an individual player is able to retain information effectively, and then use this to positively affect their future behaviour, performance levels will be impacted. Traditionally, within professional youth football, the coach is considered the person responsible for establishing how video is delivered to achieve these outcomes. Given their central role within the performance environment, the coach is able to manipulate a broad range of variables in the environment to influence the way this information is presented, including what is delivered, who is present and when, where, and how it is delivered (Groom et al., 2011). Capturing the perceptions of the coaches is clearly of value to video researchers within sport.
However, the authors point to a current paucity of research which has addressed the effectiveness of findings from PA on learning processes or performance on the pitch in football. However, Carling, Wright, Nelson & Bradley (2014) argue that providing evidence of such permanent positive changes in performance (learning) is incredibly challenging for researchers in sport science. They state:

The transfer of quantifiable outcomes or measurable changes following any form of ‘sport science’ intervention into what can be deemed a meaningful or worthwhile improvement in match performance is and will always remain a challenge in team sports such as soccer, and the interpretation process of any change in results is generally arbitrary. (p.6)

However, in agreeing with McKenzie & Cushion (2013), Carling et al., also believe that there remains a genuine need for research into applied performance analysis practice, and furthermore, there is a need to broaden the conceptualisation and definition of PA in order to understand how the social realities of elite level sporting environments influence practice and learning.

In one of the few studies have attempted to explore PA as a learning tool, Cushion & MacKenzie (2014) presented a case study of PA delivery within an English professional football club across a full season. Using participant observation and unstructured interviews with coaches and players, the authors identified four themes in relation to the use of PA: PA as preparation, PA as reflection, PA as a disciplinary tool, and PA as a learning resource. The results of their study showed that the performance culture of the club, which was results-driven, significantly influenced how stakeholders perceived and used PA. Interestingly, the players in this study demonstrated a preference for PA as a preparatory tool over the use of PA as a
post-performance feedback tool. The findings also highlighted that the coach’s perception of the practitioner had an impact on their use of PA. In support of recent research capturing the messy realities of delivery of PA delivery (Groom et al., 2011; Nelson et al., 2014), the study further demonstrated the influence of sociological and cultural factors in the use and delivery of PA within a professional football club. This study is one of the few to include the perspectives of the coaches and players within the same research. Although there is a need for caution in generalising from the results of this research, this study provides a glimpse into the differing perspectives of coaches and athletes in relation to PA use in football. It is argued that further research is needed in this direction.

The most comprehensive examination of coaches’ perceptions of the video-based practice in football has been provided by Groom, Cushion & Nelson (2011). In their study, data were collected from in-depth interviews conducted with 14 England youth coaches that utilized video-based performance analysis technology within their professional coaching practice. Groom et al., (2011) presented a perceptual framework in an attempt to understand the factors involved in the delivery of video-based performance analysis.
Groom and colleagues argued that the delivery of performance analysis was dependent on several factors, including coaching behaviour, knowing the athletes as individuals, knowing what they like doing and what they do not, creating an environment where athletes can be open about not understanding issues without the fear of being judged, and the importance of having reflective players. This study also highlighted the complex relationship between player, coach and context, mirroring findings from previous studies with elite soccer coaches and the central and dominant role the coach plays within the video delivery process (Potrac et al., 2002). Given that the athletes watching their performances are rarely in control of the feedback information received during a video session (Janelle, Barba, Frehlich, Tennant, & Carraugh, 1997), there is clearly a danger that athletes may become passive observers in the video feedback process if the coach role is exploited. The
implication of this research to date is that if the coach loses the trust and respect of
the players or the team through his behaviour in video sessions, then the outcomes
they are hoping to achieve using video may subsequently become difficult to
achieve.

While Groom et al.,’s (2011) provides a valuable insight into coaches’
perceptions of PA use in football, it is evident that there is still little knowledge of
‘how’ PA is being integrated within the learning process. While this study highlights
key issues which may influence coaches’ PA delivery – such as the coach’s
philosophy, and issues such and learning and reflection – there remains little
knowledge of how learning or performance is influenced by delivery. It could also be
argued that future research in football requires an in-depth exploration of the
perceptions of both the coaches and players in the use and delivery of video
feedback, given the prevalence of video-based practice within football, and the gaps
which exist between current delivery and sport science research. Whilst recent
investigations have begun to explore the complexities of the video delivery process
from the perspective of the coach (Groom et al.,) or athlete (Nelson et al.,), no
studies to date have attempted to capture these perspectives together. Given that the
coach and athlete relationship is at the heart of video replay, it is surprising that few
researchers have attempted to explore their perceptions of video practice. It could be
argued a fuller picture of the delivery process can only be gained by exploring the
perspectives of the player and coach within one study.

2.16 Summary of relevant literature

In summary, although recent studies from within football (e.g., Blaze, 2003;
Groom & Cushion, 2005; Groom et al., 2011; Nelson et al., 2011) have begun to
offer tentative knowledge regarding athletes and coaches use of video technology, there remain distinct gaps in our understanding of the impact of video feedback and the overall effectiveness of video-based practice within elite football settings. Despite a high level of interest on video feedback and video modelling within the sport literature to date, the underlying mechanisms associated with gains in performance are still not yet fully understood. Less attention has been paid to understand how this information should be delivered to impact on player learning. The lack of academic attention on the delivery of video information within elite sport has left a gap in the knowledge within this field. However, video technology use remains hugely popular within football codes (James, 2006), suggesting that research into its use’s still relevant and necessary within applied settings. Few empirical studies have been conducted with the direct aim of equipping coaches, sport scientists, and managers with the knowledge of how the information generated from the analysis process can be integrated and used in the context of the football environment.

Alongside social and environmental factors, it is also clear that psychological variables may play a crucial role in influencing the delivery potential of video interventions (Ram & McCullagh, 2003; Law & Ste-Marie, 2005). Whilst the importance of psychological variables was raised within recent studies by Groom and colleagues, our understanding of the psychological benefits of video feedback in football remains limited. Ives and colleagues (2002) recognized that the role of psychological variables has generally been overlooked within video-based practice in sport to date, and argued that there was an opportunity for sport psychology researchers and practitioners to actively involve themselves in video intervention work. To better understand how athletes respond to video delivery, efforts need to be
made to try to better understand the psychological processes that may impact on the effectiveness of video feedback (Darden, 1999; Jambor & Weeks, 1995).

In light of this current position, the starting point for this thesis will be to explore the delivery of video as a learning tool within professional youth football. Specifically, study one targets the main stakeholders in the video delivery process, by exploring the perceptions of video feedback delivery amongst elite youth football coaches’ and players’.
3.1 Study One: Exploring the Perceptions of Coaches and Players Regarding the Factors Influencing the Effectiveness of Video-based practice in Elite Youth Football.

Study one - presented from Chapters three to six - will focus on understanding the perceptions of key people involved in the video delivery process within elite youth football. Given that the player development process within this setting is complex and demanding (Finn & McKenna, 2010), research is needed which is able to capture the complex, lived experience of the participants in these environments. Capturing the perceptions of people who are deeply involved in applied practice is seen as a valid way with which to understand the complexities and subjectivity which often occur in the real world of sport (Pain & Harwood, 2010).

Despite limited available knowledge regarding the use of video within applied settings, few studies have employed qualitative techniques to explore the perceptions and experiences of coaches, athletes and practitioners in youth football. Researchers have argued that research of this nature could help to provide insight into the use of such technology and its impact on athlete learning and development (Saury & Durand, 1998). It could also be argued that a more accurate and valid truth about the delivery experience in academy football is possible through dialogue with members of that community, activating what Ritchie and Rigano (2001) referred to as respondents ‘stock of knowledge’. Therefore, study one will focus on exploring the perceptions of youth football coaches (1a) and players (1b). In the present Chapter, a
brief introduction to study one is provided, followed by the specific qualitative methods adopted for data collection and analysis of coach and player perspectives. In Chapter four, the perspectives of the coaches will be presented, followed by the perspectives of the players in Chapter five. Chapter six comprises an integrated discussion of the results of study 1a and 1b, serving to inform subsequent studies in the thesis.

Recent studies reported in Chapter three (Groom & Cushion, 2005; Groom et al., 2011; Nelson et al., 2011) offer a glimpse into coaches’ and athletes’ use and perceptions of video feedback delivery. They also demonstrate the value of using qualitative interviews to explore coaches’ perceptions. Within VFB research to date interviews had been employed more commonly as social validation measures within intervention studies (e.g., Ram & McCullagh, 2003). However, it is argued that further efforts should be made to understand how individual athletes are using and responding to video interventions, rather than assuming that these approaches are automatically beneficial or positively received by the athletes. To advance knowledge in this area, it could be argued that the researchers need to take greater “consideration of the learners and the world they inhabit and internalize” (MacKenzie & Cushion, 2013, p. 18). Whilst recent qualitative investigations have begun to explore the complexities of the video delivery process from the perspective of the coach (Groom et al.,) or athlete (Nelson et al.,), only one study has attempted to capture these perspectives together. In this study, MacKenzie & Cushion (2014) adopted a case study approach, using participant observation and unstructured interviews to investigate the role of PA in the coaching process in a professional football club over a full season. Their research highlighted four concepts pertaining to the use of PA in football: PA as preparation, PA as reflection, PA as a disciplinary
tool, and PA as a learning resource. This study further demonstrated the influence which sociological and cultural factors - such as the mood of the group, recent results and the characters within the group - play in the use and delivery of PA in professional football (Groom et al., 2011). In particular this case study highlighted the role of the performance culture within the club, such as the impact of the use of PA as a disciplinary tool on the player’s use of PA following successful performances. While this case study contributes important role which coaches, players and practitioners’ perceptions play in the use of PA in football, it is difficult to generalize from this study, and further research is needed to provide a fuller picture of the delivery process. Given that the coach and player relationship is at the heart of video replay (Groom et al., 2011; MacKenzie & Cushion, 2013), it could be argued that this knowledge can only be gained by exploring the perspectives of the player and coach within one study.

The aim of this study is therefore to explore coach and player perspectives of VFB use and delivery in the professional development phase of elite youth soccer. Exploring the perceptions of both the coaches and players in the use and delivery of video feedback, given the prevalence of video-based practice within football, is an important step in informing the validity of this process in the context of applied sport science (MacKenzie & Cushion, 2013; Bertram et al., 2007). Qualitative research emphasises the exploration of multiple realities gained from different interpretations of the social world. By investigating coaches’ and players’ perceptions, and considering areas of congruence and difference, it will enable us to gain a more complete picture of the factors perceived to be involved within the delivery process in this particular phase of player development. Interviews are one approach which
has been proposed as a valid method for providing rich insights into the working lives of coaches and athletes (Potrac & Jones, 2009).

3.11 Interviews

Semi-structured interviewing has been widely used for qualitative enquiry into sport science research with coaches and players both in professional and youth level football (e.g., Holt & Sparkes, 2001; Pain & Harwood, 2004). Interview methods have been extensively used within sport science literature (Biddle et al., 2001), but sparingly within VFB research. Semi-structured interviews allow individuals to disclose thoughts and feelings which are often private. Semi-structured interviews allow individuals to disclose thoughts and feelings which are often private. The benefits of using semi-structured interviews are the opportunities it provides to capture rich, original voices, which in turn can be used to construct in-depth research narratives. It could be argued that the success of an interview rests on the extent to which the participants' opinions – their “voices” - are truly reflected (Gomm, 2004). Therefore, the quality of the data is dependent on the quality of the questioning and quality of responses, meaning that this method is significantly influenced by the skill and training of the interviewer. Considering the ‘live’ nature of face-to-face interviewing and the complexity of language, it is important to recognise that this approach is not without weaknesses. Listing the drawbacks of the survey method Proctor (2003, p.235) stresses the fact that the information obtained by interviewing is mainly based upon interviewees statements about their past experiences and their future plans. In-depth interviews can be more time consuming, and thus are usually conducted with small sample sizes.
There are a number of issues which researchers need to be mindful of when using interviews within their research. Engel and Schutt (2009) warn about possible interviewee bias during the primary data collection process and argue that interviewee bias would seriously compromise the validity of the project findings. Also, the researcher’s preconceived ideas influencing what is and is not worth discussing can lead to the use of leading questions. Research by Denscombe (2007) has shown that people respond differently depending on how they perceive the interviewer, referring to this as the interviewer effect. Gomm (2004) describes demand characteristics, which is when the interviewee’s responses are influenced by what s/he thinks the situation requires. Researchers can attempt to address this potential limitation by seeking to clarify at the beginning of an interview what the purpose and topic areas will be discussed, and seek to put the interviewee at ease. Further, Connaway and Powell, (2010) recommend that

...some interviewer bias can be avoided by ensuring that the interviewer does not overreact to responses of the interviewee. Other steps that can be taken to help avoid or reduce interviewer bias include having the interviewer dress inconspicuously and appropriately for the environment, holding the interview in a private setting, and keeping the interview as informal as possible (p.172).

Denscombe (2004, p.8), arguing that the advantages of this method far outweighs it’s disadvantages, including the detailed and rich information collected, and the advantage of the possibility of immediately validating the data. Overall, the vulnerability involved in this method can produce a richness and depth to data worth many of the risks. Given the arguments above, interviews were conducted within the current study. For procedural replication, a similar methodological approach to study 1a (the coaches) and study 1b (the players).
In view of the rather scant knowledge of player and coach perceptions in elite youth sport, this study suited a qualitative interview approach. Such an approach nourished a focus upon learning, discovery and interpretation of the reality of being a ‘player’ or a ‘coach’ directly involved in the delivery process. Due to the flexibility, relative ease of collecting data, and the possibility to uncover unobservable complexities, interviewing is one of the most popular methods of data collection within social science research (Kvale & Brinkmann, 2009; Seidman, 2006). Indeed, within sports coaching, Gilbert and Trudel (2004) highlighted that from a review of the coaching science literature from 1970-2001, 26.4% of all studies used interviews as a method of data collection. Bernard (2000, p. 9) highlights that “at the heart of interviewing is an interest in other individuals’ stories because they are of worth”. Therefore, in-depth semi-structured interviews coupled represented the main qualitative method adopted in the present study. As knowledge of coaches and players perceptions regarding video delivery in sport are limited, a content analysis was deemed the most appropriate approach for data analysis (Aronson, 1994).

3.2 Methods

3.21 Pre-selection Phase

Purposive sampling was employed in study 1a and 1b to recruit coaches and players from elite football programs in the UK. In this study, participants were purposively sampled from within youth football to achieve a form of generalizability (Sampling to achieve representativeness or comparability’, Teddlie & Yu, 2007). Purposive sampling techniques are primarily used in qualitative studies and may be defined as selecting units (e.g., individuals, groups of individuals, institutions) based
on specific purposes associated with answering a research study’s questions (Teddlie & Yu, 2007). Purposive sampling techniques involve selecting certain units or cases “based on a specific purpose rather than randomly” (Tashakkori & Teddlie, 2003a, p. 713). This approach is a form of ‘typical case sampling’, and was adopted to select a purposive sample that represents a broader group of cases as closely as possible. The purpose of using purposive sampling was to recruit participants who would be most likely to have experienced video-based practice, and therefore have insights into the factors involved in its delivery. Academy directors, head coaches and team managers of clubs and international programmes were invited to participate in this study.

A pre-interview questionnaire was distributed to the academy directors, head coaches and team managers of the clubs and international programmes who had agreed to be involved. As requested, these questionnaires were distributed to coaches and players who had experience of using video feedback (within their teams). The purpose of the pre-interview questionnaire was to identify players and coaches who (i) were currently based within a professional football academy, and (ii) who had a minimum 6 months of experience working with video. From this initial recruitment, eighteen coaches, and thirty-four players were considered for interview. Domestic and international experience and playing position were also considered in order to maximise the variation in the sample group (Patton, 1990). The selected coaches and players chosen for interview were contacted by telephone directly or via their Academy Manager to inform them of the nature of the study and to elicit their participation. All the coaches and players selected agreed to take part in the study and an interview date/time was arranged (at their convenience). At this point, a pre-interview questionnaire (Appendix A) was sent to all the participants to seek
information about their experiences using video, such as their experience using
different video strategies, the frequency of video-based practice and whether they
had worked with other practitioners within video-based practice (e.g., Performance
Analyst, or Psychologist). A summary of the results of the pre-interview
questionnaire are presented following the demographic information for study 1a and
1b.

3.22 Participants

3.22.1 Demographics and VFB experience: coaches. The participants in
study 1a of this investigation consisted of eleven football coaches (age, \(M = 38.4,\)
range = 29-52). At the time of the study each of the participants was working as a
coach within a U.K. professional football academy or England youth international
set-up. Most of the coaches were coaching full-time within Academy Premier
League clubs (equivalent to tiers one and two of the Professional Development
League), while two were employed as full-time coaches within the England Youth
International Teams. Three of the coaches interviewed within this study combined
responsibilities within these two settings. All the coaches interviewed had been
working in a coaching capacity with the under 18 age group for a minimum of six
months. The sample reflected a range of years of qualified coaching experience
(years, \(M = 12.5,\) range = 7 to 21). The participant coaches’ experiences working
with video are presented in Table 1.1 (below).

The coaches varied in their use of video feedback within an academy
environment, with experience ranging from six to 32 months. Over half of the
coaches interviewed revealed that they were delivering video with individual players,
compared to all eleven coaches reporting using team-based video work. Five of the
eleven coaches interviewed had used video for pre-match preparation purposes \((n = 5)\), or on an individual basis – defined as ‘one-to-one with a player, or on their own’ \((n = 5)\). One coach had also used video as a pre-game preparation strategy with an individual player. Video feedback was delivered weekly or every other week for more than half of the coaches \((n = 7)\), with few coaches using this once a month or less. Of the eleven coaches selected for interview, seven reported that they currently had a specific member of staff working with them on the video (either a Performance/Video Analyst \((n = 4)\), Psychology practitioner \((n = 1)\) or both \((n = 2)\). At the time of the study, four of the coaches had not worked with a specific member of staff in their experiences video-based practice.
Table 1.1

Experience of Video-based practice amongst English Professional Football Coaches.

<table>
<thead>
<tr>
<th>#</th>
<th>Exp. (months)</th>
<th>Team post-match VFB</th>
<th>One-to-one VFB</th>
<th>Team Pre-Match</th>
<th>Ind. pre-match</th>
<th>Freq.</th>
<th>Support staff?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>x</td>
<td>Weekly</td>
<td>PA/Psych</td>
</tr>
<tr>
<td>2</td>
<td>18</td>
<td>√</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Weekly</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>√</td>
<td>x</td>
<td>√</td>
<td>x</td>
<td>Monthly</td>
<td>Psych</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>√</td>
<td>x</td>
<td>x</td>
<td>√</td>
<td>Monthly</td>
<td>PA/Psych</td>
</tr>
<tr>
<td>5</td>
<td>24</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>x</td>
<td>Irregularly</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>√</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Weekly</td>
<td>PA</td>
</tr>
<tr>
<td>7</td>
<td>32</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>x</td>
<td>Weekly</td>
<td>PA</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
<td>√</td>
<td>√</td>
<td>x</td>
<td>x</td>
<td>Weekly</td>
<td>No</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>√</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Weekly</td>
<td>PA</td>
</tr>
<tr>
<td>10</td>
<td>24</td>
<td>√</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Monthly</td>
<td>PA</td>
</tr>
<tr>
<td>11</td>
<td>24</td>
<td>√</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Monthly</td>
<td>No</td>
</tr>
</tbody>
</table>

Key: Ind. = individual player; Freq. = Frequency; Admy. = Academy; Int. = International; Exp. = Experience.

3.22.2 Demographics and VFB experience: players. Twelve male players were selected for interview from six different professional football academies in the English Premier (n = 8), and Championship (n = 4) leagues. At the time of the study the participants were in the professional development phase either as 1st or 2nd year scholars on full-time contracts within the U.K. professional football academy (age, M = 17.1, range = 16-18). A range of experience within the academy football system (years, M = 5.4, range 4 – 8) and playing positions were included. Eight of the players had experience of being part of a youth international squad (Under 16-19 level), and four of the players had made their professional debut at the time of the
study. The participant players’ experiences working with video are presented in Table 1.2 (below). The players experience of receiving / using video feedback within the full-time academy system was relatively limited (months, $M = 12.5$, range = 6-18). Post-match team evaluation was the most frequently cited use of video by the participants (n = 12). Fewer players had experienced video for pre-match preparation purposes (n = 4, or on an individual basis – defined as ‘one-to-one with a coach, or on my own’ (n = 3).
Table 1.2

Experience of Video-based practice amongst English Professional Youth Academy Players.

<table>
<thead>
<tr>
<th>#</th>
<th>Exper. (months)</th>
<th>Team post-match VFB</th>
<th>One-to-one VFB</th>
<th>Team Pre-Match</th>
<th>Individual pre-match</th>
<th>Freq.</th>
<th>Support staff?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>√</td>
<td>√</td>
<td>X</td>
<td>X</td>
<td>Weekly</td>
<td>PA</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>√</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Weekly</td>
<td>Psych</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>√</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Monthly</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>√</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Monthly</td>
<td>PA</td>
</tr>
<tr>
<td>5</td>
<td>12</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>X</td>
<td>Irregularly</td>
<td>PA</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>√</td>
<td>X</td>
<td>√</td>
<td>X</td>
<td>Monthly</td>
<td>Psych</td>
</tr>
<tr>
<td>7</td>
<td>18</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>X</td>
<td>Irregularly</td>
<td>PA/Psych</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
<td>√</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Weekly</td>
<td>No</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>√</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Weekly</td>
<td>PA</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>√</td>
<td>X</td>
<td>√</td>
<td>X</td>
<td>Monthly</td>
<td>PA/Psych</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>√</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Monthly</td>
<td>No</td>
</tr>
<tr>
<td>12</td>
<td>18</td>
<td>√</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Monthly</td>
<td>No</td>
</tr>
</tbody>
</table>

Key: Ind. = individual player; Freq. = Frequency; Admy. = Academy; Int. = International; Exp. = Experience; Def = defender, Mid = Midfielder, For = Forward, GK = Goalkeeper; U = Age group eg., Under 18 age group.

The players reported a high level of familiarity with the group delivery format. Most players only had limited experience in a formal way of (a) reviewing their performance on their own, and (b) no experience at all of using video modeling. Video feedback was received weekly or every other week for more than half of the players (n = 8), with a third experiencing this once a month (n = 4). Of the twelve players selected for interview, seven reported that they currently had a specific member of staff working with them on the video (either a Performance / Video...
Analyst (n = 4), Psychology practitioner (n = 1) or both (n = 2). At the time of the study, four of the players had not worked with a specific member of staff in their experiences using video-based practice.

3.23 The Interview Guide

A semi-structured interview guide was developed for the participant coaches and players separately to ensure that the same questions were asked of all participants, while still allowing the interviewer to use probes as necessary (Patton, 2008). At the time of data collection there was no theoretical framework on which to base video feedback research in sport. Thus, the questions contained within each guide were developed with reference to: (i) a review of relevant video literature in sport, (ii) the primary researcher’s own practical experience working within youth football, delivering video feedback (iii) recommendations from qualitative research, and (iv) advice from an experienced Academic and Sport Psychologist currently practicing within professional football. Within the introduction of the interview guide, the principal researcher explained the purpose of the interview, the interview format and how the results might be used. An introductory statement was developed to explain the purpose of the interview, which was read to all the participants at the beginning of the interview. Following this, reassurances regarding confidentiality and the participants’ right to withdraw at any time were explained. The coaches and players were then asked to respond to a series of questions related to three areas of video feedback delivery:

(i) Current experience – exploring the participants’ experiences of VFB within youth football, e.g., first experiences of VFB, exposure to different formats of delivery as individual or within a group, best and worst experiences;
(ii) Impact – exploring participants’ perceptions of the effectiveness of different video interventions, the psychological responses of themselves and others to VFB and the impact on their performance; perceptions of the role/impact of delivery support staff (coach, sport scientist, psychologist) and other factors.

(iii) Optimizing VFB delivery – Exploring participants’ perceptions of how VFB delivery be improved for them as player or coach, barriers to learning, role for the video practitioner.

Questions were included in order to encourage responses and build rapport (e.g., ‘How is your season going so far?’). Open questions such as ‘Can you tell me about a typical post-match evaluation session using the video’, were followed by more specific questions such as ‘How does it feel if a mistake you made on the pitch is replayed in front of the group on the video?’ until the participant felt that they had no more to add on a particular issue. In line with research on the value of self-observation techniques, opportunity was also provided for the players to discuss situations where they used video away from the coaches. Although the structure was the same, there were small differences in the focus and wording of the interview guide for study 1a and 1b. In the coaches’ interview guide, questions were more focused on their role as the facilitator of the video-based practice. For example, open questions such as ‘Can you tell me what influences how you deliver video feedback from a recent game’, were followed by more specific questions such as ‘How much interaction do you like to see between players during video feedback group sessions?’, again until the participant had no more to add in this area. In the players’ interview guide, questions were designed to explore their role as the receiver in the delivery sessions. Clarification and elaboration probes were also used to encourage
the participants to expand on their responses, to ensure an accurate, in-depth understanding of what the participants were describing. Before proceeding to the next section, all the participants were asked whether there was anything else they could tell the interviewer concerning what had just been discussed.

3.24 Procedure

Institutional ethics approval was sought from the University to conduct the research. Following the successful completion of this process, all participants were asked to sign an informal consent form, and were informed of their right to withdraw from the study at any time. As the players were under 18 years of age at the time of study, written permission was also obtained from their parents / guardian. Following this, the participants were invited to interview at their convenience. Interviews were conducted by the principal researcher who had received training in qualitative research methods and who at the time of the study was working as a Sport Psychologist within an English youth football club. Pilot interviews were conducted with a sample of two players (one youth international level player, and one youth academy level player), and three coaches (one coach / academy director, and two academy level coaches). These pilot interviews were conducted in order to develop a suitable interview schedule, and to inform the primary researcher’s interviewing style for the main study. The results of the pilot study showed that the interview guides were appropriate for the participants in the study. In both the coach and player interview guides prompts were added to the questions in order to probe the participant’s answers more thoroughly. A copy of both interview guides is provided in full for Study 1a in Appendix B (elite youth football coaches) and Study 1b in Appendix C (elite youth football players). Within the data collection phase in study
1a /1b interviews were conducted at the convenience of the participant. In the
majority of cases, these were face-to-face (ten coaches / eleven players) interviews,
with telephone interviews conducted for two participants’ (one coach / one player).
All interviews were conducted within a five-week period, several months into the
competitive season. Participant coach interviews lasted between 63 and 107 min
(time, $M = 83.3$ min, $SD = 25$ min), while participant player interviews lasted
between 54 and 97 min (time, $M = 74.1$ min, $SD = 21.8$ min).

3.25 Data Analysis

As the data analysis procedures were identical for studies 1a (coaches) and 1b
(players), they are presented here as one section to avoid repetition. Data from the
coach interviews were transcribed verbatim and a hierarchical thematic content
analysis that incorporated both inductive and deductive elements (Côté et al., 1993;
Krueger and Casey 2000; Harwood, Drew & Knight, 2010) was conducted by the
principal researcher in order to identify and explore common themes within the data.
To facilitate comparison at the later stage, the interview transcripts of the players
were transcribed and analysed separately. In terms of the data handling, manual
analysis was considered more appropriate than computer-assisted analysis because
the latter was felt to distance the researcher from the data (Mangabeira, Lee, &
Fielding, 2004). The process of data analysis was based on the framework set out by
Maykut and Morehouse (1994) that moves from description through to meaning,
involving a progressive coding technique. This framework included the following
stages: (a) following verbatim transcription of the audio / video tapes, the data were
read and re-read for familiarisation, and coded for confidentiality purposes; (b)
micro-analysis: a detailed line-by-line inductive analysis was conducted to generate
individual meaning units from the interview transcripts; (c) similar meaning units were grouped together and assigned an essence phrase that conveyed the essential meaning contained in the category; (d) each grouping of meaning units were carefully analysed moving recursively between creating tags (“open coding”), creating categories (“focused coding”), and organizing categories (general dimensions), using constant comparison and critical reflection to guide the analysis.

An example analysis matrix is provided for study one (Coaches) in appendix I to demonstrate how the data was analysed from raw transcript data to general dimensions.

Although inductive procedures dominated the study’s data analysis, deductive reasoning also played a partial role in the later stages of the process. More specifically, the video feedback literature influenced the appellation of the themes and dimensions. This approach is common in the analysis of qualitative data, as Gibbs (2007) noted: ‘It is very hard for analysts to eliminate completely all prior frameworks . . . inevitably qualitative analysis is guided and framed by pre-existing ideas and concepts’ (p. 45). Furthermore, for practical reasons (i.e., recruitment issues), the coach interviews were completed and analysed two weeks before the player interviews. Whilst every effort was made to follow the same inductive procedures during the analysis of studies 1a and 1b, by drawing participants from the same settings and domain, elements of deductive reasoning were utilized by the principal researchers during the analysis of study 1b. This is apparent in the adoption of the same three general dimensions within each study. The authors were careful to ensure that the deductive element of this process ended there, and that progressively inductive data interpretation guided the research team towards non-predetermined themes of stressor. Such induction was facilitated, given that no research at the time
of analysis had interviewed youth football players and coaches about their experiences of using PA within a professional academy. Nonetheless, this was not seen as a limitation, but as a natural result of trying to fit real-life rich description into more artificial classifications. Finally, a frequency analysis was conducted to illustrate how often each theme was mentioned by the participants (Neuendorf, 2002). This level of quantification was not employed as a reliability measure or to infer meaning but, rather to allow the reader to immerse himself / herself in the data, and fully understand the perceptions of the participants (e.g., Fletcher, & Arnold, 2011).

3.26 Trustworthiness criteria

The trustworthiness of qualitative research generally is often questioned by positivists, perhaps because the concepts of validity and reliability cannot be addressed in the same way in naturalistic work (Shenton, 2004). While researchers have attempted to respond directly to the issues of validity and reliability in their own qualitative studies (e.g. Pitts, 1994), it is proposed that positivist notion of validity and reliability is not appropriate concepts for assessing the quality of this qualitative research. Various criteria exist for evaluating the quality of qualitative research (Sparkes & Smith, 2009). Guba (1981) proposed a widely accepted set of criteria that he believes should be considered by qualitative researchers in pursuit of a trustworthy study: credibility, transferability, dependability, and confirmability. Silverman (1985) demonstrated how qualitative researchers can incorporate measures that deal with issues of rigour and trustworthiness. In accordance with previous methodological viewpoints (Meyer & Wenger, 1998), a number of self-correcting verification strategies, based on Guba’s criterion, were employed during
the analysis process of this research to help make the principal researcher aware of
the impact of these biases on the data.

Lincoln and Guba (1985) stress the close ties between the concepts of
credibility and dependability, arguing that, in practice, a demonstration of the former
goes some distance in ensuring the latter. Five self-correction strategies were
employed to address credibility issues within this study. First, research methods
which are well established both in qualitative investigation in general and sport
psychology were adopted. Specifically, prior literature was reviewed in the design of
an open-ended, participant-centred interview guide in order to encourage a wide
range of responses and let the data drive the analysis with focus on inductive
processes. Second, a reflective journal was maintained throughout the investigation
by the principal researcher. These reflections – kept throughout the data collection
phase – were focused on the effectiveness of the techniques that were employed (e.g.
the way questions were phrased in the interviews). Third, regular meetings were held
with a second, independent researcher (the researcher’s academic supervisor) at
every level of the analysis process to reflect upon the reasoning behind the principal
researcher’s interpretations. This role of the second researcher was to act as ‘critical
friend’, questioning any interpretations made at each stage of the data analysis
(Faulkner & Sparkes, 1999; Holt & Sparkes, 2001; Sparkes & Partington, 2003),
particularly following any deductive reasoning that occurred. It is important to note
that the purpose of these meetings was not to achieve a pre-established level of intra-
researcher consensus regarding the decisions made during the analysis, and that final
decisions on the data analysis were made alone by the principal researcher.

Fourth, a third external researcher (a peer within the department) examined
the data analysis procedures and commented on early drafts of the results, offering
plausible alternative explanations for some of the initial interpretations involved. Not being as immersed in the data and blind to the aims of the study, the third researcher’s role was primarily to challenge the decisions made during the analysis process and to offer alternative explanations or interpretations for the results. Initial findings of study one were also presented to a group of football development personnel, coaches and practitioners within the English F.A. (including the former head of player development), and feedback offered to the researcher on the themes identified. Finally, at the end of the transcription process, a copy of the full interview was sent to a sample of each participant group - four coaches and four players - to check the credibility or veracity of the information gathered. Guba and Lincoln (1989) considered member checks the single most important provision that can be made to bolster a study’s credibility. Specifically, the participant coaches and players were asked to check that the content of their transcript was an accurate reflection of their thoughts and feelings regarding the topic, and encouraged to respond on a feedback form provided. A follow-up phone call was made with one coach (C8) to discuss and clarify points raised in their feedback. Also, once the coding and analysis process was complete, the Performance Managers of the eight academies involved in these studies were provided with a summary of the results of the study, in order to encourage their insight into the results of the research. The aim of these member checking processes was to encourage an on-going dialogue between the researcher and participants, and encouraged practical reflection on the outcomes of the study (i.e., did they make sense within football).

In order to address the dependability issues, the processes within the study were reported in detail, thereby enabling a future researcher to repeat the work. It is acknowledged that transferability is difficult to achieve within this study, given that
the findings are specific to a particular environments (elite youth football) and
individuals (elite youth football players and coaches). Nevertheless, it could be
argued that the accumulation of findings from different methodological approaches
with different populations (within this thesis) might enable a more inclusive, overall
picture to be gained. To address confirmability issues, it was important to ensure as
far as possible that the work’s findings are the result of the experiences and ideas of
the players and coaches, rather than the characteristics and preferences of the
researcher (Miles & Huberman, 1994; Shenton, 2004).

An important step in addressing this researcher bias was in acknowledging it
prior to the data collection (Biddle et al., 2001; Denzin & Lincoln, 2005; Patton,
2002). One obvious area of conflict in this respect was the principal researcher’s
sport psychology background, including current support role within the football
environment and knowledge of the phenomena under investigation. A number of
strategies were employed in an attempt to reduce researcher bias, including
triangulating the findings of this study with the findings of other studies in this thesis,
regular reflection with an experienced Academic and Sport Psychologist currently
practicing within professional football to reduce bias, and detailed reflection on the
shortcomings in study’s methods and their potential effects during the study
discussion. A second, informal supervision relationship was established with a
Performance Analysis researcher and practitioner. He was available to offer guidance
to the researcher regarding performance analysis issues arising during the data
collection and interpretation of the data.

Together, these processes and discussions assisted with self-correction during
the process of research by making the researcher more aware of his own perspective
and ‘voice’ alongside the participants’ voices (Patton, 2002). This approach was
seen as more effective than relying on post-hoc verification strategies (Morse, Barrett, Mayan, Olson, & Spiers, 2008). Although the above techniques were utilized to contribute to the trustworthiness of the data, Biddle et al., (2001) noted that readers should be provided with the opportunity to evaluate and interpret the data in a way that is meaningful to them. However, it was also acknowledged that it is impossible to eradicate all bias from the research process. Indeed, Mays and Pope (2000) argue that personal and intellectual biases that are made explicit enhance the credibility of research findings. With the help of critical self-reflection, these subjective prejudices may also provide a basis from which further understanding can develop (Angen, 2000).

The results of the participant coaches (study 1a) and participant players (study 1b) are presented in Chapter four and five, respectively, followed by an integrated discussion of the results of the study as a whole.
4.1 Study 1a: Results

The interviews with the coaches yielded rich data pertaining to the coaches’ perceptions of the factors involved in the delivery of video feedback within youth football. In total 421 distinct raw-data quotes were abstracted into 111 lower-order themes, and 17 higher-order themes. The higher-order themes subsequently formed three general dimensions representing coaches’ perceptions of video delivery in elite youth football: Psychological Processes, Delivery Strategies, and Delivery Climate. The first dimension represented the psychological processes engaged during delivery, which focused on the players’ psychological responses before, during and after video-based practice. These psychological processes were often linked to the approach taken by the coaches during delivery. These approaches were captured in the second dimension, Delivery Strategies. Finally, the coaches spoke at length about the environmental and contextual factors which influenced video-based practice. These were captured in the dimension Delivery Climate. The themes and sub-themes comprising each of the three dimensions are displayed in figures 1.01 – 1.03 respectively. In conjunction with each of these figures, the coaches’ responses are reported using direct quotations to portray the complexity and scope of understanding video-based practice in elite youth football.

4.11 Dimension 1: Psychological Processes

For the coaches interviewed in this study, the effectiveness of video-based practice was hugely influenced by the mind-set of the player and the psychological processes engaged during VFB. These psychological processes were perceived to play a mediating role in the players’ response to VFB, and were also seen as outcome of the delivery process itself. The full range of perceptions regarding the
psychological processes engaged during video delivery is illustrated in Figure 1.01. The six themes emerging within this dimension were Self-confidence, Self-esteem, Thoughts, Emotions, Mental Toughness and Imagery.

Improving the self-confidence levels of the players was seen as an outcome of video-based practice. However, there was also a general perception that players who already had higher self-confidence were gaining greater benefits from video-based practice, than those with lower self-confidence, suggesting it was also a mediator of effectiveness. For example, the coaches felt high-confidence players were less concerned about how they were perceived by their team-mates than low-confidence players, and thus more likely to respond to coach feedback, and to input into discussion in group situations. As one coach stated: “In the group situation some players like to keep their eyes down … but that doesn’t work for me or them … the confident ones just blurt out what they are thinking, and I can work with that” (C10). By encouraging the players to think positively about their performance, the coaches felt the video could improve confidence levels. However, as one coach indicated, building players’ confidence was not always an easy process:

Talking about and helping educate [the players] about confidence is a good thing, but actually impacting upon this is a different matter …I don’t feel I am able to make enough impact on their thoughts at times in the video sessions, especially with the less confident ones… they get a bit lost in their own thoughts sometimes, and you can tell they will leave the sessions with negative thoughts and having lost confidence sometimes (C3).

How receptive the player was to video-based practice was seen by five of the coaches as important, and linked more to their general self-esteem rather than self-confidence. Players who had lower levels of self-esteem, for example, often saw VFB a threat rather than as a support mechanism. This, according to a number of
coaches, made them much less receptive to video replay. For one coach, this was part of a wider issue with self-image in the adolescent footballers, rather than related specifically to the VFB work:

So much about how they respond to anything in the academy, including the video, is linked to how they feel about themselves as a person away from football as much as anything … you know the ones who struggle with esteem will also struggle with feedback, and will take things too personally, too emotionally. The video can help them get past these issues ... it can be the difference between them coping in the pro’s, and it’s definitely a factor in how they respond within the academy (C1).

As noted, the coaches identified the players’ thought processes as factors which influenced the effectiveness of video-based practice. Positive thinking during and following VFB could lead to improved self-evaluation, goal setting, and changes in behaviour. However, it was acknowledged that once a player allowed themselves to think negatively during VFB, then the subsequent negative emotions associated with these negative thoughts made it difficult to achieve the intended outcomes of video-based practice. Although the video was perceived as a learning tool which could help unite the players’ and coaches’ viewpoints on performance, the coaches’ also acknowledged the influence of subjective interpretation in the delivery process (sub-theme: Coach & players interpret VFB very differently). A few coaches even perceived this as a fault that lay with the players, feeling that they didn’t consider the bigger picture when responding to feedback.

Self-reflection was consistently raised by the coaches as a skill which their players needed to possess to get the maximum impact of VFB. Self-reflection was viewed as the process of reflecting on the video footage in comparison to the personal goals and expectations the players held for their performance in training and
competitive matches. This was captured by the sub-theme: Players not self-reflective enough.

| 3 | Confident players communicate better          | Self-confidence |
| 11 | Video enhances player confidence            |
| 6 | High confidence leads to positive thoughts  |
| 3 | Low confidence leads to negative thoughts   |

| 5 | Player self-esteem influences receptiveness |
| 3 | Self-esteem influences emotional response    |
| 3 | Self-conscious players too emotional        |
| 2 | Self-esteem influences ability to critique others |

| 10 | Coach & players interpret VFB differently  |
| 2 | Unites different views of coach & player   |
| 3 | Players don’t think about bigger picture   |
| 3 | Players erect barriers to neg.-perceived VFB |
| 6 | Self-reflection skills important           |
| 8 | Players not self-reflective enough         |
| 4 | Self-monitoring is key to long-term impact |
| 2 | Need to provide players reflective structure|

| 2 | Facial expressions reveal emotional impact |
| 3 | First session highly enjoyable for most    |
| 2 | Pos+ emotions maintain focus               |
| 3 | Post-match emotions fade after video       |
| 2 | Improved emotional-coping in matches       |
| 6 | Neg.-emotions lead to motivation to learn  |

| 3 | Prepares players for unsupportive senior ranks |
| 2 | Video practice develops better coping skills  |
| 3 | Need to take criticism well in senior ranks  |
| 3 | Reveals character through pressure           |
| 3 | Removes player excuses                       |
| 4 | Makes players stronger mentally             |
| 2 | Encourages player to raise expectations      |

| 4 | Imagery & video combo aids skill acquisition |
| 6 | Imagery increases depth of self-analysis     |
| 7 | Imagery most effective with self-as-a-model |
| 5 | Imagery helps retention of learning          |
| 3 | Video provides new visual information        |

**Figure 1.01.** Perceptions of the role of ‘Psychological Processes’ in video feedback practice amongst English professional youth football coaches. **Key:** Pos+ = Positive; Neg- = Negative.

For a couple of coaches, it was their responsibility, as coaches, to provide a structure which encouraged the players reflect effectively on performance during
video replay. For other coaches, however, the players needed to be reflecting more critically on their own, away from the coach:

In the meetings you have to do a catch all to try and give each player something to go on …but this is only effective on a very general level. We (coaches) need to have more confidence in the player’s ability to analyse their performance … they need to be able to reflect on it, set their own goals and be able to tell if it’s working or not … don’t just force feed them your own thoughts and wait until they start churning your words back to you. If you don’t reach this next step, the long-term benefits will be negligible... they start to learn not just respond (C8).

Alongside thought processes, the players’ emotions were felt to have a major impact on the way the players responded to video-based practice. While negative emotions were associated with certain delivery contexts (discussed later in this Chapter), the coaches generally associated the video feedback process with positive emotions. This was represented by sub-themes such as, First session highly enjoyable for most players; Positive emotions maintain focus; and Post-match emotions improve after video. Interestingly, a number of coaches identified emotional control as an outcome of video-based practice. This emotional control was developed through providing the player with a clearer mental picture of how they could deal with their emotions on the pitch in pressurised situations. One coach suggested that he “used the video to build [the player’s] understanding of better choices and feelings to focus on under pressure … we linked it to how he how he would feel doing it, and it made a big difference” (C4). A number of coaches reported using video to deliberately engage ‘negative’ emotional responses in the players during VFB in order to get a response from the players in terms of motivation - as the following quote illustrates:
If I think they are getting lazy, and I want to get a response from my players, then I use the video to hammer them, show them exactly how poor they were. It is often more powerful when really negative, as when they train next they know they have to train harder than ever before to correct their mistakes (C2).

Given the role of the coaches perceived player emotions to play during video replay, it is unsurprising that the coaches also felt that being able to read the ‘mood’ of the group of players was an important skill for the coach to possess.

Bringing together a number of these psychological processes, mental toughness was a factor discussed at length by the coaches in the interviews. In this study, the theme Mental Toughness captured the coaches’ perception of video-based practice as a process which could both expose and develop the mental strength of the player. Video-based practice was linked to the wider goal of preparing players to handle the pressure of senior football, epitomised in the sub-themes Prepares players for senior ranks and Need to take criticism well in senior ranks. The sub-themes - Video reveals character through pressure; Removed player excuses and Makes players more accountable for errors - highlighted the role which many of the coaches saw for video as a tool which could create pressure around the players. Observing how the players handled their criticism, or how they responded to making a mistake in front of other players, the coaches could assess how well they may cope in senior football. The following quote, from one of the coaches, illustrates the way he felt the players’ responded to these scenario’s:

They didn’t like it at first because they felt I was trying to catch them out. They would generally go one of two ways, one, they react with embarrassment, or two, they lie, get caught out, and then think, “I really don’t want to do that again, I’ve got to learn from that, I need to think about this and be more honest and up front”. It depends on their character. When you
take their excuses away from them, it puts them under pressure, and you see their true character come out (C11).

The coaches felt that the players may well be less supported and would face more direct forms of criticism if they progressed from the youth system into senior level football. The coaches saw video as a tool they could use to aid the players’ transition by making them more self-reliant and able to handle criticism. One coach felt that by employing video in this manner, they as coaches, had to be prepared to be seen as unpopular at times by the players: “I know the players [in the academy] think that I am a bit harsh on them, I can see in the way they respond to me in meetings, but it is nothing compared to the way I was treated when I was their age” (C2).

Finally, imagery was also identified as a psychological skill which the coaches felt was integral to optimizing the performance-impact of VFB. One coach saw imagery as helping him as a coach to link the psychological and emotional responses of the players to the performance he was looking for in the game:

We need to better understand what it is like to be in a player’s mind, see what he sees, feel what he feels when watching himself perform, so we can help him understand what we are looking for as coaches on the pitch. I remember when I was playing myself, and how powerful it would have been if I could have watched an image of myself performing at my peak in a video. That is available to these guys now. If we can reproduce that image on video and teach them to recreate that image using visualization, I imagine that would be incredibly powerful (C7).

In particular, using the player as his own model was also perceived to enhance the imagery process: “… watching themselves playing successfully is important for their development … imagery is a skill which can help them process this information, to make it real (C10).
4.12 Dimension 2: Delivery Strategies

The second dimension focuses on strategies the coaches’ felt they could use to deliver video information to the players. The main themes focused on the impact of delivering video with a team- or individual-focus or pre-match preparation tool and the use of the players’ self-image as a model for learning. The full range of factors in this category is illustrated in figure 1.2. The majority of the coaches interviewed for this study reported using the video as part of their post-performance evaluation process with the team. By delivering it to the whole team or smaller groups within a group setting, the coaches felt they were able to impact positively on areas of team functioning, such as communication, cohesion and performance debriefing. The presence of the video was highly valued by the coaches in the debrief process, and was seen as adding much greater depth to the analysis process: “We need to go over much of the information as we are probably blocking out much of it during the game, as it would flood our decision making … we can do this later, in more depth”.

For one coach (C2), video provided the ‘final word’ on what actually happened during performance both in competition and training, reflecting a general perception amongst the coaches of video as a useful source of objective performance information. Although perceptions were generally positive regarding the delivery of video feedback within a team setting, caution was also urged by coaches regarding this delivery format. Sub-themes such as Fear of negative peer evaluation and Fear of publicly viewed mistakes creates anxiety, highlighted the perception that viewing personal mistakes in front of significant others – such as team-mates or coaches – could distract the players, and was a significant barrier with team-focused VFB.
There was also recognition that it was difficult at times to control the emotional response of the players, as the following quote illustrates:

The problem I have is when we watch (the video) as a group of players. Something will happen as it does, where one kid falls over or something, and they all start laughing. I’ve done it myself as a coach, you see something happen that’s funny, and you can’t help but laugh … some players get embarrassed, and start shying out of things and ducking their heads down, the group focus gets a little bit distorted for me, and their attentions gone. You try and tell them “look, we are doing this for a reason here” … but they are gone mentally, they aren’t focused anymore. (C9).
Coaches noted how players’ anxiety about being judged by others could create a negative mood, which could carry over into the training session or into the game that followed if it went unmanaged. Indeed, for many of the coaches, a goal of the VFB work was to move past these emotional responses.

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<tr>
<th>6</th>
<th>Extra dimension to team evaluation</th>
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<td>8</td>
<td>Key part of post-match evaluation process</td>
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<td>1</td>
<td>Evidence for reviewing club standards</td>
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<td>6</td>
<td>Provides greater depth in team meetings</td>
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<td>2</td>
<td>Links well to post-match feedback</td>
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<td>1</td>
<td>Over-analysis in team VFB can lead to slumps in performance over time</td>
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<td>2</td>
<td>Difficult to satisfy player needs in group</td>
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<td>2</td>
<td>Improves focus on team training goals</td>
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<td>Improves team performance</td>
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<td>Team focus builds team cohesion</td>
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<td>Improves team communication</td>
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<td>Team-mates distractions inhibits learning</td>
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<td>Public mistakes embarrasses players</td>
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<td>Public viewing of mistakes creates anxiety</td>
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<td>3</td>
<td>Fear of negative evaluation in group</td>
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Team-focused VFB

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<th>5</th>
<th>Effective pre-match for some, not others</th>
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<tr>
<td>8</td>
<td>Emotional impact difficult to control</td>
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<td>4</td>
<td>No impact pre-match</td>
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<td>3</td>
<td>Some over-aroused by pre-match video</td>
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<td>4</td>
<td>Music alone may have same impact pre-match</td>
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Team pre-match preparation

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<th>1</th>
<th>1-to-1 improves player-coach relationship</th>
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<td>3</td>
<td>1-to-1 more effective than team</td>
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<td>4</td>
<td>Greater motivational impact 1-to-1 than team</td>
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<tr>
<td>1</td>
<td>1-to-1 focused on individual player needs</td>
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<td>2</td>
<td>1-to-1 aids understanding of coach expectations</td>
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One-to-one focused VFB

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<th>2</th>
<th>Self-model aids players pre-match mental prep</th>
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<td>7</td>
<td>Self-modelling builds players’ confidence</td>
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<td>4</td>
<td>Players improve focus during self-modelling</td>
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<td>3</td>
<td>High motivational impact through self-model</td>
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<td>4</td>
<td>Link self-model to coaches feedback</td>
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<td>2</td>
<td>Pos+ impact felt when players use self-model</td>
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Self-modelling

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<th>7</th>
<th>Self-observation creates independent learners</th>
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<td>2</td>
<td>Self-observation central to effectiveness</td>
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<td>2</td>
<td>Self-observation enhances intrinsic motivation</td>
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Self-observation

*Figure 1.02.* Perceptions of the role of ‘Delivery Strategies’ in video feedback practice amongst English professional youth football coaches. Key: 1-2-1 = One-to-One.
If the personal responses and emotional reactions to the video could be reduced or eliminated during video team meetings, we will have taken a massive step forward in the way we work as a team as it means we are being more clinical and analytical in the way we work (C11). To do this, a number of coaches felt they needed to find a more sophisticated way to deliver VFB within a team setting, as this coach emphasised:

When [the players] watch the video with the rest of the team, they all respond differently. Some of them it goes right over their head, some feel under pressure, some didn’t care one iota, and some see it as a bit pointless, a bit of a joke … [coaches] need to understand how [the players] respond better psychologically and find a way of giving players what they need, not just dishing out a team feedback session with loads of finger pointing, because it’s the style they prefer as a coach, you know; because it’s easier for them. The way coaches provide the video to the team needs to become more sophisticated if it is to tackle this problem. (C5).

Alongside the use of video for post-performance evaluation, the coaches also reported using the video as a pre-match motivational tool. However, there were mixed perceptions regarding its impact on performance amongst the coaches in this study. There was recognition amongst the coaches that this form of video feedback could harness powerful pre-performance emotions, with very positive results: “(the pre-match video) definitely gets their attention … the mood was fantastic when we first used it … and we played really well the two games we used it. You could tell the players loved it” (C10). While it could be a highly effective motivational strategy for some players, most of the coaches raised limitations with using video for team pre-match preparation. Most of the coaches felt that it was difficult to control the psychological impact of pre-match videos, with players possibly becoming ‘over-hyped’. A number of coaches also felt that this approach would have no impact on
the players pre-match, or maybe no more impact than using music on its own (e.g. in
the dressing room). There was a general feeling amongst the coaches that it was an
approach that required careful application when used with the team, as typified by
the following quote:

…we used it again in the youth cup game later in the season, and it just didn’t
really work for us … I can’t really put my finger on it, but I didn’t feel it
really got us where we needed to be, psychologically … some [players] were
about right, but some were too ‘up’ and made a couple of big mistakes early
on … I would only use it sparingly now (C1).

To maximise the impact of VFB work, a number of coaches recognised the
need to focus to a greater extent on individual players’ development. Three strategies
were discussed by the coaches which could have a positive impact in this respect:
One-to-one VFB, Self-modeling and Self-observation. For example, One-to-one
VFB was even seen as more effective and more motivational than team-focused VFB
by three of the coaches interviewed. The coaches saw the benefits of working with
their players’ on a one-to-one basis with the video. This approach to feedback,
usually conducted away from the rest of the team, provided one coach with a “more
effective way of targeting individual needs within the group [than team video
work]”, and also “a way to connect with the player on a personal level” (C1). In
particular, this approach was linked to improvements in the player-coach
relationship, through an improved understanding of the coaches’ feedback amongst
the players. One coach revealed why he felt this was a positive strategy to use with
certain individuals:

The team meetings give individuals a chance to hide a little ... they might
have thoughts they feel foolish to share in front of the lads ... (one-to-one) is
perfect for building their confidence in what they think and say, their
understanding of the game, and their understanding of what I want from them

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as a coach. It is teaching them that their point is heard and acknowledged, maybe not always correct but always relevant and wanted. Maybe in time, [the player] may then begin to feel ready to contribute with the other lads, in a group setting … because he has some backing for what he thinks and has had the chance to analyse away from the emotions (C7).

Time was highlighted as identified as a possible barrier to coaches using this approach. For one coach, there were “simply too many different plates spinning every day to sit down and deliver it with every individual differently. We try and hit a happy medium and hope they all get something from this approach” (C9).

Another strategy which was discussed at length by the coaches was the use of video as a form of observational learning. The theme Self-modeling focused on the benefits of players viewing themselves performing successfully, which included improved levels of motivation, focus, self-confidence and readiness to perform. For the coaches, this was particularly effective with individual players, in contrast to “banging away with negatives, which never works with those [players] who lack confidence or get too nervous” (C1). The link between self-modeling and intrinsic motivation was seen as particularly important with the coaches suggesting that, because the players were naturally self-focused during VFB, their motivation was already high during self-focused VFB compared to team-focused VFB. As one coach stated: “It grabs their attention … you don’t have to motivate them to improve, they want to go and work on it themselves” (C6). This approach was contrasted with what some coaches saw as the high volume of visual information which is fed back to players each week in the team post-performance evaluation process. One coach described the process he went through when he found a powerful self-model to use with a player:
If I see a good example of one of them doing something we have been talking about for months, then I make sure our analyst clips it and saves it for me. It’s only one clip but the power of a positive example is much greater than a hundred negatives for me, especially with this age of lad, as confidence can make a real difference in their progression. You find a quiet moment, and show it him, no feedback, just the image. If I see him do it in training the next week the way I want it, then I tell him, “do it again, just like on the video”, and you can see him connect all the dots … that skill is locked in, bulletproof, from now on (C6).

It is interesting to note that although VSM was seen as a very positive approach to delivering video information, very few coaches reported editing the video to provide self-models to the players. Another rarely employed approach was self-observation – the process of players reviewing VFB on their own away from coach guidance. Where self-modeling could be edited for players to see successful examples of their own performance on selected behaviours, self-observation was raw (including both positive and negative examples, with little or no editing or analysis). This strategy was linked to the development of players who could learn effectively away from the coach, as one coach stated:

Video is more than just skills and formations, it can be motivational if it taps into the way that specific player thinks and learns, but will remain limited if coaches aren’t prepared to risk letting go of the process a little. Give [the player] the motivation to do it for himself. If he leads then you have the ability to take it deeper, and he takes the initiative. If it is appropriate he gains confidence, both as a player and a person, his self-esteem grows, he communicates better. You have to be prepared to take the time to build independent learners to get the most out of video (C9).

This theme was contained within the strategy dimension (reflecting the choice coaches felt they had to encourage this form of delivery). However it was
also closely aligned with the first dimension (Psychological Processes) through the skill Self-reflection, which was seen as important by more than of the coaches, and a skill which the players could be better at. For a number of coaches, a measure of progress within video-based practice was the point when the players were able to use video feedback effectively without the presence of the coach (self-observation), as the following quote reveals:

It’s important to ask ourselves, as coaches, whether we are committing enough time to the development of the players’ self-reflection skills, to helping them become independent learners. I believe we need to unlearn what we have learned as coaches in this respect. Look at your Messi’s or Ronaldo’s … they are making decisions on the pitch, in the moment, while we have players who can only follow game plans. By encouraging players to sit down with the video, independently, away from us, make some notes, and come and discuss it, I feel we could make greater progress. This isn’t easy, and may require coaches to change the way they work … maybe take less control, take some risks with their role rather than just blaming the player for not doing exactly what they say … it will feel a bit uncomfortable for some coaches but how else do you see this moving forward? (C4).

4.13 Dimension 3: Delivery Climate

The final dimension within study 1a concerned the factors relating to the delivery climate surrounding video. It was acknowledged by all the coaches that video-based practice was strongly influenced by the learning environment surrounding video (referred to in this study as the Delivery Climate). The six sub-themes in this dimension were Peer-to-peer evaluation, Coach behaviour, Psychological understanding, Individual differences, Psychological support, and Coach education. These themes and sub-themes are illustrated in Figure 1.3 (below).

The driving force behind this climate was the coach himself and more specifically, the coach’s behaviour during video-based practice. In the interviews,
coaches discussed the way their coaching approach shaped their VFB work, and in particular, how the player’s perception of their behaviour was a key aspect of how they responded to video work. The benefits of creating positivity around the video sessions were raised. If the coaches’ approach to the work was perceived positively rather than negatively by the players, then players were more likely to benefit from the work. This was epitomised by the themes Needs to be seen as a positive learning tool by players and confidence builder if used supportively. There was recognition from a number of coaches that for the video to be more effective than it was at the moment, it needed to be promoted and accepted more as a source of support rather than a source of pressure. A ‘supportive’ approach was associated with improving players’ confidence levels, as this coach stated:

The coaches might have all the information at their disposal, but you need to create an atmosphere that encourages players to be positive, and go out and to be free to try things ... with too great an emphasis on getting results or not letting you down ... the players’ motivation reflects a need to avoid failure rather than a desire to approach these sessions with a positive learning focus

(C4).

However, a number of coaches recognised that the players may possibly hold a negative perception of their approach to video feedback at present. This perception was linked to other coaches’ use of video as a punishment tool with players, captured in the themes No impact if used for punishment and Long-term negative impact if used for punishment. An example of this use of video included deliberately highlighting players’ mistakes in front of others to embarrass them. This approach, however, was seen as a “throw-back to an old school coaching philosophy” (C8); more prevalent in the previous generation of coaching. There was a perception that
The younger coaches coming through the system may be bringing a more positive approach to VFB work. As coach one stated:

The younger, up-and-coming coaches tend to use video a little in a more relaxed way, with a learning focus. The older coaches, who are seen as a bit old school, find it more difficult to adapt ... either using it really negatively or just can’t be arsed using it at all. The players pick up on that for sure, and it is very difficult for them to get involved in learning in a positive way if it’s always thrown back in their face in a way that tries to embarrass them ... you alienate [the players] (C1).

The coaches in the present study believed it was important to alter players’ negative perceptions, citing the damaging effect of this approach on their motivation. It was important to be mindful of over using punishment and criticism, as it reduced the trust the athlete had in the coaches’ video delivery and inhibited their motivation to learn. For one coach, this involved trying to strike a balance:

Avoid saying ‘you shouldn’t do that’ – even with the older lads - it can be quite harmful for their confidence and belief, and who knows what they are capable of really? However, give them too much confidence and they can get sloppy, and stop improving, or even get big headed. You need a balance. I would definitely favour positive over negative. We forget that these are teenagers really trying to be men, but all respond better to positivity than criticism (C6).

The coaches also discussed the impact that working with other practitioners could have on the delivery process, represented in the theme Coach-Support staff relationship. For the coaches, the practitioner role was one which brought a different set of skills and abilities than the coach to the delivery process: “I think good delivery is built around these two people – the coach and practitioner – and might possibly hold the key. But who does what depends on the relationships within that” (C2). The psychology practitioner role, in particular, was recognised by half of the
coaches as one which could help to maximise the impact of video-based practice.

Specifically, it was suggested that the involvement of a Sport Psychologist in this process could help open up new understanding to the coaches and their support staff, as explored in the following quote:

I have had good chats with our psych about this, and it has helped me see and understand some of the factors involved from the player’s viewpoint. We are planning to get him more involved. Maybe I need to step back, and not be the one leading all the time, maybe get others, like my assistant or the psych involved? I’m not sure how that might work, but it’s worth a go, because this (video) could be gold dust but it’s not really making the impact we think it can at the moment, or at least that’s my take on it (C7).

For one coach, this role could focus on creating a positive learning environment around the video work, and possibly even leading the delivery; a role traditionally seen as the coaches: “I wouldn’t like to say who the best person to deliver video is because the role of the coach as expert, some might question. A practitioner with expertise in psychology might be more beneficial for the players, more objective” (C11). However, it is important to note, that the majority of coaches interviewed within this study saw the coach-role as the central one within the delivery environment.

Finally, a number of coaches suggested that the psychology practitioner could also work closely with the performance analysis practitioner to improve their knowledge. This integration between the Psychologist and the PA Practitioner could have a more integrated approach to the work, as one coach stated: “The analyst probably already has a better basic knowledge of performance than the psych, but the psych understands the impact better. This combination would be ideal for the coach” (C5).
The importance of encouraging players to communicate openly in front of their team-mates was captured by the theme Peer communication. More than just communicating, the coaches wanted to develop players who were able to critically assess their own performance in front of others, and also critique the performance of their peers on the team. As one coach stated: “I look to improve their communication in public, out in the open, not in private … you molly-coddle them otherwise” (C3). Another coach stated: “For one of our younger players to be able to turn round and admit that he didn’t do as well as he could with a header or pass in front of the group that would be a significant step forward [in the video work]” (C7).

It was acknowledged, however, that developing a climate where players were comfortable critiquing each other’s performance was a challenge:

We are fighting against the culture of football a little here, as honesty is in short supply the further up the ladder you get. That doesn’t mean our job [as academy coaches] is to send players up who are selfish and self-focused, but to send players who can be honest and have a positive impact on the teams they play for. That’s what first team managers want but sometimes don’t have available to them … honest players who will call each other out on performance (C3).
Trust between the coach and player was recognised as an important relationship factor within video-based practice. There was a sense that if trust had been established within the group, and the players learned to view peer-critique as a productive rather than disruptive process, then this could be a very positive process within video-based practice. For one coach, this process took time to develop:
I think last year we took a step towards the right learning environment for video, not a massive step, but a significant one. The players aren’t at the stage where they are able to dig each other out yet, but that it may be a useful tool when they get to senior football. They have been surprised that they could do it and still respect each other. We said that whatever was said in the room stays in the room, and that was the starting point for our honesty in those sessions. The small breakthroughs we had were worth all the hours of work that we did with the video (C5).

A number of other factors focused on how the delivery climate could be improved within video-based practice. The theme Coach education represents the impact the coaches felt the video could have on developing their own thoughts and behaviour. This was a natural by-product of using the video for player development, and was seen as highly beneficial by the coaches. These benefits included providing them as coaches with a manipulation check (regarding how they were coaching) and helping them adapt their communication or delivery style in a positive way.

However, the coaches in this study also felt that they would benefit from greater education regarding the delivery of video feedback with youth football. As one coach stated: “We don’t train enough people along those lines...we prepare coaches to deliver technically but not to regularly reflect on their coaching” (C8). Another coach felt that the limited available coach education in this area was becoming a barrier to VFB effectiveness:

The coach has to understand the psychological processes. ...what the coach does is important, there is no doubt about that...it’s the coach that creates the environment for them to learn from. The problem is when the coach thinks he is the key to the problem and that he has to drive everything. He creates the environment for them to learn, and he has to understand what’s going on. If he doesn’t then learning is limited by the coach (C2).
The importance of gaining a better understanding of the psychological impact of video was raised by the coaches in this study, epitomised in the sub-themes Poor psychology wastes good analysis and Psychological impact untapped to date. Not knowing how the players were responding was therefore difficult to cope with, as this coach illustrated: “You are not even getting a response from some of them at times, if I can’t see it in their faces, I don’t know what’s going on. This worries me as a coach” (C1). VFB was also perceived by the coaches as a tool which “worked for some players, but not for others” (C4). Finding a way of monitoring and evaluating impact was also an area of video research where coaches felt progress could be made. One coach questioned whether, at present, coaches really understood player responses to VFB well enough to ensure impact was positive. He stated,

The danger comes when we all always sit down together and prepare as a team because that’s how it’s always been done and we know no better…the coach assumes that everyone likes it, and some [players] are sitting there thinking ‘God, I wish I wasn’t here, I just want to get going or it’s too much for me, it’s too heavy emotionally’. We don’t do it right yet for groups or individual players…rather than just assume it’s going to work because we are ignorant to a better way, it needs thinking through with more subtlety and testing to find out what really works, so we can put things into the process that help the players to branch out, take that next step for themselves. I think we’ve all been guilty of seeing things in black and white, when they are in fact much more complex than that (C3).

The coaches in this study suggested that delivery could be tailored better to meet the individual differences within the team, in terms of development level, learning styles and situational issues they may be facing. Under-performing players, for example, might require a greater level of sensitivity and support at times. If video could be introduced earlier to players, the players may have adapted to using this
technology by the time they reached the senior academy level, possibly removing or
reducing some of the barriers to learning that the coaches were now facing during
VFB work. The following quote illustrates this connection:

I think if you get them young enough, if you have it that learning what they
need to do to make it to the big time, and video is positive not negative, then
that mind-set is taken on by the players all the way through their
development, and it is easier to maintain their enthusiasm and convince them
to keep being honest when some of their team-mates start to lose focus and
play up (C7).

However, a perception which was held by a number of coaches was that
although it was important to create a positive climate around the video work,
delivery could still be effective despite a negatively perceived climate. Every team
contained receptive and unreceptive players and it was clear to some of the coaches
which of their players would get the most out of the video. These receptive players
possessed qualities were felt to have separated them from their peers, (e.g., a greater
level of self-awareness) and these qualities meant they would find a way of using the
information productively, as one coach illustrated:

There might be 5 or 6 players in here giggling, enjoying the banter…but there
is often one kid who is focusing intently on it, watching himself, and you
know he's analysing it properly. His team-mates might even be giving him a
bit of stick for watching the video on his lunch-break … he might be over-
analysing a bit…we don’t know … but I bet I can pick out the individual
players that I know I can trust to self-analyse…stick the video on, leave them
to it, and know he will get something from it … he’s often the exception and
he’s often the kid that makes it, maybe because of this attitude and passion to
get better (C1).
This final quote brings the results of study 1a to a close. The following Chapter reports the perspectives of players (Study 1b) before critically discussing the knowledge gained from these two allied investigation.
CHAPTER FIVE
5.1 Study 1b: Results

In contrast to study 1a, the results in study 1b offer detailed insights into the video delivery process from the perspective of the ‘receiver’. The interview data yielded 490 distinct raw-data quotes which were abstracted into 104 lower-order themes, and 16 higher-order themes. The higher-order themes formed three general dimensions representing players’ perceptions of video delivery in elite youth football sport: Psychological Processes, Delivery Strategies, and Delivery Climate. The first dimension represented the psychological processes the players felt influenced their response to video-based practice. The second theme captured the players’ perceptions of the different strategies employed by the coaches to deliver VFB, and others which they saw as beneficial to performance. Finally, the players’ perceptions of the climate surrounding video-based practice are captured in the theme Delivery Climate. The themes and sub-themes comprising each of the three dimensions are displayed in figures 1.4 – 1.6 respectively. Direct quotations from the interview transcripts are used to elucidate the players’ responses, and so that readers may fully appreciate the perceptions, meanings and viewpoints of the player.

5.11 Dimension 1: Psychological Processes

The players identified that their mind-set going into, during and after VFB had a significant impact on the effectiveness of this practice. The players identified six psychological processes which they felt influenced the video feedback process. These processes were seen as both mediators and outcomes of delivery. The main themes were: Self-confidence, Thoughts, Emotions, Mental Toughness, Imagery, and Focus. The full range of themes for delivery context and focus are illustrated in
Figure 1.5. Self-confidence was identified as an outcome of the video work for more than half of the players, as captured in sub-themes Confidence enhanced when underperforming, and Feel unbeatable after watching best clips. As one player stated:

I know I have a bunch of videos I can go and watch if I feel I need to … Dave [the analyst] has saved the games I wanted onto the computers in the academy … I have watched the two games against Everton [Football Club (F.C.)] and Derby [F.C.] from pre-season a few times already as I had a decent game … I think I need to remind myself that I am a good player - so it helps (P8).

As well as leading to improvements in general confidence levels, the video was also perceived to be linked to improvements on specific skills or behaviours on the pitch during games, as the following quote illustrates, “I watch little technique things, body shape, footwork, my first touch, important stuff … [VFB] helps me feel like a better player, I sort of believe in my ability to do these things more when I see them” (P2). The players also identified their thought patterns as having a crucial part to play in developing these positive outcomes of VFB. Thoughts were stimulated during the session, and the players reported recalling and analysing specific parts of the video for weeks following the sessions. The sub-themes Negative thinking post-video reduces confidence and Video stimulates positive thoughts post-match, revealed that these thoughts could be positive or negative in direction. For half of the players, holding onto negative thoughts following poor performance, however, was likely to lead to a loss of confidence, and affect performance in the future. One player described how his thoughts evolved in the days following a team VFB meeting where he had made a mistake:

I find that once I am thinking about the video it’s almost impossible to let it go … especially if I have made a mistake and it has been replayed in the team meeting. It’s not like I wouldn’t be thinking about my mistakes anyway, but
the video seems to set it in your mind like concrete, and it sometimes takes a few days to shake it off and regain your confidence (P12).

Self-reflection was also seen by the players in the present study as a process which could enhance the impact of VFB, captured by the sub-themes Self-reflection key to improving self-awareness and Self-reflection is key to VFB effectiveness. Although none of the players referred to using written goals or a structure for this reflective activity, this informal reflective thinking was highly valued by the players, as the two quotes below illustrate:

[The coach] showed me on the video the mistakes I kept making with my positioning. We talked out how I was going to sort each one out. I tried to work on them in training, and would sit and think about if they were getting better or not each week … the video gave me the info, but I struggled to see it in your mind. I just thought about it, every day, and how I was going to transfer it onto the pitch, and it stuck. The coach didn’t need to keep bringing it up (P10).
Watching the video in matches helped me assess whether I can actually deliver in matches the things I am able to do in training … if I couldn’t do something or lost confidence in it, then I thought about the reasons in your mind until I found an answer. I preferred that to the coach pointing it out, but
sometime I would ask him for feedback too [the video] became a check on
whether I was moving forward or not (P7).

Finally, for a few players, self-analysis was seen as less likely to happen
following a victory, indicating that for them VFB was seen more as a tool for
understanding and correcting errors than for reviewing successful performance.

It was clear from the interview process that emotions also played a central
role in the video delivery experience for the players in this study. During the
interviews the players often referred to the process of watching themselves perform
on video as an emotional experience, and made the link between within-delivery
emotions and within-performance emotions; as the following quote explains:

the reaction [to VFB] is exactly the same as when you are in the game…you
still feel angry or embarrassed or happy or confident when you watch the clip
again as you did at the time in the game. Sometimes it feels like you are on
the screen doing the same thing as you remember doing in the game,
sometimes it doesn’t feel like you at all. You don’t get that feeling when you
talk about it, or write your goals. Video is much more powerful emotionally,
both positively and negatively (P7).

The players reported experiencing overwhelmingly positive emotions when
they saw themselves on video for the first time: "It was such a buzz. It was a totally
different meeting from the ones we used to have. The lads were loving it, taking the
piss out of each other, shouting at the screen when people did something good … [I]
loved it” (P2). The video could also harness positive emotions for the players, when
recalling good performances. For example, one player described the positive role the
video played in lifting his mood during a long-term injury. He reported watching a
video of the same game in which he got injured (broke his leg) at regular points
throughout the injury period. He felt that it helped him overcome the negative
emotions he was experiencing while being injured, providing positive emotions for
him to focus on:

I had one game (at) home against Barnsley; I had an absolute worldy, I
watched it so many times. It made me feel great every time I watched it, a
real buzz even weeks and months after. I scored and played well. It is funny
- I got badly injured in the 88th minute or something, and I thought watching
this game would make me feel pretty down, but I kept putting it on. I did
eventually get round to watching the tackle where I got injured and even that
helped me get over the frustration I was feeling, as I could see it wasn’t
anyone’s fault. I started regularly watching it after that to feel those positive
feelings from playing well ... the buzz of seeing the passes, touches and the
goal were really pretty sharp. Watching it from time to time was really
helpful in keeping my head up and remembering the way playing well feels
and that I was going to come back at that level or better (P2).

Others players, however, felt that the negative emotions they experienced
during delivery prevented them from enjoying VFB practice. The sub-themes Feels
down after viewing own mistakes and Feel guilty letting team down highlight the
influence of watching errors on video. The knowledge that the video provided a
clear, accurate replay of an error was actually accentuated by the fear that this
incident will be selected and replayed as part of the post-match video feedback
meeting by the coach. The following quote captures the anxiety a number of players
felt going into team VFB meetings, after games in which they had made a big error:

Between making the pass and the video session I was feeling really down
because I had made a crucial error, and it lead to a goal against us, but also
because I knew it had been captured on tape...I tried a cross field ball, and I
knew it was the wrong option straight away, and after the game I was
dwelling on it, replaying it in my mind, running myself down. I was crapping
myself thinking about seeing it again in the meeting. (P8).
Being able to handle criticism was associated by some of the players with the quality of mental toughness. More than half the players interviewed felt that displaying an ability to cope with pressure was a necessary quality to handle the video feedback effectively. This was captured in sub-themes such as Emotional response depends on character and Some players lack mental strength to take VFB without getting emotional. The implication was that players who became overly emotional or lost confidence when watching critical video feedback were ‘mentally weak’. A few of the players felt that coach criticism was just part and parcel of the youth football environment, and that if you lacked the mental strength to handle this effectively, you wouldn’t benefit from VFB. As player nine stated:

Football is about opinions at the end of the day…you need to find a way of stopping yourself reacting to criticism badly, and to train yourself to take feedback well. You can’t afford to be precious or lose confidence in your own game or show weakness in front of the coach or the lads. If you do, it is a tag that it is difficult to lose and the coach will try and expose it whenever he can … it’s like dog-eat-dog and you have to be strong I think (P9).

Others felt that the video was a tool which players could use to build mental strength, and learn to cope better with pressure situations. One player summed up this, when he said:

I remember playing in a reserve game last season and having a shocker, I had put myself under pressure and wanted to show the boss I could handle the next level, but was playing against a good player that night and he embarrassed me a little. I got hold of the tape and watched it over and over to see what I could have done better. I got another chance this year, and played a similar player and did better … (I) got some good feedback from the reserve team boss and my head coach (P8).
Visualization was seen by all of the players as a psychological technique which was naturally linked to video-based practice, captured in the themes: Often recall video clips during match; Clearer visual picture than without video and Visualising best clips enhances confidence. These themes indicate that the players were adopting the visual image presented during video feedback, and using it as a visual prompt for visualization prior to their next performance. The players felt that by watching the video, they were able to recall their performances in greater clarity post-match than without it, helping them retain more of the crucial performance information. For one player, this was particularly useful in helping him picture how to deliver the role his coach was asking of him on the pitch: “All (the coach) was doing before was sort of telling me… I couldn’t see in my mind what he wanted me to do … [the video] helped me to build an image in my mind of what it would look like if I did it right” (P10). Interestingly this player reported that after watching video, the video prompted him to change the imagery perspective that he used when visualising himself play:

…when I’m lying on my bed visualising, I can now see the same images that I’ve watched in the video session … but rather than seeing myself through my eyes, so to speak, as I used to, I now see me like the camera sees me, like a spectator or like Sky Sports Player-cam (P5).

The players’ responses also raised the influence their focus levels during video-based practice. The majority of the players reported focusing on themselves rather than the team during team feedback sessions, and four of the players interviewed admitting that they actually lost focus when they weren’t in the video. This self-focus is epitomised in the following quote:

I’m listening to the coach talk about the team shape, but I’m watching myself, whether I have a good touch if I get the ball, or whether I look OK on screen.
I know that’s not what he wants me to do, but I feel like I need any feedback I can get to keep my confidence up (P2).

5.12 Dimension 2: Delivery Strategies

The players discussed a range of delivery strategies which their coaches had used when delivering video to them. The major themes in this dimension were Team-focused VFB, Pre-match team preparation, One-to-one focused VFB, Self-modeling, and Self-observation. The themes and sub-themes are illustrated in Figure 1.5. The players discussed the powerful positive impact these strategies could have on their motivation and confidence at times. However, they also revealed that when delivered ineffectively, video feedback could be a negative and uncomfortable experience for them as a player. Overall, the players associated very different psychological processes and outcomes according to whether video was delivered to a group, individual (one-to-one) or viewed by the player on their own.

The players associated ‘team-focused VFB’ with a number of positive outcomes, including an increased understanding of their role in the team, team cohesion and improved individual performance. A number of players felt that the team-focused VFB meetings were also an opportunity to bond as a team, as one player stated: “It’s important we are all there, together, for team spirit, bonding, the highs and lows” (P4). The video provided an opportunity for the players and coaches to resolve any disagreements regarding their perceptions of the performance. For one player, the addition of a more objective source of performance information into team meetings led to a shift in the power dynamic between coach and player:

When you are playing OK, but the coach thinks you’re not you aren’t really in a position to argue back; you had no evidence (before video was introduced). The video has helped resolve these problems for me; I feel he
can’t ignore the evidence now and I feel more confident in my view of the performance…but it goes both ways too and there’s no place to hide for me now either (P6).

For video to have an impact at team level, it was perceived that all players needed to buy in to the process and a shared commitment to make positive changes as a team. If this buy-in was not established, the team-focused VFB work was seen as less effective, as the following player indicated:

Everyone knows that ultimately you are in it for yourself but also that to improve you need your team-mates to get better too. If the team as a whole - and key team-mates in particular - buy into the (video) sessions and the lads are in the mood to take this serious and try and actually make some progress using the video, then we are all in it together, and it’s easier to learn, and any fall outs are left in the meeting, and we walk out together as a team. We had that as a team last year, the mood was amazing, but this year a few players are cruising along, and it doesn’t feel the same, ‘cos no one is bothered about the team (P1).

Whilst the video had the potential to develop positive outcomes through team-focused delivery, this approach may also have become ineffective at times for a number of the players. The sub-theme Not motivated through group work was cited by a number of players. There was a perception that too much emphasis was placed on team outcomes by the coach when delivering VFB, and as a consequence, their individual needs were not being met as a player. For other players, however, the team-format had become stale and boring:

Nobody is bothered at the moment [about the team meetings] … the lads are bored sitting through endless team meetings … it’s the same thing over and over, and so it’s become pointless, and the lads get bored and end up sniping at each other just ‘cos they are bored … last week we left the team meeting after an hour watching the game again and someone is winding someone else
up, cos they need something to keep them amused, and they start sniping
back in training, and it ends in pushing and shoving … it’s all because we
were bored in the video session … when we get bored; it’s a nightmare (P9).

This was linked to the presence of other players during feedback, as a number
of players revealed feeling uncomfortable viewing their mistakes in front of others.
The players in this study were all aware of how their mistakes might be viewed by
their team-mates during team meetings. Recalling his response mid-performance to
making a mistake, one player stated that: “As soon as the ball had gone past me, I
thought “I hope they didn’t get that on video… the lads will have a field day with
that’” (P7). The following themes - Feel anxious about others seeing my mistakes
and More emotional when others watching – pointed to the psychological impact of
social evaluation (peers and coaches) during video. More than half the players
interviewed experiencing anxiety in response to seeing mistakes on the video. The
impact of social evaluation seemed to differ across individuals within the team,
having a more negative influence on some players than others, as the following quote
suggests:

I was nervous all Sunday before the debrief meeting, and was feeling anxious
as the video of the game was replayed, and I felt my face go red, and that I
was being watched, ‘cos (my team-mates) all knew what was coming … but I
had to stay focused because there was stuff I could learn from it, I had to try
and focus but it was so difficult … I felt crap, embarrassed … it would have
been hard to watch on my own let alone in front of my mates. I got a couple
of comment of some of the lads, but I wasn’t bothered … I know I’m better
than most of them, so I’m not fussed … my goalkeeping coach told me that I
needed to get used to seeing my mistakes, as “they will never put
compilations of your greatest saves on, so get used to it”. The embarrassment
is difficult, but I still want to see the video so I can improve, even if I would
prefer that it wasn’t happening to me. (P12).
Given the perceived limitations of team-focused VFB outlined by the players, it is not surprising that a number of players also felt that team-focused VFB was a less-than-effective development strategy for them at times. As one player stated: “In a group you lose something as an individual…you want to know how you can move forward, not necessarily the team… the group meetings only take you so far, for me” (P2).

The results indicated that the players also had mixed perceptions regarding the effectiveness of using video as a pre-match preparation strategy. When this approach was delivered in the right way, the impact was seen as very positive, and associated with positive emotions (‘a buzz’ (P7)), increased self-confidence and a psychological readiness to perform. When watching video with a music track, more than half of the players felt it led to an increase in arousal pre-match. The following quote articulates one player’s response to the coach’s use of video as a motivational tool before a youth cup game during the previous year:

I’ve only seen two and both have been amazing. We watched them before a youth cup game … it had everyone in it, our best play as a team, and an amazing soundtrack, Jay-Z I think, the room was bouncing. It was a home game, so we went straight out onto the pitch to warm up, and started really well. There was such a buzz. We watched it again a few weeks later for the next game, and it was good again, but not quite the same … we were playing away and got on the bus after the video and an hour later were still on the bus. I think it was too early and we were a bit flat by the warm up … not sure how the others felt but it really worked for me, I felt like I could take on the world. I still have a copy somewhere; it gives me goose bumps if I watch it (P12).

For other players, the pre-match preparation video was “hit and miss” (C9), and maybe an unnecessary addition to their pre-match preparation routine, as they felt that they were already capable of preparing themselves psychologically without
it. Others suggested that the impact of such strategies was ineffective with in a team situation, due to the difficulty of trying to tap into a collective mood in a group of diverse personalities. As one player stated:

Sometimes I don’t need it … I can’t get myself going regardless after the [pre-match] tape ... other times I think it’s got me too wired, too hot under the collar, and I’ve gone off like a headless chicken … it seemed to work for everyone during one of the youth cup games though, but I guess we were already pumped up for that one … I’d love my own personal [pre-match tape] to watch on [my] laptop with my tunes on it (P8).
The benefits of working on a one-to-one basis with the coach was consistently highlighted by the players. One-to-one VFB work was associated with honesty, trust, an enhanced coach-athlete relationship, greater self-awareness,
improved levels of confidence, and less embarrassment. What made one-to-one VFB effective, for the players, was that it promoted a greater depth of self-reflection. This in turn was seen as leading to improved self-awareness. The following quote is one player’s account of how he believes one-to-one video meetings were instrumental in developing his confidence:

In one-to-one work you can be honest, you feel closer and more in tune with the coach face-to-face, and with each session I understand more what he expects from me, and what I am capable of. It really helped open me up a lot more and has given me confidence in my convictions. Now I am happier to input into the team meetings because I have spent time with the video understanding the game and myself better. It is important for me to leave the meeting with a feeling of respect, and a clear picture in your head of what you both think was the best action to do (P4).

One-to-one VFB was viewed positively by the players. More than half of the players felt that the interactions between them and the coach during one-to-one VFB helped provide them with either deeper level of reflection and to learn quicker than during team VFB. Several players also reported the benefits of recalling feedback from these private meetings in their preparation for games. One player stated: “You realize that he knows you better than you think, cos he shows you that you he understands your personality, your fears, and all that by being much more personal” (P10). The players also felt that their coaches’ delivery was better during one-to-one work than when working with the team as a whole, as the following quotes illustrates:

If he (the coach) doesn’t think that you have done what he was looking for, then you should go, one-to-one and have a deeper discussion with the video about that specific thing. You can both express your opinions in a one-to-one (setting). In team meetings, people are holding back because everyone is in there. ... [in one-to-one meetings] you still might not agree with his
comments but you feel you can at least say your piece one-to-one. All you have achieved is avoiding getting embarrassed in front of the lads … which is pointless if you are still a crap player at the end of the season, in my opinion (P10).

The players described the process of watching themselves performing well on video (known as positive self-review, a form of self-modeling) as one which they felt was beneficial. This process was associated with positive psychological outcomes - increased self-confidence, enjoyment and motivation, as one player sums up: “I love it (the video); it’s exhilarating when I am the player involved in great play. I love watching it and I can’t wait to go out on the pitch and do it again”. The confidence-building influence of self-modeling was captured in the sub-themes: Saw myself do it, so knew I could do it again; Viewing self-improvement builds confidence and Need to watch my good performances more often. In the following quote, the benefit of observing successful performance was not just linked to general self-confidence but also situational-specific self-confidence as well:

The analyst on an England [youth international] trip sent me an individual tape a few weeks after I got back to the club ... It had loads of examples on it, but I kept focusing on these two clips especially. The first was a turn which was OK, a bit scrappy but I got away with it, but in the next [clip] I absolutely nailed it. I kept watching the two clips over and over and over. I remember thinking every time the second clip played … “yeah, that’s it, that’s a great turn, that’s got me out of that trouble, I know that I can use that again”. I must have watched it 25 times, I’m not kidding. Like in a trance or something [laughs]. It made me feel so confident in solving that problem, like I had a trick or a skill that I knew I could use against anyone (P11).

The process of players reviewing video footage on their own, without the presence of the coach, was captured by the theme Self-observation. In contrast to the team or one-to-one focused VFB, self-observation was often unstructured,
impromptu and informally arranged by the player. It was a player-led strategy and usually took place away from the academy setting, using DVDs or MP3 video files played on their laptops, often in their rooms in the digs (accommodation) or in the video editing suite (when quiet). Self-observation was a process that many of the players found really beneficial. Their responses suggested that this was due to two factors: (i) it provided greater time for reflection than in team sessions, and (ii) it motivated them to improve for intrinsic reasons (self-improvement) rather than extrinsic reasons (coach-led goals). By reviewing his performance in this manner (alone), one player felt that it led to a gradual change in his confidence over the long-term:

You need to watch the negative straight after a performance so you can keep motivated to improve, but only on my own can I concentrate on it; in front of the lads I’m just looking to save face ... when you’re alone you can control what you watch…watching it made me realise that it was something I could do over and over, gave me belief in myself to perform that action. I have been doing this ever since it has become a source of confidence I can trust and return to when I’m feeling down or playing gash (P9).

Although competing within a team sport, earning a professional contract at the end of their academy experience was also a driving force behind their motivation to improve and find any advantage they can over their team-mates. For the player quoted below, self-observation could help him to develop the self-reliance he felt he needed to be successful as a senior footballer:

The best way I can contribute to the team is to become the best player I can possibly be. I’m happy to get involved in team debriefs to make us better as a team, but if my own game then suffers then that’s makes no sense. … I need time to focus on myself and look at my own game on video, and judge whether I am improving or not. I am 18 years old and shouldn’t need to rely on anyone else to tell me whether I have had a good game, or tell me what the
key moments in a game were when watching a video. I have to stand on my
own two feet, and not rely constantly on the coach, or our mates, or our
parents, or whoever to make me feel good about my performance … nobody
is gonna hold my hand in the first team, so I’m gonna do it myself (P5).

5.13 Dimension 3: Delivery climate

The final dimension captured the player’s perceptions of the environmental
factors, including the coaching behaviours underpinning delivery and the
psychological climate, which they perceived in delivery sessions. Within youth
football, the head coach and support staffs were identified by the players as
responsible at present for capturing, analysing and delivering the video information
within the academy. Thus, it is not surprising that their actions were also perceived
to have a significant influence over the environment surrounding the delivery
process. The themes capturing the social and environmental issues surrounding
practice are displayed in figure 1.6 and included Coach behaviour, Control of
learning, Role of psychological support staff, Goal setting and Coach education.
The players felt that the coach needed to adopt positive behaviours when
delivering the video. They associated this positive approach with enjoyment and
confidence, captured by sub-themes such as Confidence is high when coach is
positive and Enjoyable when coach positive. The players felt that if delivery was
conducted in the right mood, then delivery could be a source of bonding for the team.
By keeping the mood light and thoughts focused on enjoyment, this would help
mistake-conscious players to stay positive. As one player put it,
If one of the lads attempted to try something fancy or make daft mistakes
they were generally laughed at, or mocked by others in a friendly way if
we had won or played well. When we lost this didn’t happen as much, as the
player who made the error was left to stew on it … we need to keep it light at
that point or that player will spend too much time thinking about his mistake. That’s not good for you (P11).

Whilst the video was generally seen by the players as a learning tool which could be used to aid performance, more often than not the players felt that the coach used it too negatively, illustrated in sub-themes such as Fear of coach criticism inhibits learning, Lose focus expecting coach criticism, and Coach uses video to punish us. The negative use of video information by the coach was seen as a barrier to effective VFB practice. The following quote from a player illustrates how regular criticism gradually had the effect of inhibiting his levels of enjoyment and motivation to learn:

It got to the point where the players sit there, and [the coach] was giving his opinion on different clips, stopping them and picking poor play and mistakes…and players are thinking “He’s coming to me again, I know it’s me next, it is, oh no, he’s making me look a right idiot”… [the player] didn’t enjoy that feeling, so after a few sessions where it might actually have made them feel so bad enough that they wanted to do something about those mistakes, it became routine to get picked on, and they started to switch off. [the video] was fun at first, really helpful, like nothing we had had before, I was watching it in my spare time between training, but gradually it lost its meaning the more it was used to criticise us… [the players] eventually thought “Fuck it, he’s just trying to catch me out” … bit by bit the video sessions had less impact on them and we put up a wall, and pretended like we’re not even bothered … which probably wound the coach up even more, and he started getting more pissed off, and the meetings got more heated and less useful (P10).

A graphic illustration of the impact of this negative approach can be seen on one player’s thought processes following a poor performance, in the following quote:

I just thought, oh shit, [the coach] is going to just love making us see that pile of crap on video on Monday morning…[mimicking the coach using the
remote control] “pause, rant, pause, rant, pause, rant [laughs] … all that
terrible football captured 20 foot high on a big shiny [high definition] T.V
screen” (P11).

It was perceived that it was easier to be positive when a level of trust had
been developed between the players and coach:

When everyone is being positive and you feel that you can trust the other
players not to laugh at what you are saying, then you can get some good stuff
out of the meetings. If there is no trust, you don’t get involved ‘cos you
know someone is gonna take the piss out of you afterwards (P1).

Factors which were perceived as negative included the coaches’ intention to
embarrass them in front of their peers, and a number of players reported experiencing
anxiety in the lead up to team video sessions in anticipation of this criticism. Other players reported 'switching off' in response to what they saw as overly critical coach behaviours during video replay. For example, in the response to what he saw as consistent negative approach by the coach, one player made the conscious decision to participate less in future video sessions:

I started to offer less and less feedback in the meetings and communicate less to the coach because I didn’t feel as though I could ever be in the positive where I would be seen as right. You don’t want to say something against (the coach), in case he holds a grudge against you, and doesn’t pick you or you think you can’t hack it mentally … these things can mean the difference between getting a pro contract or not in the end. A lot of times you think that it’s probably best to keep your mouth shut during the video sessions and just get on with it, as when the manager has a point to make with the video his mind is made up and he isn’t looking for feedback, he’s just looking to cut you down (P7).

A few of the players also believed that at times the coach was deliberately using video in a negative manner, to “bring you down a peg or two … to stop you getting cocky” (P4). This use of video for punishment (e.g., the deliberate use of video feedback alongside negative feedback by the coach to bring about a negative response) was disliked by the players, and associated with a loss of motivation. The following quote provides an insight into being on the receiving end of this strategy as a player:

Our coach uses the video to try to make you feel stupid in front of everyone. It did work once or twice because you’re embarrassed and you want to go out and prove people wrong, but after a while the effect wore off, and you just felt shit. With the positive stuff, or stuff that gave me something to improve, you can take that, because you are motivated to learn, not motivated to avoid getting a bollocking (P6).
While perceived, at times, as a negative approach, it was acknowledged by other players that it could be effective at times, particularly when perceived to be fair (i.e., when the coach and player were in agreement over poor quality of players’ performance):

When you think about it, you don’t always remember what has happened and can’t recall it, but when you watch the video again and again, it becomes a lot clearer because it hits you emotionally. It’s exactly the same feeling you get as when you are in the game itself. Your reaction is exactly the same…you still feel angry or embarrassed or happy or confident when you watch the clip again as you did at the time in the game … it’s feels like you are on the screen doing the same thing as you remember doing in the game. I don’t get that feeling when I’ve talked about it, or written it down. Video is much more powerful, both positively and negatively, when it is you, doing what you do best, looking confident … you feel a million dollars at that moment (P7).

When discussing the delivery process, the players placed importance on the control the coach held within the coach-player relationship. A number of players also felt that their coaches had not provided them with enough input into the video work, epitomized by the theme Not in control of learning; Want more input over content and Want more control over video pre-match. The players readiness to take on more responsibility was typified in the following quote:

[the coach] can provide the depth of knowledge that I don’t have, and sees things from a very different perspective; he sees the present and what I need to do to graduate in the future. I provide a different view, more internal – about how it feels, and we discuss it in a meeting. If he says things, which I can understand when linked to the video, then I take these positives away and focus on them…but I definitely don’t take everything he says on board. I want to watch what I want to watch, and feel he skips over the bits that really make me tick. It’s all opinions in the end…I know exactly what the coach
The players felt that moving from a coach-led process to player-led process would help make the VFB work more effective. The player did not want to eliminate the coach from the video delivery process, but wanted the coach to place greater trust in them during video replay: “I’m not a kid, I feel like I know what I am looking for when I watch video … [the coach] thinks we are thick … what happens when we move up to the first team?” (P2).

Alongside the role of the coach, the role of the psychology practitioner was raised by the players. A few players felt a Sport Psychologist could be used to support the coach in delivering the video to the players. Another role outlined by the players for the Sport Psychologist could be as a support mechanism for the players, as seen in the sub-themes Sport psychologist can help me deal with video anxiety and Sport psychologist can improve pre-match videos. One player provided an example of work he had experienced:

I worked with a Sport Psych. on an England trip … he was helping the coach and the analyst put the motivational video together. I’m not sure what he added, but it was a good pre-match video, probably one of the better ones we’ve had on those trips, more motivational, with little messages added in … the ones we get usually are OK, but I end up bored by the end (P4).

However, another player had reservations over whether this would change his coaches’ behaviour: “Maybe if the psych could get him to see himself the way we see him, he might calm down … I doubt it though” (P12). The players suggested that if the coaches used the video as a reflective tool, then this may lead to positive changes in the delivery of VFB. The benefits, as the players saw them, in this reflection time are illustrated in the following quotes,
He goes mental at times [during the video sessions], shouting at us, telling us how crap we were, and how the video proves that were not gonna make it as professionals … it’s him, not us that needs to watch a video (P5).

I know [the coach] has played at the top level, so I guess he has earned the right to say what he likes to us, but if he could watch himself on video he would see what we see … Does he know he comes across? One session he will be ranting and raving at us, swearing, shouting, throwing his arms up in the air … then next [session] he is sat on the desk at the front [of the classroom] and we are having a quiet discussion man to man – I never know where I stand (P1).

What follows in Chapter six is an integrated discussion of these findings from coaches and players in relation to video-based practice.
CHAPTER SIX
6.1 Discussion

The purpose of this investigation was to explore youth football coaches’ and players’ perceptions of VFB delivery, in order to gain a better understanding of the perceived factors which impact on player development. The separate interview and content analysis process adopted in this study allowed for exploration of these shared themes from very different viewpoints, and clarification of how the coach and player experience this technology and its application. While a great deal of attention has been paid to the use of video as a performance tool for recording sports performance data in an ‘accurate’ and ‘reliable’ manner (Hughes & Franks 2004), little appreciation exists about how effectively technologies such as these are being used within football settings to impact on player learning (Mackenzie & Cushion, 2013; Carling et al., 2008). Delivery appeared to involve a complex interplay between the player, coach and context during delivery. Specifically, the delivery process was perceived to be influenced by three main features: the psychological processes of the players, the strategies the coach employed, and the perceptions of the climate the coach created during delivery.

A number of the factors were consistent with Groom and colleagues’ (2011) grounded model of video-based performance analysis delivery within youth football. In line with this research, delivery was seen as a multi-layered process, and far from straightforward and objective a process as originally believed (Cassidy et al., 2004). The results reinforce the complex nature of relationships within elite sport settings (Coleman & Byrd, 2003), and the role of factors such as trust and power in the video delivery process (Groom et al.). The results from the present investigation also differed from recent qualitative explorations of video delivery in football, in that
alongside the social interactions which occurred within the delivery environment, a
greater emphasis was placed on the psychological processes which were engaged
during delivery. New perspectives were also raised, such as the link between video-
based practice and mental toughness, and the players’ desire for greater control over
learning. In particular, the players and coaches saw video as an important
development tool for preparing players mentally for the transition from academy-to-
first team senior football (Finn & McKenna, 2010; Green, 2009; Roderick, 2006).
Furthermore, in the present study, strategies which developed the players’ ability to
self-reflect effectively away from the coach were highly valued by both the coaches
and players, and the role of psychological processes were identified as a playing a
central role in facilitating this learning. To maximise the psychological impact of
video-based practice in youth football, greater emphasis may need to be placed on
strategies, activities and skills which help encourage the player to work with
confidence independently from the coach. While a number of these factors were
evidently determinants of, or responses to the strategies delivered or the climate
created, other recurrent data themes were not so clearly delineated; often seeming to
play a role as both mediator and outcome within delivery.

Whilst recent studies within sport have explored the coach (e.g., Groom et al.,
2011) or athlete (e.g., Nelson et al., 2011) perspectives separately, this investigation
addressed a gap within video research in sport by exploring the athlete perspective
alongside that of the coach within an applied setting, allowing for an exploration of
the similarities and differences in the way the players and coaches perceived the
video delivery process. These factors are illustrated in Figure 1.07 (below). For
example, the coaches and players both identified a number of psychological factors
which were central to video-based practice, such as self-confidence, thoughts,
emotions and mental toughness. However, the coaches raised self-esteem as a potential influence on how the players responded to video-based practice, whereas the players did not. While there were phenomenological differences in the way the coaches and players viewed the different strategies for delivering video information, they agreed on the main strategies which were primarily employed within youth football. Interestingly, it was in the perception of the delivery climate where the most distinctive differences could be seen. Possibly reflecting their role as the ‘deliverer’ within video-based practice, the coaches identified a greater number of factors they felt influenced the climate surrounding video-based practice. These included spending more time tailoring the delivery to different player’s needs, the importance of understanding players’ psychological responses to video-based practice, and the role of peer communication during delivery. The players were instead more focused on gaining greater control of the video delivery process. There were a number of shared perceptions also, including the impact of the coach behaviours in video-based practice, and the value of coach education.
**Research Question**

What factors are perceived by players and coaches to have greatest influence on the effectiveness of video practice within youth football?

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**General Dimensions**

- **Psychological processes engaged during delivery**
  - Self-confidence
  - Self-esteem
  - Thoughts
  - Emotions
  - Visualisation / Imagery
  - Focus
  - Goals
  - Mental toughness

- **Delivery strategies**
  - Team focus
  - Pre-match preparation
  - One-to-one focus
  - Positive self-review (VSM)
  - Self-observation (VSM)

- **Delivery philosophy & climate**
  - Coaching philosophy
  - Support staff role
  - Psychological understanding
  - Learning needs of player
  - Control of learning
  - Coach education
  - Peer-to-peer evaluation
  - Role of Psychology support staff

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**Key**

- PLAYER
- COACH
- PLAYER & COACH

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2 *Figure 1.07* Visual Illustration of coaches’ and players’ perceptions of the factors influencing video-based practice in professional youth football.
By exploring how these factors impacted on practice, it is possible to draw some practical and future research-based recommendations from the outcomes of this study. In the remainder of this Chapter, the perceptions of the coach and player will be explored within these three areas of delivery, to understand where their perceptions were congruent or divergent. This discussion begins with the psychological processes engaged by the player during delivery.

6.1 Psychological Processes

Video was highly valued by the players and coaches and perceived to have a potentially powerful psychological effect on the players during delivery. For example, the players highlighted that the psychological responses they experienced during observation were very similar to the ones which were experienced in competitive matches. The coaches and players saw the engagement of these psychological processes as a fundamental part of maximising its effectiveness. In line with previous research in this area, self-confidence, emotions, thought processes and motivation were consistently identified as factors which influenced the way the players interpreted and responded to the video information (Ram & McCullagh, 2003; Darden, 1999; Groom & Cushion, 2005). Self-confidence, in particular, appeared to play a role as both mediator and outcome within delivery, and was consistently raised in this study. The findings contribute to a growing body of research pertaining to the role psychological factors play in relationship between video interventions and performance within sport (e.g., Dowrick, 1999; Groom & Cushion; Ives et al., 2002; Law & Ste-Marie, 2005; Ram & McCullagh, 2003).

While many of the factors raised in this study have been explored before in video research, new factors were also captured, such as mental toughness. Further,
no study has previously brought the perspectives of the coaches and players together
nor explored these factors in such depth. The coaches and players both saw video as
a process which could be employed to help prepare athletes for more challenging
times ahead. While mental toughness qualities have been examined within the Sport
Psychology literature (e.g., Connaughton, Wadey, Hanton, & Jones, 2008). Clough et
al., 2002), the role of video feedback processes as a medium for this has not been
explored. The coaches, in particular, saw mental toughness qualities - such as being
able to quickly accept criticism and being able to move beyond emotional responses
and engage in self-reflection - as a central skill within video-based practice.
Paradoxically, the data illustrated how coaches saw mental toughness both as a pre-
requisite quality for video feedback sessions as well as a psychological attribute (i.e.,
outcome) that would develop from video-based practice. However, the perceptions of
the players in this study, discussed later in this Chapter, suggest that the manner in
which the coaches used video in an attempt to develop such qualities was not always
effective.

Self-reflection is another psychological process which has been associated
with mental toughness (Clough et al., 2010), and this factor was present at different
stages of the data. In some ways, developing players who were capable of reflecting
independently from the coach was seen as the ultimate goal of video-based practice
by the coaches, and was also highly valued by the players. It has long been
established that, for athletes to grow in their sport, it is necessary for them to become
reflective performers (Badami, Vaez Mousavi, Wulf, & Namazizadeh, 2011). The
importance of self-reflection has also been reported before within video-based
practice (e.g., Groom & Cushion, 2005; Hammond, 2004). It has been argued that
the mastery of complex motor skills requires that individuals take control of their
learning process – that is, they need to self-regulate their learning (Zimmerman & Kitsantas, 1997).

Self-regulation has also been identified as an important psychological process associated with players who are able to successfully cope with the transition between youth and senior football (Toering, Elferink-Gemser, Jordet, & Visscher, 2009), a major development goal of video-based practice for the coaches in this study. However, the coaches interviewed for this study indicated that they had doubts regarding whether the players were able to learn effectively away from the coach. An examination of the players’ responses suggests that this perception may be accurate. A number of players indicated that they weren’t able to actually control when and how they would recall a negative image they had previously seen in a video session. Of interest also is that all the players who discussed this theme used the term visualization rather than imagery (which the coaches used) to describe this psychological skill. Vealey and Greenleaf (2001) have argued that there are significant conceptual differences between visualization and imagery processes, suggesting that using ‘visualization’ implies modality (i.e., that the images are visual in nature, (e.g., ‘seeing’ yourself do something), whilst imagery, can (and should) involve all the senses (i.e., seeing, feeling, touching, hearing, and tasting) and requires more comprehensive education and training. Whilst this may simply be a more familiar term which athletes use for imagery, the issues with control of the visual image may reflect limitations in their exposure to psychological skills training. Given that psychological skills such as imagery and self-regulation may help optimize the impact of video technologies (Shearer et al., 2010; Tracey, 2011), it seems valid to question whether coaches and practitioners have gone far enough in providing athletes with the resources or strategies necessary to process the
information provided to them by video in a positive and productive manner. Although under-reported within sport, understanding the relationship between psychological skill use and video feedback may hold significant relevance for practitioners working with video in applied settings.

While the players and coaches were unified in identifying which psychological processes were central to video-based practice, accurately targeting these psychological outcomes in video-based practice was seen as more challenging. Two coaches’ also revealed their concerns regarding the difficulty of reading the players psychological responses to video; the unknown psychological impact of video-based practice. In parallel with previous studies in football (Pensgaard & Duda, 2002), the coaches’ also expressed concern about what they saw as the difficulty of controlling the psychological impact of these team pre-match video strategies. With up to 15-20 players potentially involved in the team debrief, the coach may face considerable difficulty gaining an insight into each of the players’ responses. The interviews with the players suggested that the coaches concerns were justified, with a number of players reporting that they managed the impression they gave to the coaches during video-based practice.

6.12 Delivery Strategies

The term delivery strategy was used in this study to describe the approach taken to delivering the video to the players. Interesting insights were gained into the delivery of these strategies. For example, team-focused VFB was seen as the primary strategy for delivering feedback from performance following a game, enabling players and coaches to accurately review performance in training and competition (Groom & Cushion, 2005; Guadagnoli et al., 2002). Benefits of team-focused
approaches were highlighted also, including a greater degree of objectivity to the reflection process (e.g., Partridge & Franks, 1993), and developing team functioning, such as team cohesion and communication (Court, 2004; Pain & Harwood, 2007). The players indicated, however, that they often felt embarrassed and experienced anxiety during these team debriefs. This was mainly in response to seeing themselves make mistakes on the video in front of their peers in team-focus delivery. It could be concluded that observing oneself on video may not actually be as positive as believed, particularly if the observer focuses on the negative aspects of their appearance or performance (Ram & McCullagh, 2003) or if they have a less-than-positive perception of themselves (Rodebaugh & Rapee, 2005). Research in sport psychology has shown that athletes are often concerned with the impressions they make on others (Mesagno, Harvey, & Janelle, 2011; Prapavessis, Grove, & Eklund, 2004). This concern regarding how individuals are being perceived by significant others and the associated attempts to monitor, shape, and influence such perceptions is known as self-presentation or impression management (Leary, 1992). These concerns seemed to have implications for practice in team sessions, with players suggesting that the negative emotions they experienced adversely affected their level of engagement (focus, communication, motivation) during video delivery. The finding indicates that coaches need to be mindful of the impact of such responses on player learning and well-being.

With a number of question marks raised over the efficacy of these team-focused VFB approaches, there may be a need to explore other approaches. The players and coaches were very positive regarding the benefits of ‘individual-focused’ strategies, i.e. strategies where the player was using video on their own, or in a one-to-one situation with the coach. Focused on individual players, strategies such as
one-to-one VFB and video self-modeling, were seen to increase the amount of time
players spend watching their own performance on video, and were associated with
positive outcomes such as self-confidence, intrinsic motivation and improved coach-
player relationships. It also follows that as model-observer similarity is maximised
(i.e., using the self as the basis for performance improvement), such video work may
be highly effective, as important psychological processes such as self-confidence,
attention and motivation are engaged (Bandura, 1997; Weiss, McCullagh, Smith, &
Berlant, 1998). These approaches were not viewed, however, as a replacement for
team-focused work per se, but as complementary strategies, targeting different
outcomes. The benefit of adopting athlete-centred strategies – which involved the
athlete more directly in the learning process – have been reported previously within
sport research (e.g., guided discovery learning - Mosston & Ashworth, 1994);
Research has suggested that when athletes adopt a passive role during VFB,
they begin to feel less control over the learning process, and video feedback is less
effective (Jambor & Weeks, 1995). By providing individual football players
opportunities to review their performance away from the rest of the team - e.g., in a
meeting with the coach, or on their own via a portable ‘take-home’ video - the
coaches may encourage greater buy-in to the learning process. Kidman, Hadfield
and Chu (2000) suggested that an empowering approach to coaching enhances player
motivation, self-awareness and self-responsibility. For one coach, this was the logical
next step for player preparation within youth football:

We need to re-invent the format a little. Give [the players] the footage to take
away … guide them on the area you might want to discuss with them the next
day but let them choose how much they want to watch, where they watch it,
who they watch it with. I know this is something a lot of coaches would
struggle with, but let them lead the discussion. If you tell them what to think,
you just get one of those nodding dogs from the T.V. commercial… “ohhhhh,
yes; ohhhhh, no”. How are they going to cope on the pitch if you keep telling them how to respond? We need to expect more of them (C10).

Self-modeling was another process identified in the interviews as beneficial for player development. By watching themselves performing successfully within a game or training scenarios (as a self-model), the player is able to re-visit the athletic experience, and build confidence. With the coaches and players both placing great importance on video being perceived as a positive strategy, it could be argued that positive self-review – a form of self-modeling, which focuses on only adaptive behaviours (Dowrick, 1999) - may be a particularly effective strategy within video-based practice. The power of the self-modeling video may lie in its relationship with imagery or visualization. In line with the applied model of imagery (Paivio, 1985), the players associated ‘visualizing’ past performance success with increased levels of confidence (Callow, Hardy, & Hall, 2001; Nordin & Cumming, 2005) and positive emotions prior to performance (Jones, 2003).

While self-modeling techniques may be a valuable strategy for player development within youth football, player and coach experiences of using video feedback in this study suggested that video self-modeling and video self-observation were not frequently employed as techniques for performance enhancement. There may be a number of reasons for their underuse in this sample. One explanation is a lack of awareness regarding what they are or what they do. Researchers have argued that video modeling remains an overlooked psychological technique in sport due to being misunderstood by many sports coaches and practitioners to date (Ste-Marie et al., 2011; Martini, 2011; McCullagh & Weiss, 2001). A second explanation is that practitioners may consider the time and effort that it takes to assemble these self-modeling videos as too high to replicate on a consistent basis (Ste-Marie et al.; Ives
et al., 2002). With a significant amount of time spent supporting athletes in training and on the road travelling to and from competition in elite sport, opportunities to invest the energy into preparing such a strategy may, at times, seem impractical (Halliwell, 1990).

In concluding this theme, the results of this study suggest that coaches and practitioners may need to consider employing player-led strategies to impact on player learning, regardless of the perceived barriers. With positive psychological outcomes perceived to be associated with its application, there is potential value in exploring the impact of delivering video as a self-modeling pre-competition strategy to youth players. Given that improved emotions / mood was an oft-cited consequence of watching video prior to performance, and that emotional profiles fluctuate considerably in the time leading up to competition (Hanton, Thomas, Maynard, 2004), manipulating the video in the lead-up to competition may be an important strategy for helping the player to regulate their ideal performance state. The difficulty of controlling the emotional impact of video work in teams was also apparent when players were discussing the use of video as a pre-match motivational tool.

6.13 Delivery Climate

The delivery climate was a dimension that captured the environmental, social and contextual factors associated with creating effective video-based learning. In line with recent pedagogical research on this subject, the coach, and the coaching behaviours underpinning this climate was seen as a central factor influencing the impact of video-based practice in youth football (Groom et al., 2011; Nelson et al., 2011; Potrac et al., 2006). In line with Groom and colleagues’ grounded theory of
video-based practice, these contextual factors inherent in the delivery process were
seen to frame the delivery process in a given scenario, and were seen as capable of
influencing all aspects of the delivery process. Generally, more than half of the
coaches felt that to optimize video delivery in youth football, video needed to be
perceived as a positive or supportive strategy by the players. The players’ responses
seem to support this perception. When the players perceived their coach's
behaviours as positive, informative, and supportive, they associated this with greater
engagement in the learning process, and positive psychological responses, such as
positive emotions, confidence, self-reflection and self-directed learning. When the
climate surrounding video was negatively perceived by the players, negative
psychological responses, such as anxiety, embarrassment, guilt, negative thinking,
loss of motivation, loss of self-confidence, and loss of focus were reported.

The issue of control over the learning process was raised by the players. The
benefits of providing the athlete with greater choice and control over their own
delivery is a concept which has been promoted elsewhere within coaching practice
(Kidman, Thorpe, Jones, & Lewis, 2001; Kidman, Hadfield, & Chu, 2000). Peer
communication was seen by the coaches as an activity through which coaches could
develop players’ confidence in their reflection and communication within video-
based practice. Intuitively, there would appear to be benefits of coaches using this
approach, such as improved social interaction in sessions, confidence in
communication skills, and, ultimately athletes taking a greater level of ownership for
the solutions generated. Nelson and colleagues (2011) suggested that athletes may
respond favourably to sessions where the coach actively encourages the athlete to
participate in the sessions (i.e., by asking questions, sharing opinions). While the
players believed they were ready for greater responsibility, there was a shared
perception amongst the coaching group that many of players they worked with didn’t currently possess the qualities needed to use with the video independently from the coach to enhance their performance. Although a number of the coaches supported the idea of their players being more engaged during video delivery; the players’ responses suggest that in reality, the coaches were not supporting this.

Recent research has highlighted how openness and honesty from athletes receiving post-performance debriefing was constrained by the perceived power of the coach (McArdle et al., 2010). Similarly, Groom, Cushion, & Nelson (2012) highlighted how substantive discrepancies in experience, technical knowledge, and rights to express knowledge restricted the players’ interactions with the coach in their study within youth football. These authors and others argue that this asymmetrical power balance within practice may result in unintended consequences (i.e., loss of respect, athlete resistance, non-learning – e.g., Nelson et al., 2011).

Alongside this power imbalance, concerns over being judged by their team-mates – highlighted earlier – also mean that players may be reluctant to give and receive critical feedback during video sessions. The full-time academy environment usually consists of a group of adolescent males living away from home together, training and playing together day in day out, and often developing close friendships (Coleman & Byrd, 2003). Unless the players felt they were in a supportive climate and had become comfortable in offering feedback to other players, they may be unlikely to risk losing acceptance amongst their peers (Ommundsen, Roberts, Lemyre, & Miller, 2005). With this context in mind, it is easy to understand this unwillingness to criticize peers openly.

The perceptions of the players and coaches regarding the role of mental toughness offer insight into the autocratic coaching behaviours reported in this study.
While both the coaches and players made the link between video-based practice and the players’ ability to cope psychologically with pressure, the coaches, in particular, viewed the video work as a process of preparing players to cope with the transition between academy and senior football. Thus, a number of the coaches revealed that they were reluctant to be overly positive and supportive within video work, as they felt it would soften the players and prepare them inappropriately for the harsh realities of senior professional football. The reluctance to be overly positive in their feedback may be linked to the perception held by a number of coaches regarding the current level of players’ psychological skills, as discussed earlier.

In their study within football, Groom et al., (2012) reported that coaches often used negative past performances as a form of punishment for poor performance (hard power tactic). In their study, these negative images of poor performance were used by the coach to reassert his authority over the group to ‘soften the players up’ for future influence attempts (Raven 1992, 1993). However, in this study the players felt that their best learning experiences took place when a positive, supportive delivery climate was presented by the coach and least when the climate was perceived as negative and critical. The perception of the delivery climate seemed to have a significant impact on one factor in particular: motivation. In sport psychology, motivation represents the force that determines whether a person starts and commits themselves to a specific activity, as well as the effort invested in it. The results of the present study, however, suggest that the players often lost motivation to invest in video learning in response their perception of coach or teammate behaviour. In order to provide insight into the interactions which appear to be occurring within video meetings, the principles of Achievement Goal theory (Nicholls, 1984) may be relevant. Achievement goal theory addresses the environmental factors that foster
task involvement (i.e., a motivational focus on learning and improvement) or ego involvement (i.e., a focus on normative comparison and ability). Chief among these factors is the motivational climate produced by significant adults. To obtain the most valuable experience for athletes, coaches are advised to create a task-involving motivational climate that encourages athletes to focus on their own personal development (McArdle & Duda, 2002). In contrast, an ego-involving climate (Newton, Duda, & Yin, 2000) occurs when the coach promotes intra-team rivalries favours the most talented players, and punishes players for making mistakes. Given that coaches need to ensure that players are appropriately motivated and positively perceiving video feedback in order to benefit from video work (Dowrick, 1999), it seems crucial for coaches to carefully consider the messages they are sending to players during delivery. Coaches can benefit from putting together activities within video-based practice which motivate players to take responsibility for their learning.

Working with a practitioner with expertise in psychology, such as a Sport Psychologist, might also help the coaches and analysts to maximise the impact of video delivery within sport (Ives et al., 2002). The psychology professional was identified by the players and coaches as a support role which could help optimize video-based practice (i) through the training and delivering of psychological strategies, such as communication skills and imagery and (ii) by helping the coaches and other practitioners understand and target specific psychological outcomes of the video work. For one coach, this was a role currently unfulfilled and required:

That’s where the psychologist comes in; looking at individual responses, educating the coach, fine tuning the analysts work. Without integrating the work of the analyst and coach with the expertise of the psychologist on a daily basis, then we may still be thinking we are having this big impact, when in fact we are clueless (C5)
The present study also suggests that the coach-practitioner relationship is one which plays an important role in shaping the delivery climate surrounding video. Recent calls for the involvement of psychological professionals within video-based practice (Ives et al., 2002) seem justified, yet this relationship has received little empirical attention in sport. There is scant knowledge about the practical and philosophical factors which influence the delivery process from the perspective of the practitioner. Future studies may consider employing qualitative methods to explore the relational perceptions of coaches, support staff and players about the delivery process from within a single setting (e.g., international team or club). There is clearly value in examining how the perceptions of coach delivery evolve over time within applied environments, and the impact of these changes on the coach-athlete relationship, and other relationships within the goal of achieving effective video-based practice.

6.14 Strengths and Limitations of the Study

Before drawing upon some final conclusions to this study, there are several noteworthy strengths and also limitations that must be acknowledged. Firstly, the decision to investigate coach and player perspectives was justified by the rich data captured in the interviews. In-depth insights of the two main participants within the video delivery context provided complete and contrasting pictures of the delivery process. Although many equivalent higher order themes were captured for both coaches and players, participants shared both similar and different viewpoints and experiences within the same theme. Gaining subjective accounts of multiple perspectives has been argued to enhance the scientific rigour of the study (Jones, Hanton & Connaughton, 2007), by guarding against the potential ‘rosy glow’ and
self-presentational interpretations that can contaminate retrospective accounts taken
from one perspective alone. A related strength of the study was that all participants
were able to reflect on their relatively recent experiences and knowledge of video-
based practice from exactly the same phase of professional development in youth
soccer. The sample was also purposely selected from across different clubs and
teams, as opposed to the same club, in an attempt to optimize transferability with
respect to our initial understanding of the video delivery process in elite youth
soccer. The diversity of sources could be seen as an advantage of this research, as
they greatly reduced the likelihood of overlooking factors in the overall environment.
The sampling strategy adopted and the use of thick description also helped enhance
the credibility and transferability of the findings. However, the inability to collect
dyadic data that linked the specific experiences of coach and players in the same
team is a methodological limitation that may be rectified by further studies given the
knowledge created here. Such an investigation, alongside observations of VFB
delivery by the coach, would allow researchers to examine how individual players
may experience and interpret VFB differently from the same coach, and to unpick
the relevant underpinning social psychological mechanisms. The current study is also
limited to one phase in youth soccer and, as rightly noted by coaches in this
investigation, it would be interesting for future research to target younger age groups
to determine how to best deliver video feedback effectively for that specific stage of
development. Finally, it is important to acknowledge that the honesty of the players
and coaches’ responses could be questioned due to the involvement in the study of
their employers, The Football Association and the Professional Academies.
However, the findings indicate that this is not the case, with similar themes emerging
during the analysis.
6.15 Conclusions

The aim of this two-part investigation was to explore the perceptions of the key stakeholders in the video delivery context and to identify the key factors underpinning video-based practice as a learning tool in elite youth football. Whilst there were numerous areas of congruence vis-à-vis coach and player perceptions, there was also significant divergence concerning the way that coaches and players felt video should be delivered to gain maximum benefit for development. Players identified the disruptive influence of anxiety in response to dominant coach behaviours and public viewing in front of team-mates, whilst a section of the coaching group saw these approaches as necessary for developing players’ coping skills and mental toughness. If such concerns remain unresolved, it is possible to see how a gap could develop within applied practice between the intended outcomes of video use and the reality of delivery at ground level; or more specifically, between the coach (as the ‘deliverer’) and the player (as the ‘receiver’).

Beyond the delivery climate, the present study also revealed how certain delivery strategies appeared to be associated with a range of positive and negative psychological processes and outcomes for players. Specifically, the findings highlight the importance of delivering individual-focused strategies such as self-modeling away from a sole reliance on team-based VFB delivery. Greater player-centredness and control was valued by players with their accounts suggesting how this may help them to tap into key psychological variables such as self-efficacy, motivation and positive affect. Although there are studies which have supported the efficacy of self-modeling within sport psychology (e.g., Starek & McCullagh, 1999), there is a need to further examine the potential of this technique in conjunction with the enhanced knowledge that has been gained from this qualitative investigation.
This thesis will therefore progress by applying these insights to further refine our understanding of what is effective video-based practice in elite youth football.
CHAPTER SEVEN
7.1 Study Two: Examining the Impact of a VSM Intervention on the Performance and Psychological Responses of Elite Youth Football Players.

Study two, presented in Chapters seven and eight, will focus on examining the impact of a pre-match video intervention on young football players’ performance. The results of study one highlighted the potential of using video self-modeling (VSM) for performance enhancement in elite sport settings through the engagement of psychological processes following viewing. Specifically, pre-performance video delivered as close to performance as possible, was seen by the players as capable of generating strong positive responses when effectively delivered before matches. Researchers have recognized that observational learning (of which self-modeling is a form) can have a positive effect on psychological responses. The psychological responses experienced following VFB, such as the motivation to change behaviour, self-confidence and coping strategies, are in turn thought to influence physical performance in sport (Starek & McCullagh, 1999; Dowrick, 1999). However, despite the potential benefit of using self-models, articulated in sport-related articles targeting performance enhancement as the focus (e.g., Bertram et al., 2004; Forzoni, 2006; Ives et al., 2002; McGinnis, 2000), few empirical studies have looked to understand its impact within football.

Ives and colleagues (2002) recognised the opportunities for coaches and practitioners to use self-modeling strategies as a performance-enhancement tool in various contexts and posed the question ‘Under what circumstances can video be used in sport psychology?’ (p. 238). Dowrick (1999) highlighted six key features of
self-modeling with regard to personal learning and efficacy: (1) clarifying
performance goals and outcomes, (2) demonstrating a positive self-image of
performance, (3) reminding of previous performance competence, (4) repeated
observation of competent performance, (5) observation of one’s skills applied to a
new setting, (6) anxiety free performance or successful performance outcome. The
lack of VSM intervention research in competitive sport has led some leading
researchers in this area to contend that modeling is an overlooked psychological
technique for performance enhancement in elite sport (McCullagh & Weiss, 2001;
Ste-Marie et al., 2011). Given these arguments, this study will look to improve our
current understanding of the use of self-observation, through exploring how football
players may benefit from using VSM videos in a competitive setting. In the
remainder of this Chapter, a brief review of the applied intervention literature within
sport is discussed, followed by the methods adopted in this study. To begin, a brief
introduction to self-modeling is provided.

7.11 Video Self-modeling

Video self-modeling (VSM) is a form of observational learning with the
distinction that the observed and the observer, object, and subject, are the same
person. In his Social Cognitive Theory, Bandura (1986, 1997) posited that
observation of the self – referred to as modeling and/or observation - was one of the
strongest mechanisms people can use to transmit behaviours, attitudes and values.
Bandura described this as a triadic reciprocal relationship between the person,
behaviour and environment in relation to the observed model. The observed
information is processed at the level of the person, affecting one’s cognitive
processes and/or affective states, which ultimately shape one’s future actions.
Dowrick (1999) identified two forms of self-as-a-model interventions, termed self-modeling and self-observation. According to Dowrick, self-observation refers to viewing oneself on video with no changes to the content of the video (termed SO-VSM). In contrast, in the self-modeling video the content is edited to show only adaptive behaviour, and can be delivered as a feed-forward (termed FF-VSM) or as a feedback method, known as positive self-review (termed PSR-VM). According to self-modeling theory, the central underlying principle of all self-models is improvement (Dowrick, 1991), thus if the player perceives that they are not improving on the task at hand, they may believe they are not actually capable of improving.

The majority of VSM research originates from Bandura's (1986, 1997) belief that observational learning is a major source of self-efficacy. Bandura proposed that modeling interventions can provide the two strongest sources of self-efficacy to the observer: a mastery experience (i.e., seeing one’s best past performance) and a vicarious experience (i.e., seeing a person similar to oneself succeed at a given behaviour). Mastery experiences refer to actual information a person has about their ability to execute a particular behaviour gathered from their prior experience with that task. With respect to vicarious experiences, Bandura (1986) noted that the closer the perceived similarity between the individual and the model, the greater the influence of the model on behaviour. Hence, with model-observer similarity maximised in self-models, it is possible to understand why employing self-models has received much support as a coaching or psychological technique for the acquisition and performance of sport skills (Ste-Marie et al., 2012). Given the psychological benefits associated with self-model use in sport, it is logical to assume that football players’ would benefit from watching video of themselves successfully.
on the pitch. In particular, given the role of self-efficacy in self-modeling it could be argued that this position-specific information is required in order to improve individual players’ performance within a complex team sport such as football (Thelwell, Greenlees, & Weston, 2006). Interventions that enhance athletes’ efficacy beliefs, motivation and affect prior to competition are of value, and it is argued that a self-modeling videotape has the capacity to do this in football. In building a rationale for the present study it is important to pay particular attention to interventions that have used self-modeling techniques to enhance performance and psychological variables in competitive settings.

7.12 Review of Relevant Literature

While the logic that learners will perform better in football matches due to higher levels of self-efficacy obtained from viewing a successful performance corresponds well with Social Cognitive Theory, research on the effects of self-modeling within the sporting domain has revealed equivocal results to date (see review of VSM intervention studies provided in Appendix D). No significant improvements in skill acquisition were revealed within figure skating (Law & Ste-Marie, 2005), balance beam (Winfrey & Weeks, 1993), and volleyball (Ram & McCullagh, 2003); unlike the significant improvements revealed within swimming (Clark & Ste-Marie, 2007; Starek & McCullagh, 1999) and trampolining (Ste-Marie et al., 2011). Whilst much of this research was conducted within skill acquisition, the overall picture runs contrary to the expectations from previous research in the physical domain that positive VSM contributes to increases in performance (Bradley, 1993; Starek & McCullagh, 1999) and does not always support the theoretical hypotheses presented by Bandura (1986, 1997). However, the mixed results have
also been mainly linked to weak experimental designs (Dowrick, 1999). Researchers aiming to use the VSM intervention have been encouraged to try and address methodological limitations - such as a lack of experimental rigour, a short intervention period and inappropriate measures of performance and psychological outcomes - in order to combat the weaknesses inherent in a number of the self-modeling studies to date (Dowrick, 1999; Ram & McCullagh, 2003; Ste-Marie et al., 2012). Previous self-modeling studies in sport have also highlighted the importance of maintaining a longer intervention period, of updating the video models with new performance information, ensuring that the model was positively perceived by the players, and maximising motivation to improve on the performance areas selected prior to study (Baudry, Leroy, & Chollet, 2006; Ram & McCullagh, 2003). These mixed findings have also led researchers to encourage VSM researchers to account for why self-modeling works for some athletes but not for others (Martini, Rymal, & Ste-Marie, 2011). All of these aforementioned methodological factors serve as important reminders for how to craft an improved VSM intervention design for the current study.

Cumming, Clark, Ste-Marie, McCullagh, and Hall (2005) showed that athletes use observation for three functions: (a) skill function, which aids in motor acquisition and execution (b) strategy function, which assists with developing and executing strategies; and (c) performance function, that can help one attain an optimal performance state. The vast majority of scientific research into the effectiveness of video interventions has been conducted away from the elite sport environment, focusing mainly on skill acquisition (skill function). A recent review by Ste-Marie et al., (2012) within the motor domain revealed that over 90% of the observation literature has taken place within a training setting (i.e., laboratory, sport
club, and physical education setting). Less than 5% have occurred in a rehabilitation context, and even fewer studies exist in competitive sport settings. Furthermore, Ste-Marie and colleagues also point out that the majority of observational learning studies have focused on motor outcomes, and much less research has examined the effects on cognitions and affect. Given the focus on performance-enhancement within the later stages of the player performer pathway in youth football, this study is focused on understanding how football players may use self-models in competitive setting (e.g. league fixtures) rather than during training.

7.12.1 Observation use in sport. Little is known about the impact of observational learning techniques with elite athletes beyond positive applied reports (e.g., Forzoni, 2006). In an attempt to capture the complexity of creating an optimal observation intervention, Ste-Marie et al., (2012) presented an applied model of observation use in sport (Figure 2.00, below). They proposed a 5W (who, what, where, when, why) and 1H (how) structure for practitioners to consider when implementing observation interventions. At the forefront of this applied model are the moderating variables (observer and task characteristics) which are acknowledged as moderating the effectiveness of specific intervention characteristics at improving the intended motor, cognitive and/or affective outcomes. Upon acquiring a full appreciation of these four components (observer, task, where, and why), the second level of the model outlines the four further characteristics of the applied model (Who, What, When, and How), and the attainable outcomes of the model intervention. Ste-Marie and colleagues (2012) show that certain characteristics of these video modeling interventions can be successfully manipulated in order to enhance mastery and the vicarious experiences provided to the observer. The intervention needs to be adjusted to account for the specific scenario, including the age, development level
and stage of learning of the player, and the characteristics of the task. Using the football setting as an example, the video images of the players (who) performing the modeled behaviours in matches (where) could be edited and presented to the players’ prior to performance (when). The football player may use this information to prepare strategies for their performance (why), thus enhancing his confidence (what) prior to performance.

Despite the potential to manipulate these modeling interventions to target performance outcomes, few researchers have explored their impact in elite settings. In a professional reflections article reflecting on his experiences working with ice hockey players in a competitive setting, Halliwell (1990) reported a positive impact of peak performance music videos in improving the confidence and performance of
players returning from injury or experiencing performance slumps (especially when supplemented with visualization techniques). The impact of using video to build the confidence of players returning from injury has also been reported elsewhere (Dowrick, 1999, 2012; Feltz, Short, & Sullivan, 2008). The use of video as a psychological strategy has reinforced the benefits of using allied psychological techniques such as imagery (Holmes & Collins, 2001), and music (Bishop, Karageorghis, & Loizou, 2007) to help the performer attend to the relevant information provided by the video.

In one study, a self-modeling video was presented to a power-lifter during training which showed her lifting the weight required to win the competition (above her current P.B.). With promising results, the female power lifter improved her performance by 10% and won the competition (Franks & Maile, 1991). The most recent example of this approach was provided by Tracey (2011), who presented a single-case study of using a personal motivation video (PMV; a video with music personally created for the athlete) with a male professional mountain bike racer. This PMV has also been referred to as a highlights tape (Halliwell, 1990), and motivational video (Templin & Vernacchia, 1995; Tracey, 2011) and the content of the video intervention is very similar to a positive self-review technique, as best performances are compiled together on video to show to the athlete prior to competitive performance (Ives et al., 2002). The athlete reported using the PMV within his pre-performance routine, and linked it to improved levels of motivation, confidence and emotional management and concentration within competition. However, a limitation of this study is that the intervention was delivered remotely, and thus the researcher was unable to provide in-depth understanding of how the athlete responded to different aspects of the video-music intervention in competition.
Three experimental studies have recently examined the effects of a VSM intervention on competitive performance, with mixed results. Rymal, Martini and Ste-Marie (2010) used a within-subjects design to investigate the effects of self-modeling on the competitive performance of divers. The authors edited video from the athletes’ performances to show the divers performing above their current ability (VFF-VSM). The results revealed no significant differences between the performance scores of eight divers at the experimental competition, where they viewed their FF-VSM video prior to competing, and their control competition, where they did not view their video. These results may have been due to a number of limitations within the research such as a small number of competitions and the delay between when the divers viewed their self-modeling video and when they competed.

Ste-Marie and colleagues (2011) examined the effectiveness of a video (self-modeling) intervention on the competitive beam performance of 20 female gymnasts. Addressing the limitation of Rymal et al., (2010), the authors asked the gymnasts to view their video intervention three times prior to their warm-up and one final time after the warm-up to decrease the delay between viewing their videos and competing. They found that the gymnasts’ competitive beam performance was significantly better at competitions when they received a FF-VSM video compared to the control competitions in which no FF-VSM video was viewed, suggesting that the intervention resulted in performance enhancement. The social validation data collected from the athletes in this study revealed that the self-modeling video provided opportunity for the gymnasts to (a) feel high levels of self-efficacy, (b) control their affect, (c) direct their cognitions in a positive manner, and (d) inform them of technical aspects of the performance. However, the researchers did not get feedback from the gymnasts regarding the timing of their video viewings.
Finally, Vertes and Ste-Marie (2012) explored trampolinists’ self-controlled use of a FF-SM video in competition. When provided with control over their viewings, eight of the nine trampolinists’ persisted to use this video-based technique up until the third competition, suggesting that they perceived the self-model to be a helpful preparation tool during competition. By conducting interviews with the athletes following the end of the study, the authors explored the athletes’ use of self-modeling video in competition in relation to Ste-Marie et al.,’s (2012) applied model for observation use in sport. The participants used the video for performance enhancement purposes, and their responses were linked to outcomes such as self-efficacy and task strategies.

7.12.2 Psychological responses to VSM

Within the three studies outlined above, Zimmerman’s (1989, 2000) triadic framework of self-regulatory functioning was employed as a mechanism for understanding the impact of the self-modeling intervention in sport. Zimmerman’s model consists of three cyclical phases of covert self-regulation, which are seen to be situated within the person component of Bandura’s social cognitive theory (1986). These phases surround an event such that a person self-regulates before (forethought phase), during (performance control), and after (self-reflection) the event. Self-reflections, in turn, influence forethought regarding subsequent events, thus continuing the cyclical phase structure (Zimmerman, 2000). Viewing oneself perform to the best of one’s ability before each football game could be argued to modify one’s self-motivational beliefs, especially intrinsic motivation and self-efficacy, two self-regulatory processes involved in the forethought phase of Zimmerman’s model. Many researchers have suggested that exposure to social
modeling can influence these self-regulatory processes (McCullagh & Weiss, 2001; Schunk, 2001; Zimmerman, 1989, 2000). In competition, self-modeling may also be combined with other self-regulatory strategies such as strategic planning and self-evaluation (Rymal et al., 2010; Ste-Marie et al., 2011). In Rymal and colleagues study, the authors discovered that many of the processes, actions, and self-beliefs presented within Zimmerman’s model paralleled psychological skills such as goal-setting, imaging, and effective self-talk and occurred during the use of the self-modeling video.

Intrinsic motivation is also considered a key aspect of self-modeling theory. Self-Determination theory (Deci & Ryan, 2000) distinguishes between different types of behavioural regulation that are associated with varying degrees of self-determined motivation – intrinsic motivation, extrinsic motivation and amotivation. This is based on the principle that viewing oneself perform to the best of one’s ability before a competitive sporting contest is argued to modify one’s self-motivational beliefs, especially intrinsic motivation (Dowrick, 1991). The earlier investigation of video-based practice in youth football (study one, Chapters 3-6) suggested that football players respond positively to greater control over their video-based practice, associating this with positive psychological processes such as confidence, positive emotions and motivation. It could be argued that by providing the players with self-control over aspects of their intervention, it could be argued that intrinsic motivation would be higher during the study.

In study one, both football players and coaches were unified in their view that video needed to be perceived by the players as a positive intervention within youth football. In particular, the players in this study often reported experiencing negative emotions following video replay, sometime in response to coach or team-mates.
behaviour, but often simply as a response to their own critical self-evaluation. It is therefore of interest to explore football players’ emotional responses to a video intervention which is focused solely on adaptive behaviour. Although no studies have examined the role of emotions in self-modeling, Clark and Ste-Marie (2007) made the link between self-modeling and affect, a variable aligned closely with emotion (Clore, Ortony & Foss, 1987). Recent research has also demonstrated that self-modeling produces favourable changes in self-satisfaction, self-reactions and intrinsic interest in a motor task being learned (Clark & Ste-Marie). Bandura (1997) proposed that individuals with belief in their capabilities are more likely to experience positive affect compared to people who doubt their capabilities.

As mental preparation can often span days, weeks or even months in advance of a competitive event (Davies & Armstrong, 1989), various interventions that are short-term and could be incorporated into an athlete’s pregame routine, hold the potential to enhance performance by engaging the emotional and affective responses which influence VFB effectiveness. Tracey’s (2011) study also highlighted the value of combining video with music. Specifically, using a familiar music track (at the right tempo) with an emotive video may provide a powerful means for achieving a performance-facilitating emotional state (Baumgartner, Lutz, Schmidt, & Jäncke, 2006). Given that precompetitive emotions have been shown to persist and fluctuate over the course of 1 week (Hanton et al., 2004), there is also potential to modify aspects of a self-modeling video intervention to impact on pre-competition emotions and thoughts, helping the athletes achieve an ideal psychological state.

**7.12.3 Summary**

It is clear that recent studies from within the competition setting suggest that self-modeling videos can be delivered as an intervention to enhance athletes’
performance. It should be noted, however, that in the most recent studies in the elite
sport environment these videos were delivered in the feed-forward form, and less is
known about delivery of self-modeling videos in the positive self-review form in
competitive settings. The body of literature boasts numerous methodological
nuances, design features and lessons with respect to VSM interventions, yet a key
point remains that little is known about young football players’ use of observational
learning. Recent qualitative investigations of video use within youth football (study
one, Chapters 3-6) have suggested that self-modeling is an overlooked psychological
technique which may hold benefits for player development. Specifically, when
combined with music, the self-model can be delivered as a pre-performance video
intervention which can be integrated into individual players’ existing pre-match
routine. Given that observational learning is an important means employed by
athletes to improve their performance (McCullagh & Weiss, 2001), it could be
argued that football players would use this video intervention to gain information
about the performance of motor skills, and to optimize performance through the
regulation of arousal levels and mental states (Wesch, Law & Hall, 2007).
Understanding how football players use these video models during learning may
provide valuable information for coaches and practitioners to use when designing
applied interventions.

Therefore, the primary aim of this study is to examine the impact of a video
intervention on subcomponents of young footballers’ performance within
competitive matches. In line with the applied research discussed here, the video will
be based on the tenets of self-modeling theory, and will be provided within their
preparation for matches (approx.1 hour before performance) to target specific
performance improvements in competitive matches. Several features of this
intervention are designed to encourage player engagement. Firstly, the players can
choose to add music to the intervention, and secondly, the players can choose
whether they watch their intervention during the week. Considering the limited
knowledge of athletes’ responses to self-modeling within sport (Barker & Jones,
2006; Ram & McCullagh, 2003; Ste-Marie, 1999), and particularly youth football to
date, a second aim of this study is to examine the players’ psychological processes in
response to the video intervention. It is important within this research study to
understand how football players respond to using observation within a competitive
environment, in order to make practical recommendations. Given the important role
that these psychological processes have been shown to play in mediating the
information input and behavioural responses to video (Dowrick, 1999), it is
important to accurately capture the mental aspects as they affect athletes within a
real-life sport settings. As captured in study one of this thesis, psychological
processes are perceived to play a positive role in video self-modeling in football. In
particular, the role of self-efficacy and positive / negative affect will be the focus of
this study. However, as no studies to date have examined the impact of self-
modeling videos on these variables within elite sport settings to date, no hypotheses
are offered within this study.

7.13 Methodological Considerations

With the current study taking place within an elite youth football setting, a
number of preliminary methodological considerations are important to discuss before
addressing the specific methods in detail. Firstly, numerous video self-modeling
studies in sport have employed the use of a control group under experimental
conditions in an attempt to control the extraneous variables which could impact on
the research (Law & Ste-Marie, 2005; Starek & McCullagh, 1999). When within-
group variability is high – as is likely within applied environments where control is
more difficult to achieve compared to laboratory conditions - performance gains that
are small, but which hold high practical significance for the athlete, coaches and
organisation, may not appear significant (Marlow, Bull, Heath, & Shambrook, 1998).
Given the subtle changes that can occur in performance and psychological responses
within elite environments (Barker, Mellalieu, McCarthy, Jones, & Moran, 2013), a
design is needed that was flexible enough to capture these. Moreover, the design
needed to fit in with the natural structure and challenges of the day to day
environment. For example, due to the timing of this study, all of the players selected
to participate in this study were due to face an important selection decision at the end
of the intervention period. It is recognized that within high level youth soccer
programmes players must perform well to secure re-selection (Stratton, Reilly,
Williams, & Richardson, 2004). Adopting traditional group-based experimental
design would thus require the withholding of the intervention from numerous players
within the club (a control group). This could be considered as serving the needs of
the researcher before those of the athlete or client. Further, due to practical issues
presented by external factors, such as youth international commitments and progress
in competitive competitions (e.g., F.A. youth cup fixtures), the design needed to be
flexible enough to cope with possible disruption during the course of the
investigation. Taking these points into consideration, a traditional group-based
experimental design was not considered appropriate in this case. In contrast, a single
case design methodology was deemed to be a worthy alternative to overcome these
challenges, having been used in sport psychology as a popular method to assess
psychological interventions across participants (Callow & Waters, 2005; Landin &
Herbert, 1989). This design is also more effective at controlling threats to internal validity such as carry-over effects, than the reversal / withdrawal design (Backman & Harris, 1999), through the use of repeated measures (to closely monitor the process of change) and individual participants (as their own control).

In single-case designs (SCD), an independent variable (B) or multiple independent variables (C, D) are experimentally manipulated with cases serving as their own control by collecting and returning to a baseline (A) condition (Horner et al., 2005; Kazdin, 2010). Each condition, or phase, is characterized by the collection of multiple direct observation data points until a clear pattern is established before moving to subsequent phases (e.g., return to baseline or intervention condition).

Internal validity is established through observing changes in the dependent variable across more than one manipulation of the independent variable in at least three consecutive data collection periods (Horner et al., 2005; Kratochwill et al., 2010). SCDs are serial-dependent, meaning the measurement is consecutive in time, the case is the primary unit of analysis, and the experiment is the instrument (Perone, 1999). A multiple baseline (i.e., multiple participants), repeated measures single case design has been used successfully by a number of researchers to study the effects of video self-modeling on individual participants within sport. For example, Ram & McCullagh (2003) studied the effects of a VSM intervention on intermediate level volleyball players’ serve performance and self-efficacy across a 10 day period. The authors employed a think-aloud protocol and qualitative interviews to explore the participants responses to the intervention. Although limitations were noted in this study (e.g., a short intervention period), their approach provided a strong, flexible design that could be used within applied settings. A major strength of this design is
that it enables the researcher to evaluate the effectiveness of an intervention programmes in this environment.

In football contexts, researchers have employed single case multiple-baseline designs to examine the impact of self-talk strategies on soccer low-drive shooting in elite female youth soccer players (Hardy, Gammage & Hall, 2001; Johnson, Hrycaiko, Johnson, & Halas, 2004) and a psychological skills intervention (comprising relaxation, imagery and self-talk) on position-specific performance of a soccer midfielder player (Thelwell & Greenlees, 2001; Thelwell et al., 2006). Noteworthy in these studies is the attention to performance subcomponents (e.g., tackling and passing in soccer) over and above global performance scores (such as win-loss ratios, passing patterns or possession). Thelwell and colleagues (2006) argued that the majority of the published applied-based studies have examined performance outcomes alone, and neglected performance subcomponents which could offer greater sensitivity of information for the applied practitioner. Individual players within the youth football setting are focused on refining their performance in preparation for senior football (Richardson, Gilbourne, & Littlewood, 2004) and therefore attention to performance subcomponents is considered relevant and suitable in this current investigation. While a number of studies in football have ‘simulated’ sport performance, so that it could be examined under experimental conditions in a more controlled environment, we are primarily interested in understanding performance of young football players within real competitive fixtures. While each of these methods has its advantages and disadvantages (Atkinson & Nevill, 2001), we chose to include sport-specific dependent variables in competition, rather than simulated soccer skills.
7.2 Method

7.2.1 Experimental Design

A staggered, multiple baseline single-case A-B design was adopted to examine the effects of the independent variable (video self-as-a-model intervention) on a series of dependent variables (performance, self-efficacy, affect). This design assessed both the individual player and the effects of the intervention for more than one player, by introducing the intervention successively to each in a staggered manner, thus enhancing internal validity (Horner, Carr, Halle, McGee, Odom, & Wolery, 2005). Whilst it is impossible to control all the variables within the competitive setting, two strategies were employed in this study to help improve methodological rigour. Firstly, the design was informed by past research and the specific findings of studies 1a and 1b from similar settings, making it relevant for the player and setting of this study. Secondly, a single matched control-participant was recruited from the eight players available for selection. The player subsequently selected for this role completed the intervention measures but did not receive the self-as-a-model video intervention, enabling the researcher to examine any unexpected and positive directional changes on performance or psychological variables in a critical manner. For ethical reasons, at the end of the study, the control-participant was provided with a six week video intervention in the same manner as the other four players, in line with previous intervention research within sport psychology (Harwood & Swain, 2002). In view of time constraints in this study, a decision was taken to deliver a single intervention (A-B) rather than a reversal (A-B-A) design. The staggered approach was considered a strength of this design. By withdrawing the video intervention was unfeasible as this would have
meant a number of the players progressing onto the intervention phase of the study for only a short time - a limitation identified within previous VSM studies (e.g., Ram & McCullagh, 2003). Furthermore, as this study was carried out during the peak phase of an important season for the athletes involved, it was decided that the four players should spend the maximum amount of time engaged in the intervention.

7.22 Selection Criteria and Recruitment

Initial approaches were made to an English Premier League Academy Manager (Premier League Northern Division, http://www.football-league.co.uk/), who agreed for the players in his academy to participate in this study. Purposive sampling (Maxwell, 1997) was used to recruit players from an initial groups of available players (n = 16). These sixteen players were asked to identify two subcomponents of performance which were essential components of their position-specific role within the team. All the players initially recruited for selection had gained significant experience performing on the skills and movements selected within this study (see Thelwell et al., 2006), having played in these positions for the majority of their time as a footballer. Given the limitations of previous VSM studies within sport, a three-stage selection criterion was established. This criterion was based on three factors: (i) motivation – i.e., the player would value being involved in the study on the basis that it was useful to their progression as a young footballer; (ii) performance – the player would be able to make the changes needed on the performance subcomponents identified (i.e., no ceiling effect on performance), and (iii) the player was available throughout the full intervention. Motivation was explored by asking the players to answer the following question: “How important, on a scale of 1-10 (1 = not motivated at all, 10 = extremely motivated), is improving on
the following components of performance to your progression as a footballer?”

Performance level was explored by asking the players to answer the following question: “Please rate your performance in the past 5 matches on the following subcomponents of performance, on a scale of 1-10 (1 = not very good at all, 10 = extremely good)”. Availability was assessed following a discussion with the academy performance manager and head coach, taking into consideration factors - such as international commitments, anticipated playing time, and perceived stage of progression - which may lead to players missing competitive fixtures. The available players, who reported high motivation to improve on these performance subcomponents but lower current performance scores were invited to participate in the study. Five players met these selection criteria, and were invited to participate in the study. The playing-position and chosen subcomponents of performance are presented for these five players in Table 2.1 (below). The head coach and academy director were informed which players were selected but not the sub-components selected, and were not involved in any aspect of the remainder of the study. Informed consent was obtained from these five players prior to data collection.

Table 2.1
Breakdown of Performance Subcomponents by Player and Position.

<table>
<thead>
<tr>
<th>Player</th>
<th>Position</th>
<th>Subcomponent 1</th>
<th>Subcomponent 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Defensive midfielder</td>
<td>Turns</td>
<td>First touches</td>
</tr>
<tr>
<td>2</td>
<td>Attacking-focused midfielder</td>
<td>Passes</td>
<td>First touches</td>
</tr>
<tr>
<td>3</td>
<td>Central defender</td>
<td>Headers</td>
<td>Tackles</td>
</tr>
<tr>
<td>4</td>
<td>Attacking-focused midfielder</td>
<td>Passes</td>
<td>First touches</td>
</tr>
<tr>
<td>5</td>
<td>Central defender</td>
<td>Headers</td>
<td>Tackles</td>
</tr>
</tbody>
</table>
7.23 Participants

The participants in this study were five male football players from an English professional football academy (age, \( M = 16.8 \), age range = 16-18). They had between four and six years’ experience of playing soccer within the academy system (U9-U18). At the time of the study, one player had reached full senior club level and two of the players were currently representing their country at U17 and U19 level. They also had a minimum of 12 months experience of using video technology within their academy. The players were aware of who else was involved in the study, but were not aware of the details of the intervention or if they or others would receive the intervention or not. The players were instructed not to discuss any aspect of the study with anyone else during the study period. They were also informed that all data would remain anonymous and that confidentiality would be maintained at all times, and that they could withdraw from the study at any time. The research proposal met the ethical standards of the ethics review board of the university to which the researcher was affiliated. Permission to allow the players to participate was also sought from the parents / guardians of the players selected to participate in the study, as they were under 18 at the time of the study.

7.24 Materials

A Canon® video camera (DM-XM2 Professional MiniDV) mounted on a tripod was used to videotape the participants’ performances in the competitive matches, and also the participants’ responses to subsequent interview questions following completion of the study (see Ste-Marie et al., 2011). The Focus® X2 Software (www.elitesportsanalysis.com) was used to edit the videos to create the self-modeling videotapes (see procedures section for details on how videos were
created). A Toshiba® Satellite laptop computer (screen size of the laptop was 15 in × 16 in.) was used to show the players’ their video prior to the matches.

7.24.1 The video intervention. In accordance with previous research on athlete attention levels during VSM (Bertram et al., 2007; Tracey, 2011), the primary aim was to create a 2.5-3.5 min. self-as-a-model (PSR-VSM) video, which the players could watch prior to performance. The ‘model’ was captured from a high-point overlooking the pitch, from either halfway or from above one corner of the pitch (depending on access provided for away games). Performances were filmed and a zoomed-in image of the modeling behaviour was presented to the player. To ensure that the video was an appropriate length for the player to review without losing focus, the video of each sub-component example was limited to a maximum of five examples. The modeled behaviour was repeated two times; once at normal speed and once at a slowed down speed (3 x slower) to ensure the player had time to process all aspects of their modeled performance. To remove any potential other feedback, no attempt was made to edit the image of the performance subcomponents and no supplementary verbal or written feedback was provided, and all other background noise (e.g. crowd noise, coach communication) was removed. The video intervention contained the current best demonstration(s) of the each of their performance subcomponents (in line with recommendation within PSR-VSM research (Dowrick, 1999; Law & Ste-Marie, 2005; Ram & McCullagh, 2003). The players then selected their own content of the video (SO-VSM). Specifically, each week (two days after each game), the player spent time (approx. 10-20 minutes) viewing their performance subcomponents selected from the analysis process (described above). In accordance with self-modeling theory (Dowrick, 1999), the
video intervention was updated each week with the best examples from the previous performance.

**7.24.2 Performance measures.** Two measures of performance were employed in this study. Firstly, an objective measure of football performance was taken from percentage success rates in each game for the sub-components identified. In a recent meta-analysis examining the relationship between self-efficacy and performance in sport, Moritz, Feltz, Fahrbach, and Mack (2000) found that subjective performance measures (e.g., external ratings by an expert coach or judge) had the highest aggregate correlation with performance when compared to objective ratings or self-report ratings in the univariate analysis. In commenting on subjectively judged performances, Bandura (1997) stated that, ‘The accuracy of efficacy beliefs will depend partly on knowledge of the subjective criteria on which one's performance will be judged’ (p. 65). The objective measure of performance was defined as the number of attempts on each performance sub-components (e.g., tackles, passes etc.), that were successful, divided by the total number attempted, and multiplied by 100. Independent coaches were recruited to breakdown these subcomponents and more sophisticated performance analysis criteria were developed for each subcomponent. Specifically, the performance subcomponents were defined and assessed by two United European Football Association (UEFA) A Licensed coaches independently of the study aims and objectives, neither of whom was working directly with the players in the study. The sub-components of performance chosen for attention during the study will be broken down by the two coaches according to the positional requirements. A clear definition of each of the performance subcomponents was obtained: a successful pass was defined as ‘a pass that reaches its destination’, a successful tackle was defined as ‘where you complete
a clean tackle’, a successful first touch was defined as ‘where you bring the ball under control with one touch and no other movements to shield the ball from opponents are necessary’, a successful header was defined as ‘where you win a clean header’, and a successful turn was defined as ‘where you turn away from an opponent to create space’. Previous literature within football has identified these to be pertinent performance components for a soccer midfielder and defender (Luongo, 1996).

To test the reliability of the performance measure, Inter-Observer Reliability (IOR) scores were assessed over a three-game period prior to the study between the primary researcher and one of the two qualified coaches involved in the definition of the performance criteria. IOR values were calculated by dividing the total number of agreements between the assessors by the total number of agreements plus disagreements, with this number then multiplied by 100 (Landin & Herbert, 1999; Rogerson & Hrycaiko, 2002). IOR scores for the performance-based dependent variables ranged from 88.9% to 96.3% across the three game period; scores of greater than 80% are considered acceptable (Kazdin, 1982). Although other measures of IOR exist, this approach to calculating IOR has been used in previous sport psychology intervention research (e.g. Thomas, Maynard & Hanton, 2007) and was considered appropriate for the purpose of this study. For practical and methodological reasons, full assessment of each performance sub-component was completed by the same independent coaches following the end of the study. The captured examples of performance were randomised to avoid measurement errors associated with assessment. Further, due to the short period of time available to analyse the performance of each individual and prepare the video for review (48 hours later), it was necessary for the principal researcher to conduct the initial
analysis of performance. To ensure the researcher was able to accurately identify examples of each subcomponent in performance, the researcher received training from one of the two qualified coaches.

A second, self-rated measure of performance on their performance components was also taken from the players immediately following each game on a post-match questionnaire (presented in Appendix F). For procedural replication, the self-rated measure of performance was designed to correspond to the self-efficacy question. An example of this question was: ‘Based on the following criteria for a successful header (‘where you win a clean header’), how successful do you feel you were at performing this subcomponent of performance in today’s game, on a scale of 1-10 (1 = 1 out of 10 attempts), 10 = 10 out of 10 attempts)?’. This self-rated measure would primarily be used to inform the decision of when and to whom the intervention would be delivered, given the practical constraints associated with objectively analysing the other performance measure. Self-rated measures of performance have been employed to assess performance in psychological intervention research in youth football (Reeves, Nicholls & McKenna, 2011), and have been identified good predictor of individual performance in self-efficacy studies (Moritz, 2000).

For each of the thirteen competitive fixtures, performance data for each of the five players were collected using match analysis procedures as recommended by Reilly (1996). The researcher was in attendance for all competitive games to capture performance footage and delivery of the intervention. Immediately following the game, the principal researcher analysed the footage of the game, selecting examples of each subcomponent for the five players. All examples which matched the performance criteria were retained, and examples which did not match the criteria
were eliminated. Any disagreement over selected examples was discussed and
cleared with one of the two independent coaches. As the competitive standard was
considered very similar throughout the study, the players were asked to complete an
additional performance measure of importance and difficulty for the competitive
matches in which they performed. The players’ perception of the importance of the
match was rated pre-match on a 10-point scale (1 = not important at all; 10 =
extremely important)? using the question ‘Please indicate (circle) on the scale below,
how Important you believe today’s game for you progression as a footballer’. The
players’ perception of the difficulty of the match was rated post-match on a 10-point
scale (1 = not difficult at all; 10 = extremely difficult) using the question: ‘Please
indicate on the scale below how difficult you believe it was for you to perform
against the opposition in the game today?’ The findings show there was little
difference between the baseline and intervention ratings for importance, with the
players rating the games as ‘important to very important’ (baseline: $M = 7.34, SD =$
0.31; intervention: $M = 7.28, SD = 0.27$); or difficulty, with the players rating the
games as ‘difficult’ (baseline: $M = 6.6, SD = 0.96$; intervention: $M = 6.8, SD = 0.96$).
This finding suggests that the games were sufficiently important and challenging for
the players.

7.24.3 Self-efficacy measures. The assessment of self-efficacy was
developed according to Bandura’s (2006) guidelines. Following these
recommendations, due attention was paid to the following issues during the design of
this study: (i) the players were given input into the performance subcomponents to
ensure they had the proper incentives (motivation) to perform; (ii) these performance
sub-components were position-specific measures, and thus specific to the
performance domain (e.g., football) being studied; (iii) self-efficacy and performance
measures were concordant; and (iv) performance measures were assessed closely in
time with self-efficacy measures (consistently taken 60-90 min. prior to
performance). An adapted football Self-Efficacy Questionnaire (SEQ) was
developed that comprised 10 items relating to good performance on each of the five
subcomponents. The items on the adapted SEQ were determined via collaboration
with the breakdown provided by the two independent coaches. The development of
the SEQ follows guidelines suggesting that measures of self-efficacy in sport are task
specific and assess the strength of self-efficacy (Feltz & Chase, 1998; Moritz, Feltz,
Fahrbach, & Mack, 2000).

The players were asked to rate their degree of certainty (efficacy strength)
that they could execute the subcomponent of performance successfully in their up
and coming performance on a near-continuous scale. A self-report rating of 100
indicated total certainty and a rating of 0 indicated total uncertainty to progressively
execute X number of out of 10 for the specific sub-component. An example of this
question is provided here: ‘Based on the following criteria for a successful tackle
(‘where you complete a clean tackle and win the ball’), I am (0-100%) confident that
I can successfully perform: 1/10 tackles in the game today …..2/10 tackles…..3/10
tackles etc.’ A self-efficacy score was obtained by calculating an average % strength
across all of these progressive responses. A measure of generality of self-efficacy is
rarely included in research studies on sport (Feltz & Lirgg, 2001) and was also
considered beyond the scope of this study.

7.24.4 Positive and negative affect measures. In order to measure the
feelings and emotions that were associated with the intervention, the Positive and
Negative Affect Schedule (PANAS) was administered. The PANAS is intended to
measure affect, a derivative or qualitative aspect of an emotion or mood (Lazarus,
Developed by Watson, Clark and Tellegen (1988), the PANAS (state version) comprises two 10-item mood scales, one to assess positive affect (PA) and the other to assess negative affect (NA). The PA scale includes items such as ‘determined’, ‘excited’, ‘inspired’ and ‘enthusiastic’, while the NA scale contains items such as ‘afraid’, ‘distressed’, and ‘hostile’. The players were asked to indicate to what extent they experienced the listed emotions on a five-point scale ranging from 1 (“very slightly/not at all”) to 5 (“extremely”) right now. Possible scores on each scale range from 10 to 50. The single-case design allowed the evaluation of affect at two points (immediately pre- and post-video delivery), enabling an observation of the impact of the intervention on the players’ affect levels. The PANAS has been used successfully to report changes in positive and negative affect in response to exercise (Miller, Bartholomew, & Springer, 2005; Parfitt & Gledhill, 2004) and watching video games (Kirk, MacMillan, Rice, & Carmichael, 2013; Legrand, Joly, Bertucci, Soudain-Pineau, & Marcel, 2011).

7.24.5 Social validation. As commonly applied in single-case research (Barker et al., 2013), a short social validation questionnaire was used to gain an understanding of the practical impact of the video intervention, based on the work of Pates, Maynard, and Westbury (2001). Players responded on a 1 (not at all) to 10 (extremely) scale to the following questions: (a) How important was an improvement in performance on these subcomponents to you as a football player? (b) Do you feel you made an improvement in performance on these subcomponents? (c) If so, did this have any impact on your overall performance as a player in competitive matches? (d) How satisfied were you with the video intervention?, and finally (e) Has the video intervention proved useful for you? Beyond these quantitative measures, a post-study interview was conducted with the players to gain an
understanding of the thoughts and feelings related to the self-modeling intervention.

This interview was conducted with the players to explore and clarify their responses, and to understand their use of the video information before, during or after the intervention.

7.25 Procedure

The intervention was delivered in three phases: pre-intervention, intervention and follow-up phases. The procedures involved in these are outlined in the following paragraphs and illustrated in Table 2.2 (below)

7.25.1 Pre-intervention phase. Following the selection process (outlined above), pilot work was conducted in the two weeks prior to the start of the intervention. The purpose of this pilot work was to identify and overcome any practical challenges associated with delivering a weekly intervention in this setting, and to understand the applicability of the performance and psychological measures to be employed in the study.
Table 2.2

<table>
<thead>
<tr>
<th></th>
<th>Pre-intervention</th>
<th>Intervention</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week</strong></td>
<td>1-4</td>
<td>5 - 13</td>
<td>17 &amp; 23</td>
</tr>
<tr>
<td><strong>Video</strong></td>
<td>No intervention</td>
<td>Players 1-4 receive intervention in staggered fashion.</td>
<td>No intervention</td>
</tr>
<tr>
<td><strong>intervention</strong></td>
<td>Players 1-5 remain on baseline</td>
<td>P5 remains on baseline</td>
<td></td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td>Performance data for games 1-4 captured for P1-P5</td>
<td>Performance data for games 4-11 captured for P1-P5</td>
<td>Performance data for games 17 and 23 captured for P1-P5</td>
</tr>
<tr>
<td><strong>measures</strong></td>
<td>Self-Efficacy</td>
<td>Self-Efficacy</td>
<td>Self-Efficacy</td>
</tr>
<tr>
<td><strong>Psychological</strong></td>
<td>Affect</td>
<td>Affect</td>
<td>Social Validation</td>
</tr>
<tr>
<td><strong>measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the pilot work, four young football players from a Professional Football Academy (who were not selected for this study) were shown self-model clips from previous games, and clips containing a model from another sport, which had been pre-edited by the first author. The pilot study highlighted a number of practical issues - including timetable changes, gaining access to players, planning for international duties, access to filming on away fixtures, and ‘turn-around times’ for analysis – which needed planning and managing prior to beginning the study. A performance analysis practitioner was recruited from within the club to help with filming and analysis of the matches, to ensure the data could be processed in time for the weekly
intervention delivery and data collection points. Following the pilot study and
selection process, the five players were individually invited to an initial pre-study
meeting and informed consent was obtained. Once the players were familiar with the
study aims and procedure, they were then asked to complete a demographic
questionnaire and instructions were provided on how to complete the remainder of
the study questionnaires.

7.25.2 Intervention phase. Initially, each player was monitored for a
minimum of 4 weeks on the performance and self-efficacy measures to establish a
stable baseline. In week 5, the intervention was delivered to player one, whilst the
others remained in the baseline phase. The basis of the decision to introduce the
intervention was made following visual analysis of self-report measures of
performance on the different sub-components. Specifically, where performance was
declining or stabilizing across three consecutive points during the baseline phase, a
decision was made to introduce the intervention. Where this was not clear, self-
efficacy scores were also considered, and ultimately an 'a priori' decision was made
as to when players would receive the intervention - a rationale employed in previous
intervention research within football (Thelwell et al., 2006). Once they had entered
their intervention phase, each player followed an identical procedure each week
(illustrated in Figure 2.01). Each match-day, upon arriving at the training ground or
team bus prior to the game, the players were asked to complete the Affect (PANAS -
pre) and match-importance measures, and were provided their pre-match video
intervention. The players viewed their video approx. 60 - 90 min. prior to kick-off
via a laptop computer, either in a private room at the academy (on a home fixture) or
in a quiet area specifically set aside on the team bus (on an away fixture). In order to
maintain procedural replication, during the baseline period, the players watched a
two minute video of an unrelated sport skill (expert tennis players serving and
returning). Following the end of the video, they were asked to complete the Self-
Efficacy, Affect (PANAS - post) and match-difficulty measures. Given that the
player had been competing in the same team for 12 months prior to the start of this
study, fairly stable pre-match processes had been established, and the players were
able to integrate the VSM intervention into their personal pre-match routine with
little disruption to their preparation. The intervention period lasted 13 weeks. A copy
of the pre and post-match measures can be found in Appendices E, F & G.

Figure 2.01 Weekly Protocol for the Intervention phase
7.25.3 Follow-up phase. Retention tests were employed at one month (week 17) and three months (week 25) for the self-efficacy and performance measures. Affect measures were not employed as no intervention was delivered at these points.

7.26 Data Analysis

Experimental effects were analysed through a visual inspection of the plotted data based on the guidelines from SCD research (Hrycaiko & Martin, 1996; Kratochwill et al., 2010) and used previously within video intervention research in sport (e.g., Ram & McCullagh, 2003). When analysing the results, six features of the visual display of the data were considered: (a) level, (b) trend, (c) variability, (d) immediacy of the effect, (e) overlap, and (f) consistency of data pattern across similar phases (Kratochwill et al.,). The benefit of using visual analysis is that immediate and accessible results are available to the researcher (Parsonson & Baer, 1992). With accurate interpretation of the data highlighted as a potential limitation of visual analysis in SCD research (Gage & Lewis, 2012; Barker et al., 2013), the results were reviewed and discussed with an independent researcher, who was not aware of the original purpose of the investigation.

7.26 Content Notes

Although the primary focus of the current study was delivered as a positive self-review (PSR-VSM) video 60-90 minutes prior to performance, a short period of self-observation (SO-VSM) was also provided to the players (5-10 minutes) to view their subcomponents from the previous match. By providing the players with the opportunity to review their performance on their selected sub-components each week (when they were choosing to update their tape), it is acknowledged that this is a two-
stage self-modeling intervention (SO-VSM + PSR-VSM). Although PSR-VSM and SO-VSM are both forms of self-modeling, Dowrick (1999) has suggested that they differ slightly in their focus (positive vs. positive and negative). It could be argued that by giving the footballers the opportunity to review the positives and negatives following their performance in matches, they may gain valuable information regarding improving these components, which they could apply to their future performance (Guardagnoli et al., 2002). To date, the research comparing self-observation and self-modeling interventions within a clinical setting reveals that self-modeling results in significantly greater physical performance improvements compared to self-observation (Dowrick, 1999). For example, Dowrick and Raeburn (1995) compared the effects of self-modeling and self-observation on motor execution among children with various physical disabilities, revealing greater benefits for self-modeling interventions compared to self-observation within a rehabilitation context. No research at that time had been conducted within a sporting context.

In previous VSM studies within sport, an outcome measure of performance (e.g., points scored in basketball, or putting accuracy in golf) is used to select these ‘adaptive behaviours’ during performance, which can be used to update the video with mastery information for the athlete. However, there is no obvious outcome criterion with which to define ‘successful individual performance’ in football. Given this, the players themselves selected their own content for the video. It is argued that this approach would help maximise their perceived improvement (Schunk & Hanson, 1989), and also ensure that the intervention would be highly related to the individual players’ self-efficacy beliefs regarding these sub-components. Adopting this approach meant that players were provided with the best examples of the previous
performance, and given the option to update their video. A potential limitation of this approach may be the exposure to a potentially conflicting form of video feedback (self-observation; i.e., raw video feedback) during the intervention period. The impact of this feedback is considered minimal. Research has found that athletes naturally tended to engage in error detection and correction at the same time as attending to successful elements of their performance (Clark & Ste-Marie, 2007; Martini, Rymal, & Ste-Marie, 2011), suggesting that these two techniques can be successfully combined. It has also been contended that of the two approaches, positive self-review video has a more powerful impact on performance and the psychological variables due to its focus on adaptive performance.
CHAPTER EIGHT
8.1 Results

The results of the intervention study are presented below in the same order in which the players received the intervention. For each player, self-efficacy and performance data are presented for each subcomponent, followed by a brief summary of the results for each player to allow the reader to explore the impact of the intervention on each individual player. The performance measures are presented in two parts: (i) the player self-report measures of performance, and (ii) the objective (% success) measure of performance. The positive and negative affect data is then presented for all five players. Finally, the players’ responses within the social validation measures are presented in two parts: (i) the social validation data, and (ii) the interview responses. A critical discussion of the results will follow the end of the results section.

8.11 Player One

Player one, a defensive-minded midfield player, spent the longest period on the intervention (9 weeks). The position specific subcomponents he selected were (i) turns, and (ii) first touches. Player one updated the ‘turns’ content every week, but only updated his ‘first touches’ content twice in the same time period. The self-efficacy and performance data for player one are presented in figures 2.02 – 2.07 (below).
8.11.1 Turns.

Figure 2.02. Self-efficacy for ‘turns’ prior to competitive matches (P1)

Figure 2.03. Performance on ‘turns’ (player self-rating) in competitive matches (P1)

Figure 2.04. Performance on ‘turns’ (% success) in competitive matches (P1)
Player one had a modest increase in self-efficacy when the intervention was introduced. This was maintained above baseline levels during the intervention and follow-up periods. The graphs indicated that performance improvement may have occurred on his turns during the intervention period. These changes in performance scores could be seen in both the self-rating and the objective performance data. In both cases, an immediate effect was observed. This was maintained above baseline levels across the intervention and follow-up periods with no overlapping data points.

8.11.2 First touches.

*Figure 2.05.* Self-efficacy for ‘first touches’ prior to competitive matches (P1)

*Figure 2.06.* Performance on ‘first touches’ (player self-rating) in competitive matches (P1)
With a number of overlapping data points, a visual analysis of player one’s data suggests that the intervention had no immediate effect on self-efficacy or performance on the subcomponent ‘first touches’. The self-rating performance data indicates that performance was higher at follow-up than at baseline, this improvement was not observed on the objective performance data.

### 8.12 Player Two

Player two, an attacking-minded midfield player, spent 8 weeks on the intervention. His position specific subcomponents were (i) passes, and (ii) first touches. He updated the content of his video intervention three times for each subcomponent during the intervention phase. The self-efficacy and performance data for player two is presented in figures 2.08 – 2.13 (below).
8.12.1 Passes.

Figure 2.08. Self-efficacy for ‘passes’ prior to competitive matches (P2)

Figure 2.09. Performance on ‘passes’ (player self-rating) in competitive matches (P2)

Figure 2.10. Performance on ‘passes’ (% success) in competitive matches (P2)
There can be little confidence that the video intervention led to consistent changes in performance for player two on the subcomponent passes. While self-efficacy and performance was higher at points, there was significant variability, overlapping data and no clear trend that could be observed.

8.12.2 First touches.

Figure 2.11. Self-efficacy for ‘first touches’ prior to competitive matches (P2)

Figure 2.12. Performance on ‘first touches’ (player self-rating) in competitive matches (P2)
This is also little confidence that the video intervention led to performance improvements for changes for player two on the subcomponent first touches. Again, while self-efficacy and performance were higher at points, there was significant variability, and several overlapping data points precluding any identifiable trend. While an immediate improvement in objective performance was observed for this subcomponent, this was not maintained. No improvement could be observed at the follow-up points, and self-efficacy was lower than at baseline levels.

8.13 Player Three

Player three, a central defender, received the video intervention for 7 weeks. His position specific subcomponents were (i) headers, and (ii) tackles. He updated the ‘headers’ content every week during the intervention and the ‘tackles’ content four times. The self-efficacy and performance data for player three is presented in figures 2.14 – 2.19 (below).
8.13.1 Headers.

Figure 2.14. Self-efficacy for ‘headers’ prior to competitive matches (P3)

Figure 2.15. Performance on ‘headers’ (player self-rating) in competitive matches (P3)

Figure 2.16. Performance on ‘headers’ (% success) in competitive matches (P3)
Visual inspection of the data indicates that heading self-efficacy increased and heading performance improved immediately. The positive changes were maintained across the intervention and follow-up data points, with no overlapping data and limited variability. While self-rating of performance showed a decreasing trend towards the end of the intervention period, this was not observed in the more objective measure of performance. It is noticeable that baseline performance scores were not entirely stable for ‘headers’, but all performance scores during the games were higher than baseline levels. Furthermore, retention of these scores above baseline in week 17 and 25 provides additional confidence that the performance improvements were as a result of the video intervention.

8.13.2 Tackles.

Figure 2.17. Self-efficacy for ‘tackles’ prior to competitive matches (P3)
The introduction of the video intervention did not appear to lead to performance improvements for player three’s tackles in competitive matches. The findings indicate that the intervention led to an increase in player four’s self-efficacy, and that this change was maintained across the intervention period (although two overlapping data were observed). While self-efficacy seemed to be positively affected, this did not appear to translate into noticeable improvements on either the self-rating or objective measures of performance. While there some marginally
positive improvements in objective performance, overlapping data points were present and performance was no higher than at baseline levels during follow up.

8.14 Player Four

Player four, an attacking-minded midfield player, received the video intervention for 6 weeks. His position specific subcomponents were (i) passes, and (ii) first touches.

He updated the content for ‘passes’ every week, but only updated the ‘first touches’ content once during the intervention. While self-efficacy data were collected for every game, performance data is missing in week 4 for player four, as he was injured in the first 15 minutes of the game. He was substituted at this point meaning insufficient was collected for this match. The self-efficacy and performance data for player four is presented in figures 2.20 – 2.25 (below).


![Figure 2.20. Self-efficacy for ‘passes’ prior to competitive matches (P4)](image-url)
Visual inspection of the data indicates that self-efficacy immediately increased for player four on the subcomponent passes. There was also a clear improvement in his self-rated performance on this subcomponent. Both of these effects were maintained at follow-up points. These effects did not follow for the objective measure of performance, with overlapping data and variability observed. It is notable that performance improved towards the end of the intervention period and follow-up points. Whilst this is a positive outcome, it may be conclusively due to the video intervention itself.
8.14.2 First touches.

Figure 2.23. Self-efficacy for ‘first touches’ prior to competitive matches (P4)

Figure 2.24. Performance on ‘first touches’ (player self-rating) in competitive matches (P4)

Figure 2.25. Performance of ‘first touches’ (% success) in competitive matches (P4)
This is little confidence that the video intervention led to performance improvements for changes for player four on the subcomponent first touches. While performance scores were higher at points in the intervention phase, there was variability and also overlapping data points across the baseline and intervention periods, and no clear effect can be observed when the intervention was introduced. No improvement could be observed at the follow-up points, for self-efficacy or performance.

8.15 Player Five

Player five, a central defender, didn’t receive the video intervention. His position specific subcomponents were (i) headers, and (ii) tackles. The self-efficacy and performance data for player five is presented in figures 2.26 – 2.31 (below).

8.15.1 Headers.

![Baseline](image)

*Figure 2.26. Self-efficacy for ‘headers’ prior to competitive matches (P5)*
Visual analysis of the data indicates that there were no clear changes in self-efficacy and performance data during the intervention period for player five on the subcomponent ‘headers’. There was variability in self-rated performance, but little observed on the objective measure of performance.
8.15.2 Tackles.

Figure 2.29. Self-efficacy for ‘tackles’ prior to competitive matches (P5)

Figure 2.30. Performance on ‘tackles’ (player self-rating) in competitive matches (P5)

Figure 2.31. Performance of ‘tackles’ (% success) in competitive matches (P5)
No clear changes in self-efficacy or performance was observed for player five (control) on the subcomponent ‘tackles’ during the intervention period. A small increase in self-efficacy can be seen over the intervention period, but this trend was not replicated in the performance measures. Again, variability can be seen in the self-rated measure of performance.

8.16 Positive and negative affect data. The positive and negative affect data for all five players is displayed in figures 2.32 to 2.41 (below). Measures of positive and negative affect were taken immediately before and immediately after each player watched the video intervention.

![Figure 2.32. Positive affect (PA) scores pre/post video intervention (P1)](image)

![Figure 2.33. Negative affect (NA) scores pre/post video intervention (P1)](image)
Figure 2.34. Positive affect (PA) scores pre/post video intervention (P2)

Figure 2.35. Negative affect (NA) scores pre/post video intervention (P2)

Figure 2.36. Positive affect (PA) scores pre/post video intervention (P3)
Figure 2.37. Negative affect (NA) scores pre/post video intervention (P3)

Figure 2.38. Positive affect (PA) scores pre/post video intervention (P4)

Figure 2.39. Negative affect (NA) scores pre/post video intervention (P4)
Visual inspection of the positive and negative affect data suggest that for three players (one, three, and four), changes in affect can be observed pre- to post-intervention. For players one and three, positive affect scores were higher after they watched their video intervention. This was maintained for at least four weeks for both players. There were decreases in negative affect for four players during the intervention period, although these were only observed at the point the video was introduced for players one, three and four. For player four, a decrease in negative affect can be observed for all six weeks he received the intervention. This effect can
only be observed for two weeks for players one and three. The changes in PA or NA
for player two did show marginal changes on occasion following the introduction of
the intervention. For all players, to a greater or lesser extent, this change in affect pre
to post viewing diminished the longer the intervention decreased, suggesting that the
intervention lost its emotional impact as time went on. For player two, positive
affect scores were slightly higher during the intervention phase than the baseline
phase, and slightly lower on average for negative affect, however, there were few
differences observed following viewing, indicating that for player two, the video had
little impact on emotions/mood. No affect data were collected for player five, as he
didn’t receive the intervention.

Social validation data. The social validation data revealed that the players
placed a high value on the results of the study for their development as a footballer
(averaging 4.4 out of 5), and that it was very important for them as footballers to
perform well on the sub-components they selected for this study (average 4.6 out of
5). When asked how well they felt the intervention procedures fitted around your
daily football schedule, the players’ average response was also positive (average 4.2
out of 5). Although every effort was made throughout the study period to avoid
intrusion into the players’ day to day lives, this was positive considering the length
and time involved in the study. Post-intervention interviews revealed that three
athletes had continued to view their video on a regular basis (i.e. once a week or
more) between the end of the intervention period and the follow-up time periods.
Only one player (P2) didn’t continue watching their video(s) between intervention
and retention periods.
The players’ responses in the post-study interviews provide further insight into their thoughts and feelings during the intervention study. These responses are presented sequentially for procedural replication. Player one felt that the video intervention had a clear impact on their performance during the games, on the sub-component ‘turning’ specifically. This appears to be backed up by the performance data. He felt this improvement related to a greater personal commitment to improving his performance rather simply technical improvement, stating that “I just felt more confident about what I was doing [during the intervention] and more focused during games” (P1). His responses indicate that the timing of the video was an important part of this confidence-building process:

The pre-match video gave me the motivation to improve, and helped me focus on my own game. I get nervous before games and if I don’t feel nervous I start to worry too much about all the little things I need to work on … but watching the video pre-match I was seeing what I can already do, not what you shouldn’t do, and this made me feel more confident (P1).

Player one indicated that the pre-match tape quickly became a consistent part of a pre-match mental preparation routine. By using visualising the content of his personal video pre-match the content of the tapes became more “real” for him:

The night before the game when I would watch [the video] and think about my game over and over in my mind … I could see the images I was working on in the videos… my turns were most clear, especially one I did early on [in the study] and this image had a huge impact on my confidence I think. I can’t really explain it … I just felt like I couldn’t fail. (P1)

When asked if he felt that the intervention had any impact on his performance, player two felt that it did not. He reported enjoying being involved in the study, and felt more confident after watching the video before the game but that this involvement in the study was not enough to make a difference in performance on
the pitch. Player two felt that this was partly linked to his negative thinking during video replay: “I am only interested in seeing what I am doing wrong. I’m not really interested in the positives. I think I need the coach to be telling me what I am doing wrong” (P2). However, another issue may have been linked to motivation. Player two also revealed that the performance sub-components he selected at the beginning of the study were not self-motivated:

Having a better first touch was something [the coach] was trying to get me to improve, but I’m not really sure what he's telling me I need to do, so I feel I get caught in two minds. I’m not sure I knew what I really wanted to improve on that skill (at the start of the study), and so I struggled a bit (P2).

Player three felt that he improved most noticeably on one of the sub-components – ‘heading’ compared to others, and believed that any performance improvement he had felt was linked to pre-match emotions at the time of viewing. He stated that,

It was much more emotional watching it before the game than when I watched it in my room [at home] or like, in the middle of the week … I felt really relaxed pre-game, not as wired to the ceiling as I usually am … and I had loads of confidence… I felt just felt really positive … especially after the first two weeks or so, the first tapes were totally new and different (P3).

Like player one, player three also found that by incorporating the video into his pre-match preparation, he found it had a very positive psychological impact prior to performance. He stated:

I feel surer of that skill in matches, especially as it’s a part of my routine now (to watch my heading video) … I don’t think the technique of heading has changed massively, maybe small points … I feel more assured about this skill than I had before (P3).
Player three also linked this to the role of positive emotions brought on by the inclusion of music, suggesting that: “The tunes and the clips together made it really positive … got me going before the game” (P3). Player three also reported being prone to thinking negatively during video-based practice. However, he felt that watching the video led to his thoughts shifting positively during viewing and affecting his confidence positively pre-match. Interestingly he suggested that this positive change may have been due, in part, to the coach not delivering the feedback. When the coach was delivering the feedback, he felt he had a tendency to focus “on the bad points … he made me feel more conscious about my mistakes … I knew he would be waiting for me to make a mistake, and I couldn’t relax … I was more relaxed watching the video on my own” (P3). Like player one, player three also associated the skill of visualisation to the video work. He stated:

The video provided me with the same image but it was a bit of a clearer picture in my mind, and it was really successful as well, because those clips stuck in my mind easier than they had before … I spent quite a lot of time replaying the positive clips in my mind before games, something I didn’t use to do before (P3).

Player four felt that the intervention made a big difference to his performance, particularly in his consistency on the pitch; however, this improvement in performance was not supported in the subcomponents. Specifically, he felt that it improved the level of his performance at the end of games, when previously he would have got tired, lost concentration and made small mistakes. As he stated,

I was able to recall the positives from the clips I was watching and focus on doing the simple things rather than allowing myself to get sloppy…I used to play with my head down too much…but after watching it on video, I started to lift my head up and played myself out of trouble more often (P4).
Player four also compared the intervention with the video feedback he was used to receiving from the head coach of the team post-game. He felt that the video sessions were less pressurized without the coach, and that sometimes he needed that pressure to get more out of the video work, stating that,

You have to be more honest with yourself [when you are on your own], otherwise you are just cheating yourself, and it will catch up with you on the pitch when you haven't moved forward … I think I needed more coach input at times (P4).

In the post-study interview, player five reporting feeling a little frustrated early on in the study, (“curious I guess…I wanted to watch the video and see whether the scores I was putting down on the questionnaires matched up to the evidence on the video”(P5)). He also felt that filling out the questionnaires made him think about the game a little bit more in the first few weeks or so than he would usually, but he didn’t feel that this had any real impact on his performance. In week 8, he was selected to captain the team for the first time in a youth cup tie (in front of his family), and believed that he felt a big difference in his motivation levels pre-match and pressure he put on himself to perform. There is evidence to support this with lower self-report levels of performance on for the sub-component ‘tackling’; explained by a desire to rate himself more negatively due to the pressure he was putting on himself to perform, and the importance of the game.
8.2 Discussion

The findings of study two provide the first examination of the use of a self-modeling intervention within football. The main objective of this research investigation was to explore the impact of a pre-match video intervention on the performance of elite young footballers in a competitive setting. A secondary objective gaining a better understanding of the psychological variables that may help to explain how the VSM intervention impacted on football performance. These two objectives are addressed within the following paragraphs. At the end of this Chapter, practical and research recommendations are offered, and strengths and limitations of the study considered.

8.21 Performance Impact

In this study the intervention was delivered approximately 1-2 hours prior to kick off, and thus could be considered a pre-match preparation strategy. The tenets of social cognitive theory (Bandura, 1986, 1997) hypothesise that a self-modeling intervention can provide athletes with mastery experience information. If delivered while the athlete is preparing to compete, this mastery experience can in turn, lead to improvements in performance. While there were positive changes in performance observed during the intervention period, overall the results were inconclusive regarding the performance impact of the self-modeling intervention. The findings reported here generally reflect the mixed findings found for VSM interventions elsewhere in the social science literature (Dowrick, 1999). It is evident that a VSM intervention may not be beneficial or effective for every player in terms of motor performance (e.g. Ram & McCullagh, 2003; Starek & McCullagh, 2003; Rymal et al., 2010). Although performance improvements were not observed for all players
and upon both subcomponents, overall the players’ responses to the video interventions were positive.

Although it is difficult to say with confidence that self-modeling is beneficial for all players, there appear to be of employing self-modeling videos within sport for certain individuals on certain behaviours (Ste-Marie et al., 2011; Vertes & Ste-Marie, 2012). The graphs show that three of the four players’ performance scores were higher for the games in which they viewed the video than those in which they didn’t view the video (equivalent to three skills out of eight captured in the study). For two players, in particular, improvements were observed in both the self-rated and objective coach-rated measures of performance and at follow-up points. For example, in line with other psychological skill intervention research within soccer (e.g. Thelwell, et al., 2006), the value of targeting positional requirements could be seen as a strength of this study. The social validation data suggested that the players felt that the intervention encouraged them to focus to a greater extent on their specific role within the team (e.g., playmaker, defensively-minded player) where particular subcomponents would be more important than others. This was confirmed by one player, who suggested “…it's such an important part of my game as a defender, but I hadn’t really set it as a goal to work on this area of my game before and so I guess my confidence hadn’t really been gone up on it”.

The notion of delivering an intervention to individual players, without coach feedback, may appear counter-productive within a team sport environment. Seen as the gate keeper within the video delivery process, the coach is usually involved at all stages of the video delivery process, and is seen as a central component of the video delivery process (Groom et al., 2011). As the influence of the coach is less pronounced during self-modeling videos, this study provided an opportunity to study
how footballers respond to the video on its own. Interestingly, watching video away
from the coach was identified by two of the players as a positive aspect of this
intervention. However, in the social validation measures, one player felt that he
needed more coach feedback during the intervention to benefit from the video
intervention, suggesting that individual preferences for feedback may still be
important in this respect for certain players (Nelson et al., 2011). Furthermore, while
the influence of the coach was controlled to a certain extent during the video-based
practice within the player’s development, the coach will have played a significant
role in their preparation within other development activities within the environment
during the study timeframe (e.g. training, pre-match meetings).

Given the aims of the study, it is important to primarily explore the impact of
this research on the players within the applied setting. It is clear, at this level, that
there were a number of factors influencing the way the players responded to the
video intervention. For example, for one player (P4), higher performance levels
were observed during the intervention phase for one subcomponent on the self-rating
measure. However, these were not observed on the more objective (coach-rated)
performance measure. Assuming that the independent coach measure can be
considered a reliable measure of performance than self-report data (Moritz et al.,
2000), this finding suggests that this player felt he was performing at a higher level in
matches than he actually was. This possibly indicates an unrealistic evaluation of
personal performance on behalf of this player. However, given the complexity of
measuring football performance, it should also be acknowledged that this more
independent coach measure of performance may not be accurate enough on this
subcomponent of performance (‘passes’). It is noted that independent
subcomponents remain slightly weaker predictors of performance in open sports such
as football than multiple-criteria performance indicators where the opponents’
actions are also considered (Hughes & Franks, 1997). It should also be noted that as
we were collecting data in the natural environment of competitive football matches, a
number of variables were uncontrolled. For example, although measures for
importance and difficulty were taken in this study, the impact of other performers in
the matches cannot be fully accounted for, and player four’s scores may reflect the
challenge of playing difficult opponents.

It is important to consider the possible impact of other confounding variables
on the findings of this study. The focus of this study was on understanding the role of
player-focused video intervention on performance and psychological responses
within an applied football setting, and that it is impossible to full experimental
control outside of laboratory conditions. The lack of progress in performance on
certain subcomponents following the current VSM intervention could be attributed to
a number of factors, including the quality of motivation on behalf of the player (in
one case), and uncontrollable factors (e.g., opposition performance) rather than the
delivery strategy. Furthermore, although there was a level of experimental control
added during the intervention regarding coach feedback (i.e. no one-to-one work
with players involved in the study), the impact of attention provided by the coach to
the player outside of the video feedback scenarios may possibly have influenced the
players psychological state prior to games. Also, by allowing the players to choose
music tracks to accompany their pre-match self-modeling video, it is impossible to
control for the potential impact this may have had on their confidence or emotions
prior to performance. In other research, music has been shown to be an effective
intervention in its own right for helping athletes achieve a range of desirable
psychological and performance effects in sport (Terry & Karageorghis, 2007).
Empirical evidence has supported the effects of music on factors such as enhanced mood (Hewston, Lane, Karageorghis, & Nevill, 2005; Terry, Dinsdale, Karageorghis, & Lane, 2006), arousal control (Szmedra & Bacharach, 1998), improved skill acquisition (Pates et al., 2003), and enhanced performance (Karageorghis, Drew, & Terry, 1996; Simpson & Karageorghis, 2006). However, with little observable impact on the performance of the control-participant during the study, there is confidence that the findings observed were as a result of the players’ involvement in the study rather than other factors.

While all the players were given the opportunity to take a DVD of their intervention home to engage in self-controlled viewing, the social validation interviews suggested that few of the players actually took up this opportunity. This is surprising given the positive associations for self-controlled video-based practice reported elsewhere in this thesis (study one, Chapters 3-6). One possible explanation for this is that as the players had integrated the video into their pre-match preparation routine each week, they wanted to gain the maximum emotional and psychological impact of the video prior to performance. Finally, it was noted that no performance improvement was observed for the subcomponent ‘first touches’ for any of the three players who selected this aspect of performance. However, it is noted that as there is little previous research within this area, the focus of the study was exploratory in nature, and thus any conclusions are drawn tentatively. However, as this is the first VSM study to be conducted within football, it is difficult to offer a clear explanation for this finding regarding the type of movement selected. Future researchers may wish to explore compare the impact of VSM on football players’ performance to other video conditions or to a control group, as information in this area is limited to date.
8.22 Psychological Impact

A secondary objective of this study was to explore and understand the variables that may help to explain why the VSM video enhanced football performance. The findings of this study suggest that the individual players responded to the information from the self-modeling in different ways. As the only theoretical framework available which attempts to understand why self-modeling may be effective for athletes in competitive sport, the findings of this study may be explored and interpreted using Zimmerman’s self-regulation model. Where pre-match self-efficacy increased on a subcomponent, so did performance (for the most part) on the same sub-component, providing some initial support for researchers who have argued that benefits of a self-modeling interventions may arise from enhanced self-regulatory processes (e.g., Schunk & Hanson, 1989; Starek & McCullagh, 1999; Winfrey & Weeks, 1993). This finding is similar to other studies which have predicted and obtained higher levels of self-efficacy as a result of a self-modeling intervention (Rymal et al., 2012).

Not all the players reported a positive change in self-efficacy as a result of being in this intervention. However, there were confidence statements made by three of the players in the post-intervention interview. Consistent with the tenets of self-modeling theory (Dowrick, 1999), it is possible that the positive effects of the video on the performance measures used in this study could be related to changes in confidence to perform rather than improvements in technique. As one player stated: “I don’t think the technique of heading has changed massively, maybe small points … I feel more assured about this skill than I had before” (P3). This was to be expected as the focus and timing of the video was on watching adaptive examples of performance elements which the players were already performing to a high level –
thus targeting performance rather than skill learning (Ste-Marie et al., 2012).

However, mirroring other single-case studies in sport (Starek & McCullagh, 1999; Winfrey & Weekes, 1983; Ram & McCullagh, 2003; Clark & Ste-Marie, 2007), the link between confidence and performance was not consistently observed for all the players. For example, for player one, performance increased on the subcomponent ‘turns’, despite small changes in self-efficacy. In addition, for player two, certain increases were observed in self-efficacy, but not in performance.

Whilst self-efficacy has been identified as a strong predictor in self-modeling studies (Bandura, 1997), it is not uncommon for performance to increase without self-efficacy. For example, Starek and McCullagh (1999) compared the effects of a peer-modeling and a self-modeling intervention on the physical performance, state anxiety and self-efficacy of beginner swimmers. While the results seemed to show an performance improvements among the self-modeling condition compared to the peer-modeling condition, no difference existed in state anxiety and self-efficacy between the two groups, suggesting that neither self-efficacy or state anxiety was responsible for the findings observed. However, the qualitative interviews provide insight into the players’ responses, particularly in the case of player two (where the changes in confidence were reported, were not converted into performance). In the post-study interview player two suggested that he had selected the subcomponents of performance based on feedback received from his coach, and also that he preferred more negative feedback from the coach to the positive images he was receiving during the intervention. This suggests that extrinsic rather than intrinsic reasons underpinned his behaviour in this study. The findings highlight the possible role of motivation in self-modeling, and suggest that applied researchers and practitioners
may find it beneficial to gain greater insights into players’ motivation levels prior to intervening with video.

Positive changes in affect levels were also observed on the measures employed during the intervention period for some players. Mirroring findings reported in exercise settings and with video gamers (e.g. Miller et al., 2005; Kirk et al., 2013) positive affect increased, and negative affect decreased in response to the video. Two of the four players who received the intervention spoke of experiencing positive emotions and better focus after watching their pre-match video intervention.

Clark and Ste-Marie (2007) argued that video self-modeling videos have the capacity to increase levels of positive affect, by enhancing learners’ feelings of satisfaction with their performance. Whilst Clark & Ste-Marie’s study was conducted in swimming with children, this is the first study to explore these factors within an elite sport setting. One of the players associated the video intervention with positive emotions pre-match, and suggested that the addition of music was partly linked to these emotions. Music and video has been identified as a powerful combination for eliciting psychological responses in athletes (Baumgartner et al., 2006), and have been included in video interventions in sport, with positive initial findings (e.g. Tracey, 2011). However, the changes in affect levels were only observed for two of the four players, with these changes diminishing by the fifth week of receiving the intervention. It is noted this aspect of the study was exploratory in nature, i.e. focused on understanding the impact that VSM may have on thereby influencing psychological states before a match (by increasing PA and reducing NA). While the findings provide some insight into the relationship between observational learning (self-models) and affective responses, but further research is needed to explore the relationship between these factors and performance.
Although a number of the players’ responses in the intervention could also be found within the forethought phase of Zimmerman’s model, other processes reflected the self-reflection (after performance) phase of Zimmerman’s model. Three of the players associated video as a reason for the performance results obtained, a typical response being “it helped me with my performance” (causal attributions). One player reported using the information he gained from the ‘raw’ VFB (self-observation) to compare his performance with the goals he set for himself prior to performance (“I found myself trying to compare what I wanted to do when I was watching [the pre-match video]” (P2), suggesting that the player was using self-evaluation, or comparing self-monitored information with a standard or goal). The players did not, however, discuss the impact of the video intervention on their regulatory processes during performance. In study one, the players and coaches had suggested that video replay could impact on within-game responses, such as emotional control, focus and decision-making. The findings tentatively show the relevance of Zimmerman’s model of self-regulation as one mechanism for understanding video-based practice in football. Future researchers may consider the use of a self-regulatory measurement tool, such as the newly developed Strategic Planning Questionnaire (Ste-Marie et al., 2011) to understand this impact of these self-regulatory processes more clearly.

The players’ reported use of visualisation during the intervention provides additional insights into the findings. Higher performance scores can be observed for players one and three, with both players citing the impact of visualisation on their self-confidence prior to performance. It is possible that the pre-match video was engaging similar psychological processes to imagery prior to performance, and together they played a role in building pre-performance confidence prior to
performance. It was clearly difficult to establish whether the players were in fact imaging accurately (i.e., vivid and controlled) and to distinguish completely between the effects of self-modeling provided by the video and those of any subsequent imagery (Ram, Riggs, Skaling, Landers & McCullagh, 2007). The use of either technique would depend largely on the modality and perspective the athlete was using, and whether this was appropriate for their needs. Research has shown that imagery ability varies among individuals (Callow & Hardy, 2005). Low imagery ability individuals may benefit more from self-modeling video interventions as they present a different tool to generate a visual image of success. However, there is also an argument that athletes who can image a ‘perfect’ routine, or vividly recall a motivational moment in a previous game, may not actually need a video intervention. As the focus of this study was on video self-modeling and not imagery, the players’ imagery ability was not captured in this study. Gaining a better understanding of the relationship between video, imagery ability and use, and performance would be a worthy avenue for future research.

8.23 Strengths and Limitations of the Study

The choice of experimental design was considered appropriate for studying the individual players’ responses to the intervention. Methodologically, the study benefitted from the decision to employ a single-case design to explore the response of individual players to a personalized video intervention. This enabled small changes in performance and psychological variables to be captured and explored through the gathering of multiple measures across participants for a moderate intervention period (5-8 weeks). The longitudinal and staggered nature of the data collection was also supplemented by social validation and interviews to gain an in-
depth understanding of the players use of and response to the videos. Future research should consider the use of single-case designs in order to collect data in ecologically valid settings, and assess the separate impact of positive self-review or self-observation techniques on performance with other populations. Involvement in the study required a high investment of time and resources from the practitioner and players involved. For example, the primary researcher was required every day in the club throughout the study period, and attended all matches to collect performance analysis data from competitive venues across the United Kingdom. This type of programme may not always be logistically or practically viable for all practitioners or sports organisations; however, we would point to the use of elite sport within the study where the provision of optimal support services remains a priority. It is important to note that the players involved in this study were adolescent elite athletes (in the final year of their scholarship); thus, these findings should not be generalized to younger, less experienced athletes. The application of VSM work among a sample of younger players at earlier stages of the development structure within youth football would be an interesting avenue for future research.

The use of objective measures to assess performance is considered to be a strength of this investigation. The decision to focus on sub-components of performance rather than focus on overall performance was justified by the changes observed during performance. Capturing the execution of performance in almost any team sport is very difficult, and in football – a complex, open team sport – valid performance ratings are considered particularly difficult to achieve (Hughes & Franks, 1997). By attempting to execute skills and movements in open play during football matches, players have very limited time to organise themselves, and are often responding instinctively to the situational demands of the game. Given these
points, performance could not be easily rated within this study. Mackenzie and Cushion (2013) identified four areas which needed consideration when analysing the performance success of each subcomponent: technique, option, outcome, and difficulty. In this study, measures were taken for outcome and difficulty, adding greater depth to the performance data gathered. Moreover, with performance changes captured using both objective (percentage success rates) and subjective (player self-ratings) assessment, there is confidence that the results observed in performances were genuine. Although areas of individual performance remained unexplored, these objective indices combined to offer a more accurate, overall assessment of intervention effectiveness than self-report measures alone.

A further strength of the current study was that the players’ responses were observed within a natural environment of competitive football matches. Set within a real-life elite football development programme, the researcher was immersed within the day to day life of the players and coaches for the duration of the study. Every attempt was made to maintain authenticity and avoid creating false research conditions, such as exhibition matches and training ground scenarios (Munroe-Chandler, Hall, Fishburne, & Shannon, 2005). By adopting this approach, the researcher ultimately had less experimental control over the study.

A number of practical and ethical decisions needed to be made during the planning and delivery of the intervention with the needs of football players, coaches and the club equally considered alongside the integrity of the research. For example, the video intervention would have been ideally delivered to the players immediately prior to performance (e.g., 5-10 minutes. before performance; Rymal et al., 2011). However, this was impractical and potentially disruptive to the coach, player and team. Additionally, the decision to employ a control participant was a difficult
choice to make from an ethical viewpoint. With researchers arguing that participants serve as their own control during single-case designs (Hrycaiko & Martin, 1997), control-participants are rarely employed within single-case experimental studies. However, the findings from the control participant improved the confidence that the results observed in this study were due to the video intervention rather than the wide range of confounding factors that could exist in the field setting. As stated earlier, the full intervention was offered and delivered to this player following the end of the study by the principal researcher, and every effort was made to monitor his responses during the study to ensure that his involvement in the role did not have a negative impact on his performance. As with any study which takes place within an applied setting, there were external factors which were beyond the researcher’s control, including the practical challenges of collecting the performance data, and impromptu changes in the preparation routine that occasionally limited the time available for the players to watch the video.

Finally, it is important to acknowledge that the adoption of a single-case design does somewhat limit the researcher’s ability to generalize from the findings, particularly beyond insights for adolescent academy youth football. However, given that this was the first study to employ video self-models within a field-based study within football, a focus on understanding the idiographic and longitudinal responses of elite youth players seemed merited. In the future, with a controlled experimental group design and a greater sample size, greater generalizability may be possible regarding the performance impact of such video interventions. Nevertheless, it is important to admonish that a group-focused strategy may not achieve the same level of engagement and specificity as the single-case design, and where individually meaningful responses may be hidden within the group mean.
8.24 Conclusions

The main objective of this applied research study was to explore the impact of a pre-match video intervention on the performance and psychological responses of elite young footballers in a competitive setting. The findings of the present study suggest that individually-tailored video interventions can lead to improvements in performance for individual players, but not for others. Given the mixed findings, there is clearly a need for further research in this area. To date there has been little applied research to support the effectiveness of such interventions, and few studies have investigated its impact within under experimental condition. A second objective was to explore variables that may help to explain how the VSM intervention impacted on football performance. The findings provide insight into how self-modeling videos can be used in applied settings to positively influence psychological variables such as self-efficacy and affect (e.g. Forzoni, 2006; Tracey, 2011; Halliwell, 1990). However, other self-regulatory processes, such as motivation, and psychological skills, such as visualisation, also appeared to play a role in the relationship between video observation and performance. With no performance effects observed on over half of the subcomponents of performance, this obviously leads one to question what the root cause of effective self-modeling may be. It is also possible that the improvement of the players’ performances were affected by other social-cognitive factors not directly examined in the present study, such as imagery use or imagery ability. In summary, whilst anecdotal evidence suggests that the use of video as a pre-match performance enhancement strategy is popular within football, few studies have explored their impact under experimental conditions within elite competitive settings.
CHAPTER NINE
9.1 Study Three: Reflections on the Delivery of Video-based practice in a Professional Youth Football Academy

The findings of study two illustrated how the elite youth football academy offers an ideal context in which to explore the realities of applying video technology within player development activities. In study three, the focus moves to the experiences of the practitioner working with VFB in this specific setting. The first two studies in this thesis have provided rich insights into the factors that underpin effective video-based practice with youth football. More established methods of data collection have been employed (i.e., interviews, single-case designs) to explore the phenomena within this thesis. These approaches have been widely used within sport science literature (Barker et al., 2013), contributing much of what we understand about how players and coaches use and respond to video-based practice. However, there remain many ‘blank spaces’ in relation to our understanding of the use of video-based practice within sports (Groom et al., 2011; Nelson et al., 2014; Stratton et al., 2004). There is also an argument for using alternative methodologies within the social science literature which enable the researcher to be in more direct touch with the phenomena under investigation. From a wider sport perspective, this approach may also explore the transfer of knowledge from sport science (performance analysis, sport psychology) to coaches - an important problem for both coaches and scientists (Williams & Kendall, 2007). From a theoretical viewpoint, this research could also be used to triangulate the findings from earlier in this thesis, i.e., by fleshing out the cross-sectional nature of the qualitative data collected in studies one and two. Therefore, additional investigation is required ‘in situ’ if we are to further understand the applied use of video and the interactions that occur between
the coach, player and practitioner surrounding video-based practice. Given this
time, a narrative-based reflective piece exploring the practical experiences of a
practitioner working within elite youth football represents the final study in this
thesis.

Recent advances in computer and video technology have provided
researchers and practitioners with opportunities to utilize technology more efficiently
within applied contexts (MacRae, Miller-Perrin, & Tinberg, 2003; Templin &
Vernacchia, 1995). To date, much has been written about the techniques of video
analysis within soccer (MacKenzie & Cushion, 2013). For example, within the PA
literature a great deal of attention has been paid to PA as a method to record sports
performance data in an ‘accurate’ and ‘reliable’ manner (Hughes & Franks 1997,
2004, 2008). Little has been written about the practical and philosophical challenges
facing coaches’ and practitioners’ delivery of video information in applied practice.
With limited professional practice literature within this area, there is a danger that the
approach to delivering video feedback be overly-simplified, leading to ineffective
practice. PA researchers have suggested that the limited research into the applied
realities of video-based practice has led to a disconnection between the academic
study of PA and the realities of its practice by coaches in the field (Liebermann et al.,
2002; Groom et al., 2011).

Whilst there has been a recent growth in the number of studies reporting how
video information is being employed within sport (O'Donoghue, 2006; Wright,
Atkins, & Jones, 2012), few studies have explored the impact within applied settings.
This is surprising given the popularity of video technology as a learning tool within
elite sporting environments and the number of performance enhancement
practitioners working within professional football teams (James, 2006). The limited
applied practice research in this area may also be reflective of an over-reliance on controlled experimental methods within video research (Ste-Marie et al., 2012). While the efficacy of different video strategies has been supported under experimental conditions (Magill, 2001), limited research has been grounded in applied practice within elite sporting environments (MacKenzie & Cushion, 2013), and subsequently craft knowledge has been slow to develop.

9.11 The Video Practitioner

However, this trend is changing in recent years, with researchers employing qualitative and ethnographic methodologies to explore this applied delivery process in greater depth. Recent studies have demonstrated the value of ethnographic work within video-based practice. For example, Nelson and Groom (2012) presented a hypothetical dialogue between a notational analyst, an ‘old-school’ traditional coach and a pragmatic educator regarding the respective value of quantitative and qualitative methods of PA. There is also clearly value in writing the practitioner into the research itself. Strauss and Corbin (1998) suggest that personal and professional experiences ‘might be a more valuable indicator of a potentially successful research endeavour than a more abstract source ... as professional experience frequently leads to the judgment that some feature of the profession or its practice is less than effective, efficient, human, or equitable’ (p. 3 8). By writing myself into the research process as an active rather than passive voice, it may be possible to gain an alternative understanding of these relationships and interactions.

While applied-texts and recent ethnographic approaches have lifted the air of mystery surrounding the activities and interactions within video-based practice in sport, these studies have tended to be cross-sectional in nature. However, in a
longitudinal design, Groom et al., (2012) explored coach–athlete ‘talk in action’
during PA feedback sessions over the course of a 10-month English Premier League
Academy season. In this study the principal author was immersed in the context as a
member of staff undertaking the role of Performance Analyst - providing technical
video analysis support - enabling them to study the nature of this topic from a much
closer perspective than offered by traditional approaches. Where longitudinal
engagement of the observer/ethnographer and a significant degree of reflective
and/or reflexive activity has been undertaken by those involved, it is possible to offer
a more rigorous exploration of the phenomena (Anderson, Knowles & Gilbourne,
2004). However, few others have adopted such approaches in the sport literature to
date. A longitudinal approach would offer a valuable contribution to the current
literature, by understanding how the activities and relationships within video-based
practice evolve, and whether this impacts on the effectiveness of practice. By
reflecting on my practice over two seasons, as part of a longitudinal approach, this
study captured the evolution of video work and of the professional philosophy
guiding my practice as a practitioner.

When a practitioner is employed within a football club their applied work
becomes embedded in and around the activities outlined above. A Sport
Psychologist’s work, for example, might include consultations on topics such as
building confidence, conflict management, or support for individual players on
identified performance issues. A Performance Analyst’s work may include capturing
performances in games and training, the analysis of opposition teams, or providing
statistical analysis on identified areas of performance. From an applied research
perspective, understanding the roles, behaviours and interactions through this
perspective would provide a unique angle on the video delivery process and the
behaviours of the main participants in this process. For practitioners wishing to work
with video, there is currently little guidance on the processes which enable good
practice to be undertaken. Given this, greater knowledge is needed about how
coaches and practitioners use video technology to impact on player development
from within applied settings.

In study one, the skillset of the Sport Psychologist was identified as one
which could add significant value to current practice within youth football. This is a
suggestion that has attracted support from others (Groom et al., 2011; Ives et al.,
2002). Whilst the use of video as a performance enhancement tool by Sport
Psychologists is not new, anecdotal evidence suggests that within youth football this
work is traditionally delivered through a combination of the Coach and Performance
Analyst. Ives and colleagues saw the possibility for video to enhance performance
through improved motivation, visualization and improved communication; however,
they argue that ‘…despite the evidence that video can be used successfully to
improve performance of players and coaches, it has not made significant inroads into
the applied sport psychology setting’ (p. 239). Research has suggested that football
is a culture where sport psychology practitioners may find it hard to thrive, with
coaches holding negative perceptions regarding its integration into football practice
(Pain & Harwood, 2004). However, it could be argued that initiatives such as The
F.A.’s ‘Psychology for Football’ strategy are beginning to bring about changes in
this culture. Anecdotal evidence suggests that many clubs now employ the services
of sport psychology practitioners to work within their academy and senior teams. A
key objective of the current study was therefore to reflect on these applied activities
from the viewpoint of the practitioner working within a real-life professional
academy setting.
9.12 Narrative-based Reflection

Given the arguments outlined above, a narrative-based reflective approach was chosen to explore the research question within this study. Smith and Sparkes (2009) make a case for the inclusion of narrative inquiry in the methodological repertoire of researchers in sport and exercise psychology. In this study the authors showed how narratives are a meaning-making activity and how they can be a useful research tool for developing understanding of team activities within social settings. In this study narrative is seen as a piece of naturally occurring discourse, and has been defined as ‘the socially organized telling of temporally ordered past, present or future events from a particular point of view’ (Ochs & Taylor 1992, p. 32). This kind of empirical analysis, while more widespread in other settings (Streek, Goodwin, & LeBaron, 2011), is still underrepresented in sport research (Zucchermaglio & Alby, 2012) due to the difficulties of accessing elite sport team activities.

It was hoped that a narrative approach - which has often been employed to explore questions which remain private within elite sport (Gilbourne & Richardson, 2006) – may provide unique and powerful insights into applied video-based practice. Such approaches have also been seen to extend current knowledge and understanding of specific phenomena (Sparkes, 2000). Alternative methods of qualitative research (e.g., biographies, narratives of the self) are becoming more widely accepted and used in the sport science literature (Holt & Strean, 2001; Tonn & Harmison, 2004). Therefore, this study does not hold the intention of establishing the effectiveness of video-based practice through any sense of measurement, but seeks to explore video-based practice from a personal perspective of the practitioner. It is hoped that
drawing on what are highly personalized experiences from my practice, I can open up a different perspective for readers to consider.

Reflective writing can be used to help applied researchers explore the link between their professional ‘knowledge-in-action’ and practical experiences by attempting to raise into consciousness ‘craft knowledge’ or ‘tacit knowledge’ (Anderson, Knowles, & Gilbourne, 2004; Knowles, Gilbourne, Borrie, & Nevill, 2001; Martens, 1987). Knowledge-in-action is suggested to be constructed of two parts. First, is that improving practice and professional development begins with reflecting on what we actually do, on our own experience. This reflection generates a rich and detailed knowledge base derived from practice (Ghaye & Lillyman, 2000). Second, this knowledge is used by practitioners in their work and thus it becomes our knowing-in-action. Tacit knowledge is not verbalized and is a situated knowledge that is only accessible when work is actually being carried out.

Schön (1983, 1987) recognised the value of reflection in linking our espoused theories (e.g., what we say or claim we do) with our theories-in-use (e.g., what actually happens in practice). Hence, using reflection to examine not just the research based knowledge that influences our practice but also hands on knowledge-in-action, we will be in a better position to identify good practice and take steps to learn from it. This ‘knowing-in-action’ is a foundation for the action-related attitude that the experienced practitioner has and that Schön (1983, 1987) called ‘reflection-in-action’. Reflection-in-action means that practitioners reflect on professional action at the same time as they carry this action out. Reflection-in-action differs from reflection-on-action, which signifies reflection on practices before or after the actual action. Reflection-on-action. Reflection-on-action is the form of reflection that occurs after action and relates, via verbalised or non-verbalised thought, to the action
that the practitioner has taken (Moon, 1999). It is a deliberate and conscious activity that can be conducted privately or publicly and is principally designed to improve future action (Ghaye & Lillyman, 2000). It has been argued that the use of reflective narratives to outline specific issues concerning practice has the potential to enhance the effectiveness of practitioner’s professional practice (Jones, Evans, & Mullen, 2007).

In this study I deliberately wrote myself as an integral part of the research process, and in doing so, aimed to use reflective practice to construct an account that was evocative, personal and highly reflective. Whilst the use of the self as the only data source has been questioned, with self-narrative accounts seen as narcissistic and self-indulgent by critics (Atkinson & Nevill, 2001), traditional criteria for judging validity need not be applied to narrative-based writing. Fundamentally, my approach was formed on the belief that professional knowledge is constructed from the experiences and interactions within the real world, that it is ‘forged in the dialectic tension between [individuals] and the worlds around them’ (Schempp, 1993, p. 3). Thus, the story of ‘myself’ depends on the story of the ‘other’ (Sparkes, 1998).

Alongside the depth of writing on the relationship between the practitioner, myself, and the coach in this piece, Sparkes (2000) suggested that such writing could be also judged to the extent that it manages to engage the reader emotionally or whether the material carries any sense of authenticity or integrity. Gilbourne and Richardson (2006) argued that knowledge in a reflective study can be validated at a personal and institutional level through a grasp of ‘what works’ on the ground. It is acknowledged, however, that it remains difficult to clearly state ‘what works’ when delivering video feedback within sport.
9.13 The Setting

This study aims to contribute to an understanding of video-based practice in youth football by focusing on narratives emerging in naturally occurring interactions. All the applied experiences outlined in the study that follows should be viewed against the backdrop of daily life within a professional youth soccer environment, including aspects of technical, physical and tactical training, injury treatment and rehabilitation, travel to competitive games and the pre-match, in-play and post-match processes that any given club may deploy. Whilst soccer clubs might (broadly speaking) undertake the same activities, different clubs might also be expected to execute these in a variety of ways (Richardson, Gilbourne, & Littlewood, 2004). Focusing more specifically on video-based practice, differentiation on a common theme could include a particular approach to pre-match video meetings, greater time or weighting placed on the type or depth of analysis conducted post-match, or the approach taken to the post-match video debriefs. Similarly, access to personnel, facilities and resources may differ considerably across a number of clubs. Together, these and many more activities join up to form a club’s own perspective on working practice. In this environment, relationships with significant stakeholders such as Academy Directors, Coaches, Heads of Education and Welfare, Performance Analysts and Sport Psychologists will mediate players' developmental experiences within video-based practice.

9.14 Gaining Entry

My formal reflective activity was conducted at a Professional Youth football Academy, who at the time of the study were competing within The Football
League’s Premier Academy League (Southern Conference, www.football-
league.co.uk) and The FA’s Youth Challenge Cup (theFA.com) competitions. By the
time I had made the decision to conduct a narrative study, I had already gained entry,
and had been at the club for one season, achieving a level of informal recognition as
a Sport Psychologist within the club. My supervisor, acted as ‘gate-keeper’ a year
earlier, bringing me into the club to work within the U16-U18 Academy. Thus, the
usual issues of access, permission and acceptance into a context that need to be
contemplated when planning naturalistic research (LeCompte & Preissle, 1993)
were already partly negotiated, making the task of recruiting participants and
developing relations in the field easier. It is important to note that given the
challenges of integrating reflective practice into the football environment (Gilbourne
& Richardson, 2006), my reflective activity often needed to be spontaneous and
unstructured. While an extensive journal was essential to remember my experiences,
to a certain degree, the most effective reflective activity was just being with people,
and at times, reflecting with them (Woodcock et al., 2008).

9.2 Methods

9.21 The Reflective Journal

The primary source of data during this period was my reflective journal. This
journal was used to keep descriptive notes from training, competitive matches, travel
with teams, team sessions, one-to-one work, research activities, and meetings (with
coaches, athletes, support staff, and my supervisor). I employed analytic reflexivity,
writing an account of my experiences in a personal diary at the end of my
engagement at the academy, typically at home in the evening. Throughout the
process, I committed myself to complete honesty and self-reflection within the diary, which translated into narrative visibility of the researcher’s self within the reported findings. My reflections covered two years of a three and a half year role as a practitioner within the club. During the timeframe of this study, I maintained a minimum contact of 4 days a week with the club, often working with coaches or players every day. The purpose of the reflective journal was to help describe and reflect upon the role I played within the club delivering video work. To facilitate a ‘warts and all’ approach to my reflections, the journal was completed privately. All structured reflections were conducted 48 hours after the consulting experience had occurred, and captured in a series of notebooks.

Platzer, Blake and Snelling (1997) identified that learning through reflection is more potent if there is an understanding of frameworks that encourage a structural process to guide the act of reflection. There are a variety of frameworks available to practitioners wishing to conduct guided reflection (Gibbs, 1988 - reflective cycle; Johns, 1994 - structured model for reflective practice; Rolfe, Freshwater, & Jasper, 2001). In this study I adopted Rolfe et al.’s (2001) reflective model, as it provided a structured framework for holistic reflection that encouraged me to re-experience my thoughts, feelings, and behaviours. This model has been previously employed with reflection studies, and employs three key questions – ‘What happened? So what? What now?’ - to encourage reflection. Using a structured method gave me the chance to identify the specific information, thoughts, and feelings that would allow reflection. In this way, the model allowed me to reflect rather than simply mull over the experience (Knowles, Gilbourne, Borrie, & Nevill, 2001).

Within the messy reality of elite sport settings, however, I was also mindful to accept that this ideal process of reflection might be difficult to maintain at all
As Gilbourne and Richardson (2006) state: ‘In the frantic and often unpredictable world of soccer, attempting to frame reflective activity too rigidly sometimes tempts failure. The chaotic reality of most applied settings suggests that an asymmetrical (even messy) model of reflection and action may have to be accepted’ (p. 652). While formal reflective activities (such as the reflective diary) are seen as essential for remembering experiences and documenting important conversations, to a certain degree, the most effective reflective activity was just ‘being with others’ (Johns, 2000; Woodcock et al., 2008). My experiences as a practitioner in the season leading up to this study had helped me learn to hang out within the academy environment. I also recognized the benefits of documenting the less poignant and consistently more low-key experiences as well – i.e., the conversations at the training ground with coaches, the cups of tea with support staff, the trips to and from the airport with players, the observation of the coaches – and athletes day to day, and the hours of feeding back videos of performances to the players and coaches. I was also aware of that reflective practice is a profoundly difficult thing to do (Johns, 1994). It is acknowledged that personal reflection can be limited by a practitioner’s level of knowledge and understanding, and therefore it is important to share experiences with others publicly may create a forum to facilitate an interchange of views (Knowles et al., 2001). In this respect I was fortunate to have my academic supervisor on hand most weeks to provide guidance and reflection on my reflections.

9.22 Data Analysis

The focus of my reflections was mainly restricted to the interactions and events linked to the video work within the setting outlined above, but no other prior criteria were employed to guide my reflections. These primary themes were raised
from the analysis of my reflections on critical incidents, and provide the skeleton for
the story of this experience (Nicholls, Holt, & Polman, 2005). I engaged in a
reflective analytic process to consider the nature and personal meaning of my critical
experiences (Ellis & Bochner, 2000; Fleming & Fullagar, 2007). Reflective
techniques allow for specific experiences to be remembered, problematized, and
written into narrative form (Fleming & Fullagar, 2007). I identified several themes
that were indicative of my most meaningful moments in my experiences within the
football club. Rather than presuming to provide a coherent account of identity, the
narrative represented here is written through fragments of time that have been
ordered chronologically to reflect my experience. It is important to recognise that
there are limitations to reporting selectively from data (Ritchie & Spencer (2004),
and that transparency is a key aspect of qualitative research. However, the purpose of
this study is to provide the reader with a rich, detailed story of my experiences, and
therefore a decision was made to draw out themes from the data which reflected the
most meaningful aspects of the experience for me as a practitioner rather than to
apply a structured data analysis process (as in study one).

However, in order to develop reasoned interpretations from this content
analysis, I presented my conclusions to two colleagues. One of these was my
doctoral supervisor, and the other colleague was well versed in qualitative research.
The role of these two colleagues was to act as ‘critical friends’ (e.g., Smith &
Sparkes, 2006), and provide a sounding board to encourage reflection upon, and
exploration of, alternative explanations and interpretations of the data. This process
was not intended to be a validity or reliability check as in (post) positivist terms.
Rather, the different perspectives offered by critical friends was seen as a resource
for challenging and developing the interpretations to help me construct a coherent
and theoretically sound argument to defend the data generated in the present study (Smith & Deemer, 2000). Importantly, this approach acknowledges that other plausible interpretations of the data can exist that are also defendable but are not being utilized in a particular study.

9.3 Results

Three themes are presented from the analysis process. These were viewed as the most interesting and valid experiences from the reflective period and selected extracts from these themes are provided in the following paragraphs. The purpose of this approach is to encourage readers to subjectively reflect on effectiveness of this practice, and to draw their own conclusions regarding the value of the experiences. Where possible the language contained in the reflections has been used to provide the theme labels. These three themes were: The Reluctant analyst; No place to hide, and Less is more. Temporal and contextual information regarding my journal entries is also presented to allow the reader to explore the way the video-based practice evolved over the two seasons. For confidentiality purposes, pseudonyms have been used throughout this results section. Where possible direct quotes have been used to give the reader an insight into the dialogue between the coaches, players and practitioners involved in the study.

9.31 Theme 1: The Reluctant Analyst

I was a reluctant analyst from day one, and fell into my dual-role. I cautiously use the term ‘Analyst’ in my reflective writing, as I still only ever saw myself as a ‘Sport-Psychologist-holding-a-video-camera’. My reluctance to embrace
my Analyst tag was linked to my first season at the club. I had worked really hard in my psychology role the previous season – supporting Mike (the Lead Sport Psychologist at the club), building strong relationships by consulting with quite a few of the players - providing them a sounding board, a place to vent or discuss their worries, or to build or find their confidence. I felt valued by the players, and was happy with my efforts at the end of the season, but as the summer break unfolded I began to unpick my contribution fairly quickly, and by the time I returned to work for pre-season I could see I had really made little impact on performance in the past 12 months. I felt as though I was a silent passenger in my first season - along for the ride in the club whilst the coaches, staff and players went about the serious business of developing footballers. If I was Pete (the Academy Manager), how would I assess my impact? The reality (Pete’s, the players, the coaches; their shared reality) was that in less than 9 months, one of two of the players may be offered the chance to try and make the difficult transition from youth to senior football – while the others were released, probably never getting any closer to achieving their dream of playing professional football. What really struck me was that despite 12 months in a football club, I still knew next to nothing about this reality; i.e., developing elite football players. Even if I hadn’t worked this out by the end of the summer, Mark (the head coach) left me in little doubt where I stood at the start of pre-season:

Reflective journal entry #4 / Season 1, Week 1 - Coaches office (In the Academy), following academy staff meeting. I had told myself that I wanted honest feedback on my role and impact so far and knew that meant from Mark and Pete. I didn’t even get around to asking Pete, having bumped into Mark first. Once he realized I was being serious (this took a while), he was more than happy to offer a few words of friendly encouragement for the new season: “…no disrespect to you and the work you have done but really, you are pissing in the wind working with some of them. We already know the
two players who will be offered a contract, and the two or three who have
half a chance. There’s absolutely no point; 90% of the players you are
working with will never make it in a million years … is that what you wanted
to hear?”. “erm, I guess so, yes” I reply.

I tried to look at the other side of the coin – I was providing a valued support
service to the players, and having a positive influence on their well-being (this was
what my ill-defined humanistic values had told me was needed in such a harsh
environment as this). However, I knew the coach was right too, and I wanted
(nEEDED) to do things differently this year; to get myself in a better position to
influence the coaches and the also academy director. I didn’t want to fail these
players. I set myself a more pragmatic goal - to make myself useful, to worry less
about what label was attached to this work. At the beginning of the season I got
some relief from these concerns, by spending time supporting the English F.A.’s
Performance Analysis Unit (PAU) at ten international training camps and
competitions (as part of my new PhD responsibilities) ranging between three days
and three weeks. To be honest, I found the work really, really dull, and resolved to
get through it as painlessly as possible. Pete, however, had other ideas. Smelling an
opportunity to use my newly developed (see ‘free’) expertise in video analysis, he
asked me to cover ‘one or two’ games while he sorted out regular filming for the
season.

By defining myself as a ‘Sport Psychologist’ rather than a ‘Performance
Analyst’ I was probably being dismissive of other areas of practice which overlapped
with this area. This was naïve, as my principal role as member of the support staff
was to aid player development. While I didn’t enjoy the activities related to
performance analysis / video feedback work, the players and coaches valued it, and I
needed to be more open. I recognized this conflict, and putting my ego to one side
(“...but I’m a sport psychologist...why aren’t you taking me seriously!!!”), I agreed to take on these responsibilities. I wasn’t keen to get involved in the filming and analysis role, but I could see the benefits, and I wanted to help. It presented unlimited opportunities to be involved in Mark’s plans on player development, and maybe even the chance to engage the players in psychology work (i.e., psychology work disguised as video work). Besides, it would not be over stating the point to say that, at that time, within the academy, I was one of only a few people who could actually work the digital video camera.

Given my reluctance to perform this analyst role and having bought Pete’s insistence that he was ‘looking for another analyst ASAP’; predictably, my dual-role grew substantially. Since pre-season, and the start of my additional analyst ‘duties’, I had been scaling a ladder up a wonky set of scaffolding a couple of times a weekend, loaded with cameras, batteries, tripods, spare batteries, spare cameras etc. to appear through the trapdoor onto the exposed platform, ready to capture the game. Scaffolding was also a ‘luxury’ term for the filming position reserved for home games (hastily erected by the clubs groundsman in a spare couple of hours) but still preferable to away games, where this was replaced with any available vantage point that could be negotiated with the opposing academy staff (the most bizarre of these was the roof of a team bus, and the most pointless a small plastic chair, which gradually sank into the mud during the game, much to the staff’s amusement). My early reflections reveal the challenges of my new dual-role:

Reflective journal entry #8 / Season 1, Week 4 - Dressing Room, (Academy Ground), following home fixture v West Brom U18. (The rain) chucked it down the whole game. I have developed real concerns about how dangerous the scaffolding might be. There is no canvas roof on the filming tower, so the camera (protected by a carrier bag) was feeding the footage into the laptop (under a plastic box) held in place from the wind by a wellington
boot (attached to the first author). At half time, I make the 150m run to the changing rooms to listen to the coaches and observe the players; an activity I always make sure I attend, as my other role depends on the dialogue in these moments. I head back to the tower and make the start of the game with seconds to spare. This routine is repeated for the coaches end of game ‘hot’ debrief. I get 30 min. of analysis done while I wait for the players to get changed and spend a few minutes ‘checking in’ with a few of them before I head to the ground to finish the analysis, and drop it into the coaching office for Mark to pick up the next day when he comes in to make his plans for the following week. I spend a good chunk of Sunday writing up my psych notes and reflective diary and planning my intervention (due to start in a month) as I am off on international duty in Finland for a week starting Monday. Three months into my new role, and I’m exhausted already.

Reflective diary entry #31 / Season 1, Week 16 – Home. Another long day at the academy. Mark and the other coaches are still struggling to get their heads round using the analysis software on the laptops – the idea of carrying a ‘dongle’ or ‘inputting a password’ seem too much - and I spent most of the day burning DVD’s and transferring files from one computer to another to sidestep the issue. All part of my new Analyst role. The Psychologist is currently sidelined, but has a lot of questions. For example, with 90% of time spent on the analysis phase and a complete lack of direction in the team meetings, what are we actually achieving with this work from a learning point of view. I would love to actually ask Mark or Pete why they want every game filming, or what the specific outcomes of the team video sessions are (beyond, it’s good for the players to sit through it)? Mark seems pretty happy with the progress we have made, but the players can’t be happy. It is good that they are embracing the video work, but it is remarkably difficult to understand where we go from here.

These separate roles merged into a single Psychologist-Analyst role by the end of my first season in my dual-role; the door was ajar, and my influence on video-based practice was growing (very slowly). I had put my head down - spending
months climbing ladders, filming, analysing, working with individuals, mental skills training, providing match-day support etc. – with one major purpose in mind: to have a greater positive impact on player development at the club. With regards my analysis role, the coach was satisfied with the quality of the information he was being provided to use in team and individual sessions. However, from a psychological perspective, there were numerous barriers emerging within sessions, and I felt increasingly motivated to intervene. I spoke on numerous occasions to my supervisor about my frustrations watching practice unfold within the video sessions. Essential to a successful intervention, I realized, would need to be through the development of my relationship with the head coach, Mark. I realized that the post-match team meetings were the context where the most important dialogue of the week between Mark, the other coaches and the players took place, and I focused on this. Several months into the new season and our approach to delivery began to evolve.

Reflective journal entry #18 / Season 2, Week 3 – Education Center (1st team ground), following post-match team meeting. Neil and Tom came to see me, separately, about the video session this morning. They were both struggling with confidence, having been on the end of a few bollockings in the past few weeks from Mark in video sessions. Today’s session seemed unnecessarily harsh, in my view. This morning, Mark was working with a single aim in mind during video work: to get the players to take accountability for their performance. We have discussed this being a key outcome of the work with this team, but I am watching Mark single players out for mistakes, and just paying lip service rather than really buying into this approach. Mark keeps going with this approach, and increasingly the players’ anxiety and embarrassment leads them to shut down mentally and switch off. The approach is forcing them to focus on self-protection rather than self-analysis, and I can see him getting increasingly frustrated and angrier when he doesn’t get the response he is looking for from the players.
This is the first time Tom has come to see me. He’s a confident, assured young person, but today he’s really angry and is shouting at me. “He’s being such a **** … sorry Si; I mean … the lads hate him at the moment. I am trying to stay out of it and see his viewpoint (as captain) but it’s gone too far … what does he think he is trying to achieve by forcing us to pick each other apart…?” When I see Mark at the training ground later that day, he isn’t much calmer himself. Not sure if I’m stepping over the line or not, I mention that some of the players seem to be switching off in sessions recently.

“…they are soft as shit” he spits in response. He argued that he had no problems with the players wanting to come chat to me and vent about how much they hate the way he was treating them in sessions (that was part of my job in his mind). “…the only thing I insist on …” he continued “…is that we are totally on the same page in these sessions and that we are making sure the ones who can make it, have all the support they need … we need to toughen them up”.

As he walks off and I am rolling the unappetizing thought of ‘more video work’ around my head; I realize that he used the word ‘we’ several times.

9.32 Theme 2: There Will Be No Place To Hide

Working within Mark’s coaching behaviours became a major theme of my reflective writing. His approach to video practice in the early phases of our video work could be summed up in one phrase he used frequently in sessions – “There will be no place to hide”. The psychological issues which developed as our practice evolved could be linked to this negative approach and Mark’s behaviours underpinning it. More specifically, Mark’s dominant behaviour, and the subsequent barriers which this created in the learning process (i.e., player switching off, player frustrations, and negative coach-athlete relationships):

Reflective diary entry #25 / Season 1, Week 17 – Home. Trust is the key word with Mark (and the other coaches), and in short, I don’t have enough of
it yet. He shuts the door on conversations very quickly, and is very dismissive of any input into *his* video sessions, either before, during or after – even Baz (the GK coach) or Chris (the assistant coach) don’t really add much. Pete doesn’t even attend the sessions. The frustrations I have been feeling with my role recently, are not about scaffolding or cameras (although I’m still struggling to get my head around the idea that if the computer crashes or the video has a glitch, I fail) – but the fact that I have been observing video-based practice from the sidelines, seeing areas I know I can impact on, but not being asked or invited to contribute. He trusts my work as an analyst, which is good, but it’s still a limited role. For me it’s the delivery not the analysis process where it gets interesting – the human element, so to speak.

Despite both seeing the potential of the video work, it was clear to me, from very early on in my reflections that Mark and I still occupied very different worlds philosophically. There was a part of his coaching outlook was constantly weighing up whether the players were tough enough to survive the criticism they could receive from the manager, senior players, fans, media, the board - if they stepped up to senior level. Developing talented players who could cope or show mentally toughness was a central goal in his coaching values and behaviours; as I understood it, one bred from his experiences in the lower leagues and one of the reasons he made it to the top flight (squeezing every ounce out of his potential, as he saw it). This approach was perfectly demonstrated in this first post-match debrief meeting of the new season:

**Reflective journal entry #38 / Season 1, Week 18 – Pre-match team meeting, Education Center (1st team ground).** Before we had even begun playing the video, the coach had a few motivating words for the players:

“There will be no place to hide from now on. If I think something is shit, if I think you fucked up, I will make sure you see it on video. I want you to feel under pressure, to feel completely accountable for you actions. These actions will be captured on camera every second of every game. Make no mistake, you will get better if you embrace this work, but there will be no place to
hide". We hadn’t even turned the camera on! We hadn’t even played a
game! Having worked with Mark now for 18 months, I had heard similar
motivational talks before, but it feel like he had just nailed the lid shut on the
direction I was hoping to guide lead the video work this season.

Reflective journal entry #49 / Season 1, Week 20 – Post-match team
meeting, Education center (1st team ground). Having worked so hard to
get Mark to buy into the video work, I am ready to abandon the hours of
analysis we are doing beforehand; it’s becoming a waste of time. Steve (a PA
intern, new this season) and myself are spending a lot of time generating
statistics and video information via the match-analysis process, but much of
this is being wasted from a learning perspective. Today is a good case in
point. The session was going well, and there was plenty of player
participation (unforced) about the performance. However, we had only got
about a minute through the ‘corners – defensive’ clips, and Mark asked me to
turn the video off. Rather than viewing the clips first, and then discussing
them after, he was waiting until the mistakes had piled up too high. It’s
become video as a form of ‘big brother’, watching the players every move;
more like CCTV than a learning tool. There was no attempt to find a balance
between getting them ready to play on Saturday (performance, results) and
getting them ready for the pressure of senior football (development).

I came to see the team VFB sessions as a microcosm of Mark’s personal and
coaching approach in-action. After a performance that didn’t match his expectations,
he would deliver the ‘reality check’ (the comparison between where their
performance was currently at, and where they needed to be) – this involved singling
out of players for criticism, making sure those with their head down re-engaged eye
contact, asking rhetorical questions that no-one dared answer ("Who thinks that was
good enough?"). After a positive performance, came ‘tacit acknowledgement’ that
they had briefly matched these expectations, but they would have to go out and
produce this again next week – i.e., just a “Good” or “OK, that’s closer to what I’m
looking for”, but more often just silence, and almost always very little comment
during the video feedback (three or four times that season, the meeting just got
cancelled, no feedback, “have the morning off” the coach would say). For Mark, this
was the reality at senior level, and they needed to be ready for it; I didn’t really know
whether this was true or not, but needed to trust Mark’s approach. I could understand
the theory behind it, but surely there was another way. I had a lot of respect for
Mark as a coach. However, there was a side to him that was difficult to engage from
a professional viewpoint. I realized at this point that, despite being an experienced
coach, video-based practice was really an area to which Mark had not been exposed
regularly. Beyond the desire to put the players under pressure, it was clear that he
didn’t have clear outcomes in mind going into video delivery scenarios, preferring to
work reactively.

I felt we were approaching ‘groundhog day’ in the team video sessions. I had
introduced a number of different approaches to delivering the videos – e.g.,
motivational videos, using individual player performance profiles to structure review
meetings, opposition analysis. These strategies were employed to target specific
performance outcomes at different points over the past two seasons, and Mark had
briefly engaged with them, before gradually drifting back to his default approach –
an ad hoc, intuitive model of coaching. With a great deal of experience as a player
and coach behind him, this intuitive approach could be highly effective. An example
of this could be seen with JT - a talented but inconsistent player who was beginning
to buy into me and our psychology work. It was Mark who had actually suggested
that he work with me, most likely because JT was in ‘last chance saloon’. Mark had
got so frustrated by his inconsistency, and indicated that he would struggle to get a
contract at the end of the season. JT had a pretty relaxed attitude, and could come
across as lazy, which led to him frequently being cut from and then reinstated to the
team. He was the classic confidence player.

Analysing his performance over the last year, I had started to put a picture
together of the confident JT who started well, and the one who didn’t (losing
confidence and gradually hiding from the other players). I began searching for
examples to support my hypothesis (i.e., ignoring performance analysis principles,
and adopting a dangerously subjective approach). To my surprise, I actually found
that there was something in this intuitive reasoning. I took the best 4-5 of these clips
and a couple of examples of poor play and behaviour too, and put them together on
the i-movie® (www.apple.com) programme on the computer in the education center.
I discussed my hypothesis with Mark, and offered him the DVD of the video clips
for him to use as a discussion point with JT in his mid-season review the following
day. He liked the idea of using the video, and took the DVD to look through
overnight. The following day I was setting Mark up in the editing suite (ever the
technophobe), and he asked me which way I would play the meeting with JT (“You
know him pretty well don’t you?). I suggest that JT is always looking for positive
reinforcement that he is good enough, and as he (Mark) doesn’t generally provide
much of this, so you could put an arm round him for once, give him some
confidence, and I think he would respond to that “... on the other hand” I add “you
think that all shrinks are soft as shit, and far too nice to players, so it’s a difficult
call” (We both laugh and I leave him to his meetings). However, I was nervous on
JT’s behalf. I knew meeting was such an important one for JT, and I hoped Mark
would find the right approach. Later on that day I happened to bump into JT after his
review …

Reflective journal entry #77 / Season 1, Week 19 – Education center /
Canteen (1st team ground). It turns out that JT got an all-time roasting from
Mark in the meeting on everything and anything - his attitude, work-rate (or lack of it), mindset, approach to training, height (or lack of it), speed etc. Not surprised, I nodded and shook my head at what I saw as the appropriate moment. He seemed pretty down, even upset, feeling his play hadn’t really merited such an approach. Despite his low mood, JT still took the time to thank me for providing Mark with the ammunition for the meeting. I knew this was tongue-in-cheek and he didn’t really blame me for this, but I felt guilty anyway. We ended up chatting for 40 min. over a cup of tea – easily our best conversation to date – and he then put in another hour with me editing his performance together into a personalized pre-match video he had been putting together over the last season. I had to be careful not to let JT know what I actually thought about Mark’s approach, but inside I was intrigued.

Reflective journal entry #78 / Season 1, Week 19 – Physiotherapy area (Academy Ground), following home fixture v Leeds U18. Good team performance, with one stand out performer… JT. He was brilliant, involved in everything we did well, setting up one and scoring one. I wander over to Mark who is watching the players warming down. I get chatting with Mark, and when I get a chance ask him “so, I’m keen to know, what happened in the video review with JT? Did you use the video” I asked. Mark told me that he really got stuck in. “I think we might have got through the first clip, maybe a few seconds of the next clip and I turned it off and blew my lid”. He said that after our conversation, he had actually considered putting an arm round JT and trying to understand what was going on with him, but went completely the other way instead … on a hunch. He said it was a 50-50 call. “He’s a lovely kid, but if he needs someone to put rocket up his bum, then I am happy to oblige. Either way, if it doesn’t work, he is probably out of the door in a few weeks anyway”.

I had enough confidence as a practitioner by now not to over analyse my part in this situation, and to realize that I had been there for JT when he needed support. Our conversation helped him process Mark’s feedback less emotionally before the
weekend’s game, and the self-model video had reinforced the behaviours he needed
to produce on the pitch. I was glad he knew he had someone to do this with, but the
vital intervention came from the coach. The coach-athlete relationship was the one
that mattered, and Mark understood intuitively what JT needed mentally at that
moment, he needed to prove someone wrong. “I wanted to show that **** that I can
play” was JT’s response on the walk back to the changing rooms. In his mind, being
unpopular was a risk he had decided to take in the video session and in his coaching
approach in general. It was a turning point for JT, as the first team manager was
watching that day, and he began to move on to the senior team more often after that.

9.33 Theme 3: Less is More

Significant transitions were also taking place in our approach to video work,
e.g., from coach-led to player-led practice; from a results-focused to a learning-
focused approach, and from more to less video. Although these changes represented
a U-turn of sorts for Mark, reflecting on my diary entries, there was not one specific
moment where this change occurred. At the end of the previous season, I felt it was
time to cut down the amount of time we were spending filming and analysing. We
were filming for filming’s sake; using video because it was there. The only approach
that we hadn’t really experimented with was exactly that: less video, or more
specifically, not using the video unless (as in the case with JT) there was a clear
purpose underpinning its use. Less video? I thought that Mark would baulk at the
idea, and didn’t initially know how to bring the change about. Having worked
together for two years, I also knew that Mark would respond poorly to me directly
challenging the way he delivered the video. Re-reading my diary I was reminded of
an entry at the end of my first season of video work:
Reflective diary entry #88 / Season 2, Week 3 – Coaches office

(Academy), following morning training. Talking with Mark about the video work, and with my sport psychologist hat on, suggested that we could maybe consider how the video was affecting the player’s confidence at times. It was not unusual for me to try and engage Mark, and the other coaching staff, on such matters as pre-match preparation, post-match debriefing and individual player psychological development. I seemed to have his attention, and suggested that a more positive approach could be really effective in helping the players internalize and reproduce the movements they were observing on video (using, but not referring to, a body of modeling research that advocated this approach). “Bollocks” was his brief response, in between slurps of tea. Discussion closed.

However, I knew Mark was more open to working differently with the video, and was communicating with me more openly also. I had reached the conclusion that the work was limited while he was doing all the work, and was spending more time planning how to use it and reflecting on its effectiveness. This meant a clearer focus was emerging regarding how we wanted to use video. The natural outcome of the video work, for me, was to get to the point where the players were able to critique each other’s performance, and take criticism without allowing the emotions to take over. If the players could do this in a team meeting, then they would be more comfortable doing it on the pitch, under pressure, when it mattered. If we didn’t see these positive changes in the way the players we interacting, then it was probably time, I felt, to stop the video work, and invest time in something else. Fortunately, Mark had been thinking the same thing, and beat me to it. He said he wanted to put the responsibility back on the players in the team debriefs: “…if they show they can handle the responsibility (like the red arrow stuff) we can move forward. I’m not convinced they can, but it’s definitely worth a go for a while”. The ‘red arrow stuff’
he was referring to was a visit the under 18 squad and staff had made to meet the Red
Arrows display team the week before.

The opportunity had come through a contact in the academy, and I thought it
could be very valuable. I vividly remembered a video I had seen on my sport
psychology masters course a few years back, where a group of pilots from The
Bluebirds display team (USA), opened their doors to a film crew for their pre-
flight/post-flight routines (including a group pre-flight imagery routine). I wasn’t
sure whether the Red Arrows would work in the same way, but hoped at the very
least it would lead to interesting discussions amongst the coaching group.

Reflective journal entry #91 / Season 2, Week 5 – Team bus on way back
from Red Arrows display team base, Lincolnshire. At the Red Arrows, a
few of us (Mark, Pete, six players and I) were invited to sit in on a similar
feedback session with the pilots post training flight. It’s not an exaggeration
to say I learned more about video feedback in this half hour than I had in two
years of work and research. Despite the risks involved in their flight routines,
their approach to the feedback sessions was totally task-focused, without even
a hint of emotion; very matter of fact. It was the video feedback exercise
which followed their flight that was particularly memorable. Direct …
clinical … unemotional … everything I recognised that Mark and I had both
been talking about for the last 12 months captured in a 5 min video session.
The most impressive element was that it was delivered with no facilitator.
There was no dominant leader in the learning process; there seemed to simply
be a shared understanding of what they were there to do; the emphasis was on
the pilot to accept responsibility for mistakes or successes and move on. I
spoke to Mark on the way home in the mini bus. “No-one led that session” I
said. “I was waiting for you to bring that up! … I have to admit it was
impressive”.

The most important issue was whether they could handle this approach, or be
educated to adopt it. “Like you said, they [the players] still don’t really have a clue
what to do with this video stuff we give them do they” said Mark, the next day, “....
so why are we spending all this time hammering away waiting for the penny to drop?

Let’s put the ball in their court” The obvious area, for Mark, where the players could
begin to take greater responsibility, was in their communication in the team video
sessions. The pre-match meetings continued and individual goal setting sheets we
used to help encourage them to take more ownership of their behaviours on the pitch
– taped above their pegs in the dressing room before each game, to signify that they
were making a personal commitment to each other in public. We both felt that the
idea had real potential to impact on the players’ performance and so naturally, the
players seemed to hate it. As Mark had insisted on introducing it, a few players who
didn’t trust this new positive approach, immediately didn’t want anything to do with
it. However, others clearly found it really useful, and gradually, when the others
realized it wasn’t going away anytime soon, things began to improve. The change
was so slow however; I knew this was a window of opportunity which would close
soon, if the coach didn’t see any progress. However, after a few weeks, and feeling
that the coach was ready to abandon the video work for good, we had a bit of a
breakthrough:

Reflective journal entry #109 / Season 2, Week 12 – Post-match team
meeting (Education center, 1st team ground). Stevo to Gaz: “I need you to
be wider when I pick the ball up”. Gaz to Stevo: “Why didn’t you tell me
then”? “Dunno” “Well, next time, tell me” “Erm...OK, I will”. Not an
exchange that will change communication history, but it felt like a big
moment. It has taken 18 months to get to the point where one player is able
to tell another player what he needs from him. No looking-at-the-floor
mumbling and avoiding the coaches’ stares, but look-me-in-the-eye and ‘I
need you to do this’. I don’t know why it has taken so long for someone to
say it out-loud in a team meeting, but change had come very slowly. With a
mix of confident and self-conscious boys, effective communication in public
was always going to be a struggle when you throw in a dominant
authoritarian coach with a philosophy which places high value on public
humiliation a form of ‘character building’.

The background threat of public embarrassment was always there with the
players, but it could also be used positively. Once the players had begun to develop
more confidence in what they were saying to each other, we put them under more
pressure. This could involve filming the players delivering feedback, bringing in 1st
team players or coaches to sit in on the feedback sessions, getting the coaches to
deliberately pick holes in their arguments. The players would struggle, at first, but it
was becoming fun again, and the players began to respond positively. Only six or
seven sessions were delivered in four months (about half the normal number) but
they were all more effective. I can also see where the coach has been coming from
now. These boys would have been eaten alive in a first team dressing room, if they
couldn’t stand up for themselves, and communicate what they need. There is plenty
of work to do but it’s a big step forward.

Once Mark’s trust in the players began to grow, I suggested we give them
further input into another area - the pre-match preparation tape. The aim of these
tapes was to help create or reinforce the right mood or collective mindset on for the
match day in question. This meant taking multiple factors into consideration - the
opponents, home vs. away, the mood of the group, the game plan etc. I was sure that
involving the senior players in the development of these tapes – i.e., selecting the
clips, the music, any film scenes, the messages etc. - could really unleash the
potential performance-enhancement impact of these tapes, but Mark still needed
convincing (having never used them as a player; “if you needed motivating pre-
match, become a postman ... football is clearly not for you”). I had seen first-hand
the positive impact these tapes could have during my experiences working with the England Youth international set-ups, and having put a dozen or so together, I felt I had a good structure they could work within. We waited for the first youth cup game of the season (round three, R3) to begin using them.

Reflective journal entry #101 / Season 2, Week 8 – Team bus on way back from youth cup fixture (R3, Away). A good performance / win last night. Pre-match video was really well received, which was a relief as I had left the academy education center at 11.30pm last night, having put 5 hours into it, following an hour with the players listening to their needs/thought/ideas. The only parts I vetoed were the really motivational, gladiator, ‘into battle’ stuff they wanted to use. I argued that partly as we could only play the tape 90+ min. before kick-off, that was a long time for the players to stay pumped up (I knew Mark wasn’t going to buy that sort of approach, and I didn’t want him killing the project after the first ‘pilot’ attempt). The players saw the reasoning in my argument, and we finished the tape. I added some messages from the players and backed this up with some from Mark’s team meeting earlier in the week, which seemed to add more weight to the tape (it’s the same words that a chosen few players have started to ignore in his team meetings because they had lost respect for him. Added to the video, however, I hoped they would hit home). We played it before they got on the coach from the hotel, and I think the timing was just right. Watching the players’ reactions to these videos – bodies leaning forward, eyes on the screen, seeing themselves performing in club kit - you could see the pride, and motivation pouring out of them, and there was a real buzz about the group as they left the room – this was worth the effort.

I could tell Mark had been uncomfortable with the players having input, but he left it to them, and me, and so this was real progress. Mark sought me out on the bus post-match – “It was good, not what I expected … I thought it would be more emotional and pumped up, but it was clinical, and the mood in the dressing room and
bus was excellent … let’s do another and see how we get on”. The same approach was taken two weeks later in the next round of the competition:

"Reflective journal entry #102 / Season 2, Week 10 - Dressing room after youth cup fixture (R4, home). Good win; good performance again. We were playing a team who had beaten us in the league twice this year and there were definitely a few nerves in the dressing room tonight. We played the tape. The timing was perfect – this time in the dressing room, 15 min. before they ran out – and you could feel the positive change in the mood. The vibe went from quiet and slightly subdued to louder, more alert, more cohesive. It has been difficult finding this mood all year; they were a quiet group, with few leaders, and a few of the staff said they hadn’t seen this much intensity before. The players executed the game plan perfectly. There were moments when I was filming the game where the pre-match video and the game seemed to merge, like I was actually watching the video again … like a dream sequence, as daft as that sounds. I thought I was getting carried away until Mark and Baz (the GK coach) also pointed these similarities out after the game, and I could see that Mark had fully bought in to the tapes and the players input into them.

While I felt partly vindicated for bringing the players into the fold, I now developed doubts about the work – specifically, can this be reproduced again? The two tapes were so different. To get the best of it you need to tap into the situational needs of the group, but it’s not easy bringing everyone to the boil at the same time.

To be truthful, the players weren’t really sure what their ‘boiling point’ actually looked like. I felt that the major limitation of such approaches is that the ‘one-size-fits-all’ approach to pre-match preparation isn’t for everyone, and eventually loses meaning. This is exactly what happened:

"Reflective journal entry #112 / Season 2, Week 12 - Team bus after youth cup fixture (R5, away). Long, long day. The lads played well, but lost on penalties 4-2 against a premier league academy. Set off very early and paused
for food outside of London, and this was the only opportunity to put the pre-
match motivation video on (projecting it onto a pop-up screen I have
borrowed, 2 hours before kick-off). We kept a lot of things the same for the
pre-match video - the footage and the wording were updated with last week’s
performance. I was collecting some initial insights regarding the pre-match
video for my PhD research intervention, and the feedback I got from the
players post-match was still very positive for the pre-match video. However,
I could tell the tape didn’t really have the same impact. Timing definitely
played a part in this (I tried everything to find a way to play it closer to the
game but couldn’t). Even so, during the tape, I was watching the group, and
there were several players who didn’t seem as into it as they had been on
previous occasions. When I spoke to one of them, Louis, after the game, he
told me that he would probably prefer to just prepare without it. “I just feel I
should be able to get myself ready for a game like that on my own. I don’t
want to feel reliant on it”. On the bus, I worked through my reflections on
the ‘pre-match video’ project in the past few weeks. The same questions
reoccurred … There is definitely something in these tapes, but did I really
believe that these tapes were that great, or did I really want them to work
because I had put so much effort and time into their creation?

Reflecting on this again a few days later, I think waiting for a bigger game (a
fifth round game, against a bigger team, at a later stage of the competition), might
have also had more effect. Regardless of these different questions, it was unlikely, I
reasoned, that with the players and myself having invested so much time in the tapes
that I was strong enough to argue for not using them. Having worked so hard to get
the players involved, I felt protective of their involvement, and didn’t want it to be
seen as a failure. The pre-match video brought the whole team of players, coaches
and staff together before a performance – helping us feel more like a cohesive unit.
In reality, they may have created such a positive glow amongst the group of the
players and myself and the coach that I was missing the responses of other players
who were not responding positively to them. Regardless, we were out of the youth cup, which was frustrating for all. Mark didn’t seem to have the same doubts I was having about the tapes, and was keen to look at other ideas.

9.4 Discussion

The aim of this study was to explore the delivery of video technology as a learning tool within the youth football environment, through the eyes of a practitioner. The narratives presented in this study – through the three themes - The reluctant analyst, There will be no place to hide and Less is more - show the evolution of video-based practice within a youth football academy. The nature of my work came full circle in two years: from my early struggles positioning myself within the performance activities at the club and working with a very dominant coach, through to a period of greater role clarity and working alliance with the coach, and finally, to the role being valued more as a learning tool and then, instinctively, to it being used much less often. Reflection on these experiences highlighted a number of organizational, relationship and professional issues which impacted upon the effectiveness of practice. Whilst a number of factors in this study mirror recent findings within the video-based practice literature within sport (e.g. Groom et al., 2011; Nelson et al., 2014), this study also offers a unique insight into video-based practice from the perspective of the practitioner, whether as Sport Psychologist or Performance Analyst. To conclude this Chapter, the findings of this study are discussed with reference to both the video-based practice and professional practice literature. Implications for practice and research are integrated into the discussion,
and strengths and limitations of the study are presented at the end, followed by a
brief conclusion.

9.41 The Coach-Practitioner Relationship

Central to my experiences in this narrative was my relationship with the head
coach. In this study, the coach’s approach to learning was the filter through which
my role, as a practitioner, and the delivery approach, was shaped. Mark was an
experienced coach, with a forceful personality and a dominant authoritarian approach
to coaching. His approach often led to situations where the players were frustrated
and unhappy at the way he fed the video back to them following performances. More
specifically, increasing the players’ mental toughness, both in video sessions and on
the pitch, was the underpinning principle behind practice. The coach saw video-
based practice as an opportunity to ‘expose’ the limited mental toughness in his
players, and heaped pressure on them, in an approach intended to “toughen them up”.
In line with previous studies in coaching, this coach’s use of this approach was most
likely based on his own personal experiences as a player. Saury and Durand (1998)
found that expert coaches often used their own personal experience as performers to
interpret what performers were experiencing at a given moment and what effect
alternative coaching actions would have on training and performance. Early
investigations of football players perceptions of coach behaviour in video-based
practice suggest, however, that athletes are reluctant to share their negative
perceptions of video-based practice with their coach, if they fear critical evaluation
or social embarrassment (Study one, Chapter 3-6). Specifically, the powerful,
dominant behaviour on behalf of the coach during video-based practice was
potentially limiting the level of openness and honesty the players brought to video-
based practice, a finding which has also been reported elsewhere (Nelson et al., 2014; McArdle et al., 2010).

The experiences presented in this study suggest that the coach was determined to pursue one approach to delivery (video as a source of pressure), without appreciating how the players were responding. Qualitative investigations into players perceptions of video-based practice in youth football (Study one, Chapters 3-6; Nelson et al., 2014) have found if the player does not perceive the coach to be supportive of their learning needs, then they may disengage from the learning process. In general, the video literature within sport indicates that there is little to be gained through these critical or negative approaches to delivery (e.g. Nelson et al., 2014; Groom et al., 2011; Ives et al., 2002). Recent studies have shown that player’s views of the coaches’ utilization of video-based feedback sessions were coupled with the ‘respect’ that he had afforded to the coach (Jones et al., 2004; Nelson et al.). For example, the positive experiences of the athlete (‘John’) in Nelson and colleagues case study suggest there are benefits of developing a positive relationship with his coach, including the sharing of mutual respect and greater openness in the coach-athlete relationship. However, this study also suggests that there are also occasions where the alternative, negative approach is highly effective. For example, in the narrative segment involving Mark, JT and myself, this dominant style of coaching was highly motivational for this player when combined with video feedback. With the player impressing in the game which followed in front of the first team coach, this intervention could be seen as successful. With few players graduating from these programmes to play professional football (Green, 2009), it could be argued that it is in these individual successes that video-based practice could ultimately be judged. It is interesting that in this example there was
acknowledgement from the coach and practitioner that the coach had exhausted other
options with the player, and that he was willing to jeopardise his relationship with the
player to help him move forward in the short-term. Over a longer period of time
across the two seasons of the study, however, the dominant approach may have
become a barrier to effective video-based practice for many athletes. The different
preferences for receiving performance analysis feedback demonstrates the
importance of understanding athletes as individuals (Groom et al., 2011; Nelson et
al., 2014), and varying the dominant style of delivery to suit these needs.

In the vignette about JP, I recognised in my later reflections the important
role I had inadvertently played a ‘good cop’ to the coach’s ‘bad cop’. Whilst the
short-term outcome of this situation appeared positive, upon reflection this was a role
which I feel I was uncomfortable playing. Given the coach’s domineering approach,
I had willingly accepted this role as the only one left to me at the time within the
learning process. I had accepted the conditions under which I needed to work to be
successful within football; conditions which Gilbourne & Richardson (2006) referred
to as the ‘abrasive nature of the soccer setting’ (p.334). My reflections helped me
realise that this could be an important role in player’s development. In their writing,
Gilbourne & Richardson highlighted the symbiotic nature of the ‘performance
agenda’ and ‘caring agenda’ within youth football, and the importance of
practitioners’ functioning consistently and unconditionally within a caring continuum
in order to build trust and respect amongst those they seek to help.

Reflecting back with the benefit of time and experience, I can also see that
the role I adopted, while not without opportunities to influence, was constrained by
the on-going power dynamic I described within the coach-practitioner relationship.
The concept of power may also explain other aspects of the video-based learning
within the club. For example, the largely authoritarian style of delivery Mark (the coach in this study) adopted for the majority of the reflective period. During the team feedback sessions, Mark provided the players with little input into the feedback process during video feedback sessions (Liukkonen et al., 1996). He attributed this approach to the fact that he felt that the players were not able to take responsibility for their own learning. However, research exploring the role of power in coaching has also indicated that this may also stem from a desire on behalf of the coach to not be perceived as being indecisive and lacking in knowledge (Potrac, Jones & Armour, 2010). In their study of the coaching behaviours utilized by a top-level English football coach, the authors noted that coaches, who are perceived as allowing the suggestions of other people to influence them, might be interpreted by players as lacking expertise or being weak. In further developing upon this view, Coakley (1982) contented that unsuccessful attempts by coaches to innovate and experiment can threaten or lead to the loss of jobs. Similarly, it could be assumed that the shift in how the coach used this power within the video feedback session – from prescription to questioning – was reflective of the coach’s feeling of trust in the players perceptions of him as a coach.

Research has also demonstrated that within professional and international soccer, such environments and organisations often impose strict institutional demands where players learn to conform to the coaches requests and ‘obey orders’ (Cushion & Jones, 2006; Holt & Dunn, 2004). Cassidy, Jones and Potrac (2009) have suggested that coaches need to be mindful of the power dominated nature of the coach-athlete relationship, if coaches are to be successful in obtaining the trust, respect and confidence of the athletes and ultimately develop a positive learning environment. It is recognised that the coach’s delivery of the video in this situation
provoked a negative emotional response on behalf of the player. The findings of study one suggest that these negative emotions can be particularly strong when the feedback was delivered in front of a peer group. As this was delivered privately in a one-to-one meeting, it could be argued that this dynamic positively influenced the way the player responded to the information. Clearly, the findings of this study also highlight the potential negative impact upon the athlete learning of the misuse of the video-based practice by coaches and practitioners. In future, the potential effects of video-based practice to negatively impact the athlete and their learning should be considered.

9.42 Professional practice issues

Given these circumstances, an interesting feature of this study was the difficulty the practitioner faces in positioning themselves within the learning process during video-based practice. I had become frustrated with the coach’s approach, particularly given the negative responses of the players I was observing during video-based practice, and my desire to support them. In attempting to provide support to the players, however, I found myself in danger of being seen as caught between the players and the coach, and losing my relationship with the coach. Playing a dual Sport Psychologist-Video Analyst role within the academy, I was arguably well-placed to help support change within video-based practice. However, my early reflections reflected a reluctance to accept my new role and a focus on the practical challenges (the reality) of working with video – the technical issues, lengthy time periods analysing, the isolation away from the staff, coaches and players. Thus, without a clear role, I found myself caught between the players and the coach, and having limited impact on the learning process (a spectator).
Mirroring professional practice literature meant that establishing trust with the coach was a crucial factor in the level of immersion and impact I was subsequently able to have (Giges, 2000). The findings of this study show that when this professional connection has not been firmly established between the practitioner and coach, then the practitioner's role can be limited. My limited experience as a Performance Analyst within football meant that I had limited confidence in my ability to ‘talk shop’ with the coach about the players development (Cushion & Jones, 2006). I recognized that in order to develop an effective ‘working alliance’ with the coach (Poczwardowski, Sherman, & Henschen, 1998; Tod & Anderson, 2005), I needed to clarify my role in the learning process. Partly, this involved a shift in my philosophy regarding support. Through reflection on the coach’s role in video-based practice, I was able to better appreciate the difficult task facing youth football coaches in developing players – i.e., balancing the expectations of the players, staff and organisation (Bertoli, Robazza, & Giabardo, 1995; Liukkonen, Laakso, & Telama, 1996). This meant re-evaluating my values and their impact on practice. It was clear, through my reflections, that by being seen as being too supportive of the players, the coach would be reluctant to trust me. I needed align myself more closely with the coaching team, and become comfortable with the negative response I was observing in video-based practice. This ultimately led to me being in a better position to influence video delivery positively in the following season. The ability to fit into the professional sports environment, and adopt a low-key, behind-the-scenes approach seemed appropriate in the video work early on.

My experiences in the academy suggest that supporting player development in video-based practice presents a number of practical and philosophical challenges for the practitioner. While the practitioner may have the motivation and feel they
have the skills and expertise to contribute to player development in this area, it is clear that these other practitioners (particularly the lead coach) will also have their own professional knowledge base and assumptions behind learning which the video practitioner will need to understand before effective working relationships can be achieved. In this study, the role of the video practitioner was limited by the initial perceptions and approach adopted by the coach toward practice. Building on recent qualitative approaches to the study of video-based practice in sport (e.g., Forzoni, 2006; Halliwell, 1990; Ives et al., 2002), the experiences in this study suggest that there are a number of areas where a Sport Psychologist can play a role in shaping the delivery process, including pre-match preparation, post-match evaluation, performance profiling, mental skills training, coach and player education, counseling and reflective activities. Mirroring research by Ives and colleagues, and early investigations within youth football (Study one, Chapters 3-6), video-based practice was seen as a relevant setting for the skills and expertise of a Sport Psychologist.

The activities described within this study suggest that a number of professional competencies are also needed by the practitioner to be able to play this support role effectively, including good communication and listening skills, knowledge about psychological principles, a high level of perceptiveness, and knowledge of the sport (Anderson et al., 2004; Partington & Orlick, 1987). Although these competencies have been well-established within sport psychology literature, few studies have highlighted their importance within PA / VFB research to date. My responsibilities as an Analyst required me to spend hours each week watching and analysing football matches and identifying successful/unsuccessful performance. Whilst I felt I was knowledgeable about psychology, on reflection, I was not knowledgeable enough about the sport, and this may have limited my relationship
and influence with the head coach at first (Fifer, Henschen, Gould, & Ravizza, 2008). With further training and ‘hands-on’ experiences, my professional knowledge grew quickly, and in turn, so did my impact (Anderson et al., 2004). By providing the coach with accurate and reliable information the analyst plays a valuable role in the learning process (Franks, 1997), and I found I was able to begin to play a unique dual-role in the performance cycle. As my technical competence was established to an acceptable level to perform my duties, challenges were fewer following the preparation of the video information, and I was able to begin to tackle to goal I had established when I took on these added responsibilities, i.e., to have a greater impact on player learning. A number of these challenges described in my reflections were characteristic of the advantages and disadvantages of playing this dual-role within applied practice (Watson, Clement, Blom, & Grindley, 2009).

9.43 Reflection and Video-based practice

A number of reflective processes - central to my experiences and interactions with the coach - that may help unlock the potential of video-based practice. Firstly, the value of using video itself as a reflective practice tool through the study. Video was used by the coach in this study to reflect on the impact of his coaching behaviour on the players’ receptiveness to the video. Having developed a trusting relationship, the practitioner can play a role in influencing the coaches’ reflections regarding his behaviour, through challenging questions and listening skills. In this study, the coach’s reflection was also supplemented with peer-modeling (i.e., observing experts perform successfully in other domains; Red Arrows) and reflective discussion with other coaches and practitioners. The reflective activities undertaken by the coach in conjunction with the video work led to greater openness and dialogue about the
control of the delivery process, and shifted this responsibility over to the players. Rollnick, Butler, McCambridge, Kinnersley and Elwyn (2005) suggested that to make a shift from a directing style of communication towards a more guiding style - where the players helped find their own answers - fundamentally requires a shift in attitude about who is responsible for solving the problem. Lindsay and colleagues (2008) believed that during professional practice it is important to maintain the following question in your mind: ‘Who is ultimately responsible for the solution?’ Hammond (2004) believed that the use of reflection could encourage a more holistic evaluation of the instructional process in sport. Although the benefits of reflecting on practice are well-established (Knowles et al., 2001), others, such as Werthner and Trudel (2006), suggest that experienced coaches tend to prefer unmediated learning; i.e., they prefer to seek their own information as the need arises. Research has indicated that coaches usually prefer to learn almost exclusively through the mentorship of other coaches (Bell, 1997) or to call upon their own personal experience as athletes (Rodgers, Reade, & Hall, 2007). Whilst personal experience was certainly a fundamental source of knowledge upon which the coach was drawing to develop his approach to using the video, this was ultimately seen as a barrier to learning, as he remained closed to other avenues of practice, believing they were ineffective. In this study, the relationship between the coach and practitioner became an avenue through which the above examples of reflective activity could take place.

9.44 Study Strengths and Limitations

It is useful to explore my experiences in the light of recent research within the coaching and performance analysis literature. For example, this reflective piece
raises a number of factors consistent with Groom and colleagues (2011) grounded theory for video-based performance analysis work. As within Groom’s framework, power and role dominated the delivery environment, and the major influence on the delivery approach was exerted by the head coach through his behaviour. While the power dominated nature of the coach-athlete relationship has been highlighted in sports coaching (e.g. Cushion & Jones, 2006), it has been rarely discussed from a coach-practitioner perspective.

It is important to acknowledge the potential influence that the setting had on the nature of the reflection conducted within this study. According to Gilbert & Trudel (2005) the nature, process, and impact of reflection are likely to change depending upon the combination of conditions present at the time of reflecting. One example relates to the central involvement of the head coach in this reflective process. Although a knowledgeable and experienced coach, unlike other coaches I have worked with since, he spent little time in discussion regarding any aspects of my role. Another coach, taking a more interest in my development or practice, may have influenced the level of critical reflection on my practice. Another key aspect framing my reflections was the nature of football itself.

Researchers have been challenged to ensure their writings demonstrate to the reader the depth and comprehension of the fieldwork undertaken (Holt, 2008). Readers should also take into consideration the context and culture in which I was working and studying at the time. A recognized limitation of narrative research is that the description contained within the narrative can never be considered fully representative of the population and setting being studied (Atkinson & Hammersley, 1994). As such, it is important to acknowledge that the situations and interactions that were recorded ‘in shot’ are only part of a much wider range of social interactions.
(Hammersley 2003). In the professional academy I was working in an immersed, in-depth model of practice, with regular contact, and long-term relationships. Therefore, generalizing the findings of the present study to other contexts and to the experiences of other practitioners should be treated carefully. It is acknowledged that my worldview (personal beliefs of what is relevant and important) invariably influenced how I interpreted and evaluated the data. Maintaining contact with my supervisor and engaging in discussion with ‘critical others’ were two ways in which I attempted to improve the credibility of the work.

9.45 Conclusions
To summarize, the experiences presented in this study reveal the delicate balance a practitioner may sometimes need to play between supporting the coach and identifying ways to improve practice. The practitioner can bring a unique perspective and set of skills to the video delivery process, and support the coach in identifying and removing barriers limiting player learning in this area of practice within youth football. To impact successfully on coach and player learning within youth football, practitioners need to be mindful of the complexities which seem inherent in the delivery process. The challenges facing the practitioner in playing this role with coaches does, however, suggest the need for such competencies to be explored with academic and professional training of video practitioners. The experiences presented within this study indicate that the powerful role the coach plays in the youth football environment (Groom et al., 2011) and the location of performance analysis within the coaching process (Hughes 2008, Hughes & Franks 2004), can at times become barriers to athlete learning. If the coach does not recognize these negative responses, or worse, ignores them, then video-based
practice may become redundant. The journey towards effective change in applied
practice can often be unstructured and take time to occur, as Gilbourne and
Richardson (2006) stated: ‘In reality, change is something of an ad-hoc process [and]
may bear little resemblance to…neat textbook models (of reflection)’ (p. 652). The
research methods adopted in this study enabled rich dialogue and interaction to be
reported between the practitioner and coach and has sought to advance our
understanding of video-based practice whilst yielding applicable findings for
coaching science. The findings support research which has suggested that if coaches
are to be successful in obtaining the trust, respect and confidence of the athletes and
ultimately develop a positive learning environment, it is argued that they need to be
mindful of the impact of power and role in the coaching process (Cassidy, Jones &
Potrac, 2009).
CHAPTER TEN
10.1 Thesis Conclusions

The aim of this thesis was to gain an in-depth understanding of video-based practice within elite youth football. The following research questions were adopted at the beginning of this research: 1) How is video currently being utilized as a learning tool within youth football?, 2) What factors have greatest influence on the effectiveness of video-based practice within youth football?, and 3) How can coaches and practitioners deliver video to optimize the impact of video-based practice within youth football? The purpose of this final Chapter is to summarise the contribution of these findings with reference to the research questions established in the introduction to this thesis. This Chapter will also attempt to evaluate the strength and weaknesses of the research and to offer practical and research recommendations for future researchers in this area to consider. These research questions were tackled in three studies within elite football settings, and are briefly summarized below.

10.11 Summary of Approaches Taken

Conducted in two parts, study one employed qualitative interviews and a thematic content analysis to identify common factors which were perceived by coaches and players to influence the effectiveness of video-based practice within youth football. While study one involved interviews with players and coaches about their overall experiences, studies two and three were conducted from ‘within’ the video delivery process, and were focused on exploring ways of optimizing video-based practice. In study two, a video intervention – based on the tenets of self-modeling theory - was delivered to five youth football players during a professional youth football season. In a single-case design, measures were taken for performance...
(% success and self-report) and psychological variables (self-efficacy, affect) at repeated intervals throughout the intervention period, and qualitative interviews were employed to explore the players’ thoughts and feelings in response to the video. Finally, in study three, a reflective piece was presented of the researcher’s experiences working as a full-time video practitioner in a dual psychology-analysis role within a professional football academy over a two year period. Using reflective journaling and participant observation, this study exposed the challenges facing the applied practitioner and the complex dynamics of Coach-Practitioner and Coach-Player relationships in the context of utilizing video within youth football. An attempt was made to address the specific strengths and limitations of each of these studies as they arose. The approaches taken within this thesis were designed to address a major problem for research within this field, namely, a disconnection between the academic study of PA/VFB and the realities of the application of PA/VFB practice by coaches and practitioners in the field.

10.12 Contribution of the Findings

The findings from this series of investigations highlight s number of directions future researchers, coaches and practitioners may take regarding video delivery in sport. An over-arching message from this research is the need for coaches and practitioner to engage important psychological processes through video delivery in order to optimize its effectiveness. The experiences reported in this research, particularly in studies one and two, show there is an extended window of opportunity – before, during and after delivery – for coaches and practitioners to impact on the player’s psychological responses. While previous research has highlighted the value of positive psychological outcomes within video-based practice
in football (Groom & Cushion, 2005), prior to this study little was known about how these psychological processes actually affected delivery effectiveness in youth football. It is recognised that these psychological variables are perceived to be difficult to control within video-based practice by the coaches and athletes, and were seen as a natural by-product of practice rather than an outcome which was specifically targeted directly within video work. Psychological skills were also highlighted and valued by the coaches and players, but there were discrepancies evident in terms of the training and education of these skills within youth football. Taken together, these findings seem to support previous research which has suggested that the psychological development of players is an under-utilized aspect of player development in youth football in comparison to other aspects of performance (i.e., technical skill or physical conditioning (Crust, Cook, Littlewood, Nesti, & Allen-Collinson, 2013; Pain & Harwood, 2004). Subsequent tensions with the coach-athlete relationship – between the coaches intended use and the players’ responses to delivery – may be a significant barrier to the effectiveness of video work.

The findings of this thesis pose the question of whether coaches and / or football programmes have gone far enough in providing players with the resources or strategies necessary to utilize video in a positive and productive manner. In study one, a high value was placed on players being able to work independently from the coaches. However, coaches reported being reluctant to provide players with greater responsibility in video-based practice, if the players were not able to demonstrate an ability to process the video information effectively away from the coach. The current research suggests that while young football players are employing psychological skills - such as imagery, self-regulation, and goal-setting - to process
the information they are receiving during video-based practice, this was not always
done in a controlled manner. Recent studies have found benefits of using video to
supplement the delivery of psychological skills, such as imagery (e.g., Shearer et al.,
2009), yet few studies have examined how psychological skill use impacts on the
relationship between video and performance.

Video-based practice was also seen by the coaches and players as a process
which coaches could be linked to mental toughness (e.g., coping, confidence,
awareness). This link is an exciting new area for applied researchers to investigate,
yet the findings of study one and three indicate that football coaches’ methods for
developing these qualities and the climate they created around video delivery were
not always positively received by the players. The coach in youth football ultimately
has control over how video is delivered, and their ultimate goal of video-based
practice was to develop players who were able to perform in senior level football.

With the objectives of youth coaches in football often characterized by a conflict
between ‘development vs. results’ (Gilbourne & Richardson, 2006; Wilcox &
Trudel, 1998), it is understandable that this is also a difficult balance to strike within
video-based practice. Given limitations of time and attention span during post-match
video feedback meetings, the coach may face a decision whether to focus on
addressing the short-term reasons for the result (win, lose or draw) prior to the next
game, or moving on quickly and focusing on other aspects of performance which
may or may not affect the next games preparation. The findings in this thesis suggest
that coaches need to be aware of how players are responding to these practices, as
negative reactions to such delivery styles resulted in lower motivation and fragility of
trust within the coach-athlete relationship. The findings of study three suggest that
by reflecting on players’ responses to video-based practice together, the coach and
practitioner can make changes in the delivery philosophy, and subsequently impact
positively on player behaviour during video-based practice. While the impact of
these changes was beyond the scope of this study, the findings offer an insight into
the benefits of such approaches and an encouragement for further research in this
area.

Another area which may hold genuine benefits for future research in relation
to the players’ psychological development is the examination of individual-focused
approaches to video delivery. The findings from this thesis indicate that, under
certain circumstances, psychological processes can be targeted using video
interventions with individual players in an applied setting. However, overall there is
still very little research available which has explored the impact of such interventions
of player performance in matches. Study two provided the first examination of an
individual-focused video intervention on the performance and psychological
responses of young football players to date. With the support of an analyst-
practitioner to help players select self-models of chosen performance
subcomponents, a weekly pre-match video intervention influenced self-efficacy,
performance and affective responses in a number of participant players.

Acknowledging the potential role of other psychological factors (e.g. motivation,
self-regulation) that may play a significant role in delivery effectiveness, there is an
opportunity for future researchers to explore the value of providing players with total
self-control over whether they actually use these video interventions prior to
performance. Such research would examine whether players value this technology
within their preparation and also serve to substantiate or challenge coaches’
intuitions about player responsibility, maturity and readiness for using video.

Understanding the psychological profile of a young player who autonomously uses
VFB to their advantage would be a research goal of worth and relevance to assist academy coaches. While the findings of study two added valuable knowledge of how self-modeling interventions may impact on player development, the impact of other ‘individual-focused’ approaches (such as self-one-to-one VFB and self-observation) are less well known.

In terms of human resources in academy youth football, study three acquainted readers with the practitioner, offering an in-depth personal account of their role, challenges and relationships. While coach-player relationship issues have been explored within recent studies (e.g., Groom et al., 2011), study three also revealed how, beyond the capture and analysis of performance, the practitioner can play a greater role in shaping the learning climate surrounding video-based practice. The experiences reported within study three reveal the practical, philosophical and ethical challenges that a practitioner may face when working with a dominant coach within youth football. However, this study also shows how certain transitions (for both practitioner and coach) can take place as a result of the relationship, and how their interactions can ultimately impact positively on the player, coach and practitioner. Although a number of practitioners have contributed applied guides for delivering video within sport (e.g., Trinity & Annesi, 1996; Forzoni, 2006), few to date have explored these ‘at the coalface’ issues in such contextual depth using qualitative methods. The coach-practitioner relationship and its influence within youth football is a new area for video research, and further studies may serve to inform the training and development of Sport Psychologists and Performance Analysts beyond what is gleaned from the current thesis. For example, the relationship dynamic in study three was explored from the viewpoint of the practitioner; future researchers may find it beneficial to examine this dynamic from
the coach’s perspective. While recent studies have explored the perceptions of coaches regarding the use of PA/VFB in sport (e.g. Butterworth et al., 2012; Groom et al., 2011), few studies have explored coaches perceptions of the factors and characteristics that underpin effective coach-practitioner relationships.

10.13 Practical Considerations

The third research question within this thesis was focused on understanding optimal conditions for delivering video-based practice within youth football. At the start of this thesis, it was suggested that an over-emphasis on the application of methods for analysing athletic performance had left practitioners speculating about how they should incorporate these technologies and techniques into applied practice. Through studying the central protagonists within real life professional football settings, the series of investigations in this thesis offer a number of directions for coaches and practitioners to consider with respect to effective video-based practice. In the following paragraphs, the most significant practical and research considerations are presented with these stakeholders in mind.

Firstly, the findings of this research suggest that there may be benefits for the coach in broadening the scope of video delivery away from established ‘team-focused’ video delivery strategies, to include approaches which are less reliant on the traditional coach-led, team-focused format. While team-focused VFB was a positive strategy for developing team functioning, the findings suggest that using this exclusively may limit video-based practice. In addition, while the coach’s role remains central to video-based practice, at times in this research, the coaches’ dominant and controlling behaviours were identified as a barrier to effective video learning. The findings from study one and three suggest there may be value to be
gained in placing greater responsibility on the players to lead the team video
sessions, and also the difficult balance which needs to be maintained between
creating a climate which encourages honesty and critical reflection amongst peers
and one which creates anxiety and reduces communication. This approach – which
shifted the responsibility for learning over from the coach to the player – was only
possible with a change in the performance philosophy within the sessions. While this
is a difficult balance for the head coach to achieve, the findings of this thesis indicate
that there are considerable benefits of making this change.

Given these arguments, a further significant consideration is to question the
way coaches currently assess the impact of their own behaviour during video work.
Nash and Collins (2006) argue that coaches usually make intuitive decisions in
practice based often on tacit knowledge (also been defined as professional ‘know-
how’). This knowledge is often, but not always, developed from extensive playing
and coaching careers, and has been linked to the flexibility expert coaches need in
order to adapt to unexpected and problematic tasks (Côté, Salmela, Trudel, Baria, &
Russell, 1995; Saury & Durand, 1998). While some of the coaches acknowledged
that their knowledge of the psychological responses in video feedback could be
improved, many of the coaches (and tellingly, most of the players) felt that they as
coaches could also benefit from reflecting on their own behaviour in video sessions.
Although the rich data collected within study one and three shows that there is a level
of awareness amongst coaches regarding the psychological factors which could
contribute to performance enhancement within youth football, the coaches reported
that they didn’t feel trained to maximise learning from the video information they
had available, and were unsure regarding its psychological impact on players’
development. Beyond the findings reported here and in recent studies into coaches
perceptions of video feedback (e.g., Groom et al., 2011), little is currently known about coaches’ perceptions of video-based practice. By engaging in reflection using the video, coaches may gain awareness of how their behaviour within video sessions can impact on players’ psychological responses. Using video to reflect on behaviour in practice is a process that is well established within coaching practice (e.g., Deakin & Cobley, 2003; Ford, Yates, & Williams, 2010; Meeûs, Serpa, & De Cuyper, 2010).

Given the broad range of factors the coach needs to be aware of when considering how to deliver video-based practice in youth football, it is important to consider the level of support available to coaches in their role. In study one, the coaches indicated that whilst they saw video as a valuable performance enhancement tool, they could not always prove why, and felt that there were limited tools or support available to help them monitor the way their players were responding to video work. Due to the variety of factors affecting the impact of video-based practice on performance, future research should aim to quantify the impact of these factors to enable a more tangible assessment of the quality of practice. In an attempt to address this limitation, an applied video questionnaire was developed (Video-based practice in Football Questionnaire - VPFQ) using the responses of the players and coaches to the interviews in study one (displayed in Appendix I). The questionnaire focuses on three areas of practice: (i) understanding the quality of the players’ experiences during video-based practice, (ii) the performance impact of this experience, and (iii) the psychological impact of this experience. The purpose of this questionnaire is to assess players’ responses to video-based practice in order to provide coaches and practitioners with a monitoring / reflective tool that could be used within club or international football. This tool may be particularly useful in gaining feedback on the experiences and impact of video-based practice with other
populations within football. The experiences of younger players and female players are particularly under-represented in this area to date. Although this questionnaire was conceived as an applied tool for coaches and practitioners through the knowledge gained in this thesis, it prompts a final consideration; namely, that scientific attention may be given to the development of tools which can help coaches within youth football to monitor and review the effectiveness of video-based practice within their organisation.

10.4 Strengths and Limitations of the Thesis

As this thesis draws to a close, it is important to reflect on the key strengths and limitations that were borne out of the research. A primary strength of this thesis was the linearity taken towards examining the main research questions. The results of the qualitative investigations were directly used to guide the research approach taken within the rest of the thesis and the specific intervention selected in study two. It was hoped that by adopting an interpretivist methodological approach, a broader understanding was developed about the impact of video technology upon athlete learning and performance; that by combining quantitative and qualitative methods within this thesis, a more coherent, rational and rigorous understanding of the phenomena (Tashakkori and Teddlie, 2010) would be achieved. The use of a mixed method approach was seen as complementary in that studies were able to capture both in-depth individual responses to video delivery week in week out and the broader, environmental issues influencing practice over time.

A further strength of this research relates to its firm location within elite youth football settings. Given the limited number of applied studies within video-based practice in elite sport at the beginning of this research, it was deemed essential
to conduct research with talented players and coaches working day to day within youth football. Given the nature of applied settings, inevitable limitations exist including the potential influence of confounding variables at the time of study (such as the impact of other scientific support areas or support staff within the academy). Additionally, whilst great care was taken to try and recruit different participants in the three studies, one coach was involved in both studies one and three. As a personal reflection, the approach adopted within this thesis was only made possible due to the level of immersion I had gained within the professional youth football setting. During the course of the data collection for this thesis, I was working within two elite youth football settings on a day-to-day basis as a Practitioner / Researcher within a professional youth academy, and intermittently with various England youth international squads. These roles allowed me a great deal of access and immersion within these environments through relationships I was able to build. However, an acknowledged limitation of this methodological approach was my level of personal involvement in the lives of the participants. Efforts were taken to counter the danger of losing my objectivity within the research process. For example, throughout my research I accessed appropriate supervision to help me deal with any perceived challenges and resulting anxieties (Tonn & Harmison, 2004). Further, independent researchers were utilized as critical friends throughout my research, and particularly within study one to strengthen the methodological rigour of my data analysis process. In sum, whilst every effort was made to minimise the impact of my influence on the data, I acknowledge that removing all bias was unrealistic.
10.15 Concluding remarks

While video technology is just one aspect of a myriad of specialist activities that players may undertake in order to develop, the findings of this research show that it can be a valuable learning tool for developing young players within elite football settings. Advancements in technology in recent years (Dowrick, 2012; Bennett, Button, Kingsbury, & Davids, 1999) - such as the ability to sync video information instantly to small, portable tablet computers and phones - opens up the accessibility of this technology for coaches and players. Arguably this allows for a more creative application by coaches and practitioners, including an array of viewing environments (e.g. the team bus, in the players’ accommodation, in meeting rooms) and timings (e.g., pre-match / half-time). To make further advances in the delivery of video feedback within youth football coaches, practitioners and researchers choosing to prescribe video as a performance strategy in youth football may benefit from exploring more diverse strategies for creating impact. The findings of this thesis suggest that when video-based practice is one directional (i.e. where feedback gets passed down from the coach (and deliverer) to the players (as receiver) with little expectation of the player being involved, it may be less positively received. This research has identified a range of pertinent social, psychological and organisational factors that can underpin the process of delivering video effectively, and has examined specific techniques which have influenced the psychological states and performance of youth players. The use of video technology within youth football is now widespread, yet such technology may be underperforming in terms of its potential as a learning and performance enhancement tool. Whilst acknowledging that there is still much to learn in this specific area, it is hoped that the body of
research generated in this thesis provides a starting point for the improved application of video by coaches, practitioners and play
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Pre-Interview Questionnaire (Coaches) *

* The version of this questionnaire was adapted accordingly for the players (study 1b)

My name is Simon Middlemas from the School of Sport & Exercise Sciences, Loughborough University. Thank you for agreeing to take part in this research about youth football. The focus of this research is on understanding your experiences of delivering video technology as learning tool for the development of elite youth footballers, and therefore I am interested in gaining some initial experiences of video feedback within the full-time academy football and elite youth international football. When using the term video-based practice, I am referring to the instances where video is used as a tool for learning, or preparation, or evaluation following performance. For example, post-match feedback with the team, watching the video on your own, receiving individual feedback from the coach, watching a video pre-match for motivational purposes. Your responses in this questionnaire will be used primarily as a recruitment process, and may be followed up with an interview, which can be arranged at your convenience. There are no right or wrong answers. The information you provide will remain strictly confidential (your responses will be stored in a password-protected document on the researchers' laptop. Your participation in this study is entirely voluntary you are free to decline to answer any question. Further, you are free to withdraw from the study at any time.

Background information

Name ____________________________          Age           ____________

Highest coaching qualification currently held ______________________________________

Please state your coaching experience (in years) within elite youth football programmes (e.g. professional academies, centres of excellence, international youth set-ups)? __________________________

What age group / development setting do you primarily coach at the present time?
Experiences

How long have you been working with video technology for feedback purposes within the academy?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Please describe the different way you as a coach have delivered the video with the players or team.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

How often, on average, would you say you use the video within your day to day activities in the academy?

Daily Weekly Monthly Less often Other (please detail below)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Finally, do you have any support staff supporting the video delivery work? (e.g., Analyst, Sport Psychologist, Assistant Coach, Cameraman, Student etc..)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What would you see their primary role in with regards the video work?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

If you had any other comments you would like add on the topic within this questionnaire, please use the space provided below.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
My name is Simon Middlemas from the School of Sport & Exercise Sciences, Loughborough University. Thank you for agreeing to take part in this research about youth football. The focus of this research is on understanding your experiences of delivering video technology as a learning tool for the development of elite youth footballers. When using the term video-based practice, I am referring to the instances where video is used as a tool for learning, preparation, or evaluation following performance. For example, post-match feedback with the team, watching the video on your own, receiving individual feedback from the coach, watching a video pre-match for motivational purposes. There are no right or wrong answers. The information you provide will remain strictly confidential (your responses will be stored in a password-protected document on the researchers’ laptop. Furthermore, your responses will be presented in the form of selected quotes from the interview but these will also remain strictly confidential. Your participation in this study is entirely voluntary you are free to decline to answer any question. Further, you are free to withdraw from the study at any time.

Opening questions:

→ How long have you been at the academy / in this international set-up?
→ How is your season going so far?

Experiences

→ Could I start by asking you to tell me how long you have been using video-based practice as a coach? 
  Probe: how / when did you start using it?

→ Can you please describe how you might typically use the information captured in a game of football?
  Probe: Giving post-game feedback post-performance?
  Probe: Pre-game preparation for either training or performance?
  Probe: Other areas of sport science e.g. psychology, physiotherapy or fitness?
  Probe: Team v Unit v Individual video feedback?
  Probe: Modelling; Positive self-review; feed-forward; confrontation;

→ What are your principle reasons for implementing video-based practice in this way?

→ Has the way you deliver video changed since you first started using it?
  Probe: How? Why?

→ Have you provided individual tapes for players to view privately?
  → Probe: Is there a process for reviewing their use of this feedback?
How important do you believe video work can be as an area of sport science in youth football?

Probe: Why?

Impact

What have you noticed about how the players respond to the video the first time (s) they see themselves?

Probe: What did you notice about the reaction of the players or coaches?

Probe: Have you observed any differences in people’s reaction over time?

What impact do you believe you, as a coach, may have on the delivery of video information?

Probe: Coach, sport scientist, player, assistant coach, education, academy director, other?

Does the way video sessions are structured using the video vary between different people you have worked with?

Probe: What factors affect this?

Do you feel there is any noticeable effect of the presence of the video camera on the players?

What do you feel you have learned as a coach using the video?

How effective do you believe video could be as a technique for player development within a football academy?

Probe: Why?

Are there times when you feel it could have limited or no impact upon the players?

Do you believe that the location of the session has any bearing on the effectiveness of practice?

Probe: Classroom, Changing room, Team bus, Team hotel, other…

Does the make-up of the group (i.e. individual differences) impact how well the feedback is delivered / received?

Probe: Quieter or louder lads, Captain, humour.

Does the player interaction during the session have an impact on their reception of the information?

Example?

Is it important, in your opinion, to take into consideration the timing of when the video is delivered?

Probe: Pre-game; Post-game;

Is there an optimal amount of time for delivering a session or even a particular video clip/montage?
What impact will the different staff have in the process of preparing and delivering the video to the players?

What skills and knowledge do you believe the person who is preparing the video needs to perform their role?

What effect do you believe video-based practice could have on players thought processes?
   Probe: Negative, positive, concerns, worry
   Probe: The first time they see themselves on the video
   Probe: Before the game, during performance, during delivery

What effect do you believe video-based practice could have on players emotional responses?
   Probe: Heart rate pounding or faster - sweaty palms - butterflies
   Probe: The first time they see themselves on the video
   Probe: Before the game, during performance, during the video delivery session

Do you believe the video can be used to impact upon players confidence?
   Probe: In what ways?

What impact, if any, does the video have upon players motivation to learn?

What skills do you believe, if any, the players need to be able to gain maximum benefit from the video information?

**Optimizing effectiveness**

Do you believe anything will restrict the use of video interventions in football?
   Probe: How? Why?

In what areas do you believe the use of video-based practice will develop in the future?

What changes do you believe are necessary to facilitate these developments?

Is there anything else which has come to mind that you feel is relevant to our discussion?

Thank you very much for your time
My name is Simon Middlemas from the School of Sport & Exercise Sciences, Loughborough University. Thank you for agreeing to take part in this research about youth football. The focus of this research is on understanding your experiences of receiving video technology within youth football. When using the term video-based practice, I am referring to the instances where video is used as a tool for learning, or preparation, or evaluation following performance. For example, post-match feedback with the team, watching the video on your own, receiving individual feedback from the coach, watching a video pre-match for motivational purposes. There are no right or wrong answers. The information you provide will remain strictly confidential (your responses will be stored in a password-protected document on the researchers’ laptop. Furthermore, your responses will be presented in the form of selected quotes from the interview but these will also remain strictly confidential. Your participation in this study is entirely voluntary you are free to decline to answer any question. Further, you are free to withdraw from the study at any time.

Opening questions

→ How long have you been at the academy?
→ How is your season going so far?

Experiences

→ Could I start by asking you to tell what your experiences have been using video in the academy as a player?
  Probe: how long?

→ Do you notice the presence of the video camera at matches? Are you aware of being filmed?
  Probe: what effect does this have?

→ Do you remember when you first received video feedback after a game?
  Probe: What did you notice about the (i) your own reaction, (ii) the reaction of the group / peers?
  Probe: Did these reactions change as you used it more regularly?

→ Do you use the video as a team? If so, can you tell me about a typical team session using the video?
  Probe: Who delivers this session? How long might it last? When does it typically happen in a week?
  Post-game? Pre-game?
  Probe: Positives? Negatives?
→ What do you see as the main purpose of these video sessions?
   Probe: Team-focus? Individual-focus? Unit? With coach?

→ What is the most important part of watching the video for you?
   Probe: What did you try to focus on? Why?

→ Have you used video one-to-one with your coach? If so, can you describe the typical content of an individual session?
   Probe: Positives? Negatives?
   Probe: Does this differ in any way from a team session? If so, how?

→ Have you viewed videos of yourself playing on your own, with no-one else present?
   Probe: What was this experience like for you? Did it differ to watching it with a coach or team-mates?

→ How you ever had one of your mistakes replayed in front of the team?
   Probe: How was it replayed?
   Probe: How did this feel?

→ Does it matter who delivers the video session?
   Probe: Coach, sport scientist. Assistant coach, education officer, academy director, other?

Impact

→ What has been your best / worst experience of using video as a player?
   Probe: Why?

→ Do you think that video can help your performance? If so, how?
   Probe: Why?

→ When you are away from video sessions, do you recall what you have seen?
   Probe: When? How do you feel when this happens?

→ Do you believe anything prevents the video sessions from being more effective?
   Probe: How? Why?

→ Is there an optimal amount of time you can stay focused during a video session, or even a particular video clip/montage?

→ Where do you believe the most effective place for delivering video feedback, and why?
   Probe: Classroom, Changing room, Team bus, Team hotel, other…
→ Does the make-up of the group (i.e. individual differences) impact how well the feedback is delivered / received?
  Probe: Quieter or louder lads, Captain, humour.

→ Does it matter what your team-mates are doing during video replay?
  Probe: Do they have any impact on you during video replay? Example?

→ Are there times when you feel video work has limited or no impact on you?

→ Where do you believe is the best place and time to watch the video and why?
  Probe: Timing? Classroom / Changing room / Team bus / Team hotel etc

→ Does the make-up of the group make a difference to how useful the video is?
  Probe: Quieter or louder lads, senior players, humour, mood

→ Does the player interaction during the session have an impact what you get from the sessions as an individual?
  Probe: Example?

→ What do you think about during a video session?
  Probe: Negative, positive, concerns, worries.
  Probe: The first time they see themselves on the video
  Probe: What can influence the way you might respond to video?

→ Do you continue to think about the video after the session has ended?
  Probe: Before the game. during performance, during the video-feedback session

→ What role do you think emotions play in the video session?
  Probe: How does this impact on you?
  Probe: Does timing influence this? e.g., before the game. during performance, during delivery

→ Do emotions continue to player a part following the end of the session
  Probe: Before the game. during performance, during delivery

**Optimizing effectiveness**

→ How do you think video could be delivered more effectively in your academy?

→ Is there anything else which has come to mind that you feel is relevant to our discussion?

Thank you very much for your time
Appendix D
# Summary of Relevant VSM Intervention Research in Sport

<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>n</th>
<th>Length</th>
<th>Condition</th>
<th>Design</th>
<th>Sport</th>
<th>Task(s)</th>
<th>Skill Level reported</th>
<th>Psych / Measures</th>
<th>Impact</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franks &amp; Maile</td>
<td>1991</td>
<td>1</td>
<td>25 Weeks</td>
<td>FF-VSM</td>
<td>SCD</td>
<td>Weight Lifting</td>
<td>Squat, Bench press, Dead lift</td>
<td>Expert</td>
<td>_</td>
<td>26% performance gain</td>
<td></td>
</tr>
<tr>
<td>Templin &amp; Vernacchia</td>
<td>1995</td>
<td>5</td>
<td>Whole Season</td>
<td>PSR-VSM</td>
<td>SCD</td>
<td>Basketball</td>
<td>Points scored</td>
<td>Inter-collegiate</td>
<td>--</td>
<td>4.7% improvement for 3/5 players</td>
<td>No</td>
</tr>
<tr>
<td>Winfrey &amp; Weeks</td>
<td>1993</td>
<td>6</td>
<td>6 weeks</td>
<td>PSR-VSM</td>
<td>GE</td>
<td>Gymnastics</td>
<td>Balance Beam</td>
<td>Inter</td>
<td>SE</td>
<td>Non-significant</td>
<td>2 weeks</td>
</tr>
<tr>
<td>Zetou, et al</td>
<td>2002</td>
<td>106</td>
<td>16 sessions</td>
<td>SO-VSM &amp; VM + Verbal cues</td>
<td>GE</td>
<td>Volleyball</td>
<td>Set &amp; Serve</td>
<td>Beginner</td>
<td>_</td>
<td>Sig. Performance (model group only)</td>
<td>1 week</td>
</tr>
<tr>
<td>Ram &amp; McCullagh</td>
<td>2003</td>
<td>5</td>
<td>12 days</td>
<td>PSR-VSM</td>
<td>SCD</td>
<td>Volleyball</td>
<td>Serve</td>
<td>Inter</td>
<td>SE, Cognitions</td>
<td>Non-significant</td>
<td>_</td>
</tr>
<tr>
<td>Law &amp; Ste-Marie</td>
<td>2005</td>
<td>19</td>
<td>9 weeks</td>
<td>PSR-VSM</td>
<td>GE</td>
<td>Ice Skating</td>
<td>Jumps (various)</td>
<td>Inter</td>
<td>SE, Anxiety Motivation</td>
<td>1 week</td>
<td></td>
</tr>
<tr>
<td>Authors</td>
<td>Year</td>
<td>n</td>
<td>Length</td>
<td>Condition</td>
<td>Design</td>
<td>Sport</td>
<td>Task (s)</td>
<td>Skill Level reported</td>
<td>Psych / Measures</td>
<td>Impact</td>
<td>Follow-up</td>
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<tr>
<td>Baudry, Leroy &amp; Chollet</td>
<td>2006</td>
<td>16</td>
<td>2 weeks</td>
<td>PSR-VSM, EM &amp; KP</td>
<td>GE</td>
<td>Gymnastics</td>
<td>Pommel Horse circle</td>
<td>Expert</td>
<td>_</td>
<td>Non-significant</td>
<td>1 week</td>
</tr>
<tr>
<td>Barker &amp; Jones</td>
<td>2006</td>
<td>1</td>
<td>24 weeks</td>
<td>Hypnosis, Technical work &amp; PSR-VSM</td>
<td>SCD</td>
<td>Cricket</td>
<td>Bowling</td>
<td>SE</td>
<td>Performance gains &amp; SE gains</td>
<td>7 Month</td>
<td></td>
</tr>
<tr>
<td>Clark &amp; Ste-Marie</td>
<td>2007</td>
<td>33</td>
<td>8 days</td>
<td>PSR-VSM; Self-Ob</td>
<td>GE</td>
<td>Swimming</td>
<td>Various strokes</td>
<td>Inter.</td>
<td>SE; Motivation; Thoughts</td>
<td>SM improved vs. SO &amp; control</td>
<td>1 day</td>
</tr>
<tr>
<td>Rymal, Martini, &amp; Ste-Marie</td>
<td>2010</td>
<td>10</td>
<td>Across 3 comps</td>
<td>FF-VSM</td>
<td>SCD</td>
<td>Diving</td>
<td>Dive execution</td>
<td>Province</td>
<td>Self-reg. thoughts</td>
<td>Qualitative responses reported</td>
<td>No</td>
</tr>
<tr>
<td>Ste-Marie, Rymal, Vertes, &amp; Martini</td>
<td>2011</td>
<td>22</td>
<td>Across 4 Comps</td>
<td>FF-VSM</td>
<td>SCD</td>
<td>Gymnastics</td>
<td>Beam routine</td>
<td>Province</td>
<td>Self-reg</td>
<td>Performance gains</td>
<td>No</td>
</tr>
<tr>
<td>Vertes &amp; Ste-Marie</td>
<td>2012</td>
<td>9</td>
<td>Across 3 comps.</td>
<td>FF-VSM (self-control)</td>
<td>SCD</td>
<td>Trampoline</td>
<td>Trampoline routine</td>
<td>Province / national</td>
<td>Self-reg</td>
<td>Performance gains &amp; SE changes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Key:** GE - Group Experimental design; SCD – Single case Multiple baseline design; CS – Case study design / PSR-VSM = Positive self-review; SO-VSM = Self-Observation / Self-Reg = Self-Regulation; Inter= Intermediate (level)
Pre-match questionnaire

Name: XXXXXX

Game week: 5

XXXXXXXXXXXXX F.C. U18 Youth team v Liverpool F. C. U18 Youth Academy

Date: XXXXXXX

Based on the following criteria for a successful tackle ('where you complete a clean tackle'), I am (0-100%) confident that I can successfully perform in the game today ...

<table>
<thead>
<tr>
<th>I am certain I can't do this</th>
<th>I am moderately certain I can do this</th>
<th>I am very certain I can do this</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

...at least 1 of 10 attempts

...at least 2 of 10 attempts

...at least 3 of 10 attempts

...at least 4 of 10 attempts

...at least 5 of 10 attempts

...at least 6 of 10 attempts

...at least 7 of 10 attempts

...at least 8 of 10 attempts

...at least 9 of 10 attempts

...at least 10 of 10 attempts

Based on the following criteria for a successful header ('where you win a clean header'), I am (0-100%) confident that I can successfully perform in the game today ...

<table>
<thead>
<tr>
<th>I am certain I can't do this</th>
<th>I am moderately certain I can do this</th>
<th>I am very certain I can do this</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

...at least 1 of 10 attempts

...at least 2 of 10 attempts

...at least 3 of 10 attempts

...at least 4 of 10 attempts

...at least 5 of 10 attempts

...at least 6 of 10 attempts

...at least 7 of 10 attempts

...at least 8 of 10 attempts

...at least 9 of 10 attempts

...at least 10 of 10 attempts

Please indicate (circle) on the scale below, how important you believe today's game for you progression as a footballer:

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Quite</th>
<th>Moderately</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>important</td>
<td>important</td>
<td>important</td>
<td>Important</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Post-match questionnaire

Name: XXXXXX

Game week ___5_____

XXXXXXXXXXXXX F.C. U18 Youth team v Liverpool F. C. U18 Youth team

Date: XX/XX/XXXX

Please indicate on the scale below how difficult you believe it was for you to perform against the opposition in the game today:

Not at all    Quite     Moderately     Extremely
difficult    difficult    difficult    difficult    difficult

1 2 3 4 5 6 7 8 9 10

Based on the following criteria for a successful header ('where you win a clean header'), how successful do you feel you were at performing this subcomponent of performance in today's game, on a scale of 1-10 (1 = 1 out of 10 attempts), 10 = 10 out of 10 attempts)?

Headers 1 2 3 4 5 6 7 8 9 10
Out of 10

Based on the following criteria for a successful header ('where you win a clean header'), how successful do you feel you were at performing this subcomponent of performance in today's game, on a scale of 1-10 (1 = 1 out of 10 attempts), 10 = 10 out of 10 attempts)?

Tackles 1 2 3 4 5 6 7 8 9 10
Out of 10
Positive and Negative Affect Schedule  
(PANAS – situational)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word.

Please indicate to what extent you feel this way right now, that is, at the present moment.

<table>
<thead>
<tr>
<th></th>
<th>Very Slightly</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>1. Interested</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Distressed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Excited</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Upset</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Strong</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Guilty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Scared</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Hostile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Enthusiastic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Proud</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Irritable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Alert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Ashamed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Inspired</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Nervous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Determined</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Attentive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Jittery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Active</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Afraid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX H
Video-based practice in Youth Football Questionnaire  
**(VPYF-Q)**

**Personal information**

Name:__________________________________  Club:____________________________
Position:________________________________  Age:____________________

**A. Experiences**

Please indicate on a scale of 1-5 (1 = strongly disagree, 5 = strongly agree), the extent to which you agree with the following statements about your experiences using video-based practice in the past 12 months?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Neither agree nor disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I played an active role in the video feedback meeting</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I found the video sessions enjoyable</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was able to maintain a good focus throughout the video feedback team meetings</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt the feedback I received alongside the video was fair and, on the whole, positive</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The video was presented in a way that helped me fully understand the coaches’ feedback</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I received specific individual feedback during the video session</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I found watching the video feedback alongside my teammates a positive experience</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching other players perform on video helped me improve my confidence</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt I was encouraged to ask questions about the video feedback in the session</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt I was encouraged to discuss the video footage with my team-mates during the team meeting</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching video feedback from previous training sessions helped reinforce the learning outcomes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt I was given enough opportunity to see my own individual feedback</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B Performance Impact

The statements below represent some of the different reasons video could be used in a football environment to aid your development as a player. Please indicate on a scale of 1-5 (1 = strongly disagree, 5 = strongly agree), the extent to which you agree with the following statement: In the past 12 months, video has helped ...

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Neither agree nor disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>...improve my understanding of how I can develop tactically as a player</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...improve my performance in competitive matches</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...improve the way I psychologically prepare for matches</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...improve my understanding of how I can develop technically as a player</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...improve the way we evaluate performances following matches as a team</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...improve my personal evaluations of my personal performance in training and matches</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...improve our performance as a team in competitive matches</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...improve our performance as a team in training</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...improve the way we psychologically prepare for matches as a team</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...feel more together as a team</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>...to understand where I needed to improve as a player in order to progress</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
C. Psychological Impact

Please indicate on a scale of 1-5 (1 = strongly disagree, 5 = strongly agree), the extent to which you agree with the following statements about the impact of video-based practice on you as a player in the past 12 months?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Neither agree nor disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The video work made me feel more confidence in my ability as a player</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The Pre-match Video had a positive impact on my feelings prior to games</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video work helped improve my knowledge of my specific role on the pitch</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Watching myself performing well on video in front of my team-mates made me feel good about myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video work made me feel more confidence about specific skills I am able to perform</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video work gave me motivation to try and improve specific elements of my play in training / matches</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video work gave me motivation to put in greater effort in training / matches</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video had a positive impact on my personal performance in the match</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I got a feeling of excitement from watching myself perform on the video</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video helped me make good decisions under pressure on the pitch</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video helped me create a mental picture of me performing specific skills successfully in matches</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video helped me to communicate better with my team-mates</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video helped increase my understanding of what the coaches were working on in training sessions</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video helped me replace doubts with positive thoughts about myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The video helped me create a mental picture of me coping positively with match-like situations</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>The pre-match video helped to ease some of the worries I had about performing in the match</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Example Analysis Matrix – Study One (Coaches)

<table>
<thead>
<tr>
<th>Transcript</th>
<th>Meaning unit description</th>
<th>‘Open’ coding</th>
<th>‘Focused’ Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5 - When [the players] watch the video with the rest of the team, they all respond differently. Some of them it goes right over their head, some feel under pressure, some didn’t care one iota, and some see it as a bit pointless, a bit of a joke. It depends on the individual and it’s difficult to meet all the players’ needs in a way that is helpful to them. Although there are definitely some players who just get it, and its easy with them.</td>
<td>C5 identifies individual differences in player responses and the difficulty of meeting the different player’s needs when delivering video in big group of players. Believes that some players more receptive than others.</td>
<td>Difficult to satisfy player needs in group.</td>
<td>Delivery Strategies (Team-focused VFB)</td>
</tr>
<tr>
<td>Q - What impact do you believe you, as a coach, can have on the delivery of video information and the way the players respond?</td>
<td></td>
<td>Most effective with receptive players</td>
<td>Delivery Climate (Individual differences)</td>
</tr>
<tr>
<td>C5 - Yes, I definitely think you can have a big impact, but you need to understand the players learning styles … you need to understand how [the players] respond better psychologically and find a way of giving players what they need, not just dishing out a team feedback session with loads of finger pointing, because it’s the style they prefer as a coach, you know; because it’s easier for them. The way coaches provide the video to the team needs to become more sophisticated if it is to tackle this problem. I’ve seen it at the couching courses, and in the younger coaches, you know it’s a waste of time. I used to do it the same way.</td>
<td>C5 perceives that the coach needs to understand how the players respond – e.g. learning styles, psychological needs, coaching style – in order to create more impact from the video work.</td>
<td>Understanding learning styles key to delivery</td>
<td>Delivery Climate (Individual differences)</td>
</tr>
<tr>
<td>Q - What do you mean, more sophisticated?</td>
<td>Need to understand psychological impact</td>
<td>Delivery Climate (Psychological Understanding)</td>
<td></td>
</tr>
<tr>
<td>C5 - Moving beyond the coach-led model and getting the players to lead themselves, and each other, that starts with them</td>
<td>Link delivery to players’ needs</td>
<td>Delivery Climate (Individual differences)</td>
<td></td>
</tr>
</tbody>
</table>
watching the video on their own, in their rooms, and forming their own opinions, analysing it away from everyone else and setting goals for themselves (Yep) … I think last year we took a step towards the right learning environment for video, not a massive step, but a significant one. The players aren’t at the stage where they are able to dig each other out yet, but that it may be a useful tool when they get to senior football. They have been surprised that they could do it and still respect each other. We said that whatever was said in the room stays in the room, and that was the starting point for our honesty in those sessions. The small breakthroughs we had were worth all the hours of work that we did with the video (C5).

Q - Ok…and so what do you believe is the next step with the video work for you as a coach?

C5 - Erm… I believe that I’ve got as much as I can get from the players at the moment, but there are things I can still improve on … I spent a lot of time watching my own behaviours at the games this year, I was doing it anyway, so I asked the analyst to pan out so I could see my reactions and me and Tony, our shrink, sat down and talked a few things through…

Shrink?

The Sport Psych, yeah … that’s where (The Psychologist) comes in; looking at individual responses, educating the coach, fine tuning the analysts work… getting more out of it. Without integrating the work of the analyst and coach with the expertise of the psychologist on a daily basis, then we may still be thinking we are having this big impact, when in fact we are clueless.

<table>
<thead>
<tr>
<th>C5 raises the benefits of players watching VFB away from the coach and links this to setting personal goals.</th>
<th>Self-observation creates independent learners</th>
<th>Delivery Strategies (Self-observation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5 highlights the role of peer feedback, in this case negative (dig each other out) could play in taking the video work to the next level.</td>
<td>Need to be able to give negative feedback to peers</td>
<td>Delivery Climate (Peer-to-peer communication)</td>
</tr>
<tr>
<td>C5 watching self as a coach on the side-lines during VFB sessions for the players.</td>
<td>Natural to watch self on side-lines</td>
<td>Delivery Climate (Coach Education)</td>
</tr>
<tr>
<td>C5 perceives the Sport Psychologist as one role which could help maximise the work he does as a coach.</td>
<td>Sport Psych could maximise impact</td>
<td>Delivery Climate (Support Staff Role)</td>
</tr>
</tbody>
</table>