Coaching behaviours and players’ motivation in elite youth football

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Coaching behaviours and players' motivation in elite youth football

by

Gareth Patrick Morgan

A Doctoral Thesis
Submitted in Partial Fulfilment of the Requirements for the Award of Doctor of Philosophy of Loughborough University

June 2006

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Abstract

The first phase of this research project focused on developing an understanding of the current practice behaviours being exhibited by coaches within elite-level English youth football. That is, prior to any further enquiry into this unique setting, it was felt that an investigation should establish, as accurately as possible, the practice behaviours utilised in the coaching of talented youth players. Thus, Study 1a comprised the contextual validation of a systematic observation instrument (the Elite Youth Football Coaches' Observation Instrument; EYFCOI) that would enable a precise detailing of coaches' practice behaviours to be undertaken that was more holistic than the other observational tools in common use. Subsequently, Study 1b used the EYFCOI to carry out an evaluation, over mid-late season, of Under 12, Under 15, and Under 19 coaches' behaviours that found instructional provision to feature prominently within positive learning environments. These behaviours, and players' perceptions in relation to them, were found to be stable throughout the observation period. A significant age group finding, however, was identified in relation to players' perceptions, as younger players were found to have higher levels of enjoyment, exerted effort, and perceived learning than their older peers. Descriptive analysis of the coach behaviour data revealed that coaches of older players provided more frequent verbal instruction, but less frequent demonstrations and questioning strategies. A positive-to-negative feedback ratio of approximately 4:1 was consistently recorded across the three age groups, with general feedback usage found to dominate over feedback that was informational.

Study 2 sought to build on the findings of Study 1b by qualitatively investigating the factors that influenced the performance of their role, whilst simultaneously researching players' coaching behaviour preferences. The main findings identified in relation to the factors impacting on coaches' performance of their role included a consistently cited emphasis on developing players, with conflicting opinions expressed in relation to how this is best achieved. The beliefs ranged between the extremes of valuing intense, pressurising, and controlling methods to a much more facilitative approach. Coaches' educational development was found to be primarily achieved through independent reflections. The most significant findings from the focus group interviews with players was a preference for coaches' open questioning usage on the basis that it
was most beneficial for learning. Similarly, this same reason was cited for players’ desire for feedback to be provided that was specific and informational.

The final study assessed the efficacy of an autonomy-supportive coach behaviour intervention that was conducted over a 24-week period in mid-late season. Following an initial baseline period, coaches were supplied with educational support essentially geared towards increasing their usage of open questioning and making specific feedback their dominant feedback type. Support – in the form of quantitative data, video feedback, and behavioural modification strategies – was consistently provided during an intervention period, before being withdrawn post-intervention. The participating coaches were each found to successfully modify their behaviours, although it was found that changes were most effectively realised through coaches’ perceived value in the programme of study, their adherence to the programme (reflected most notably in their independently-initiated efforts to achieve behavioural changes), and ultimately, in reaching a behavioural frequency at which the coaches’ objectives were best achieved.

Overall, the present thesis has extended the knowledge of elite-level English youth football environment, identifying practically-based findings that, it is proposed, can be of use within the development of coach education content and strategies in particular.
Acknowledgements

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CHAPTER 1

Introduction To The Thesis

Introduction and Background to the Thesis

The Football Association (FA) has a clear objective to achieve consistent success on the pitch by developing players at all levels. Indeed, the development of talented young footballers to the highest standard is vital for English football to be successful on both the national and international stages, and it is the role of The FA to encourage, promote, and nurture these talented youngsters. The game's future, from a domestic point of view as well as from the perspective of a successful England senior side, depends upon ensuring that the best young players are given every opportunity to fulfil their talent and potential.

At the heart of The FA's commitment is the Charter for Quality programme, which ensures best practice in terms of the coaching and education received by young players. As part of the Charter for Quality, all Premier League clubs must have academies and all Football League clubs must have Centres of Excellence. However, prior to the introduction of the Charter for Quality, youth structures within English football clubs were highly fragmented and inconsistent. Indeed, there were many issues to be addressed within this aspect of English football. After lengthy research carried out by The FA’s Technical Department, the following areas were listed as issues that needed to be addressed if the potential of England’s young talent was to be maximised:

- Elite young players require a development process to protect and nurture their special talents.
- Technical development cannot, and should not, be viewed in isolation of the player’s overall educational and social welfare.
- Effective school/home/club links.
• FA Premier League and Football League Clubs need to have access to the very best players.
• Young gifted players are exposed to too much competitive football and too little practice time.
• Enhanced facilities, coaching, and medical provision is required.
• Competitive matches as part of an integrated development programme.
• Better qualified coaches to work with elite young players.
• Compulsory in-service training a requirement for a Club’s staff.
• The registration and screening for all staff together with specific training regarding Child Protection.
• The registration of gifted young players carries a responsibility for the Clubs to provide expert tuition, medical provision, and educational support. (www.thefa.com, 2003)

It was these key issues that formed the basis of the recommendations made by the Council of The Football Association in November 1997, involving the creation of licensed Football Academies and the improvement of licensed Centres of Excellence, as part of The FA’s published Charter for Quality. Further, it was stated that this new format should replicate the current best practices for gifted musicians, artists, and outstanding athletes in other sports (www.thefa.com, 2003).

The main principle is to provide quality experiences for young players at all levels, with the central figure being the player and his/her best interests. Therefore, it has been envisaged that by implementing the structures to ensure that the best young players have access to the highest standards of coaching and education, England will produce players of the highest calibre. Hence, this PhD project is an excellent opportunity to investigate the quality of the coaching players at the Academies and Centres of Excellence are receiving. Indeed, as football clubs and national associations continue to devote significant resources towards the development of elite football players, it is crucial that current coaching practice is based on scientific evidence rather than on ‘lay’ opinion (Williams, Horn and Hodges, 2003).
Research Approach

Gould (1995) has argued that to adequately examine the psychological aspects of youth sport, well-conducted research programs of a longitudinal and systematic nature need to be carried out. Further, Martens (1997) and Siedentop (1980) have suggested that sport psychologists spend less time in their laboratories and more time in the performance environments. In essence, there is an apparent need to establish ecological validity for the existing theories. Abraham and Collins (1998) have added to this argument, in saying that if research within coaching is to have an impact, then questions of practical importance must be identified. It seems there is a need, not just to test existing theory, but to also develop new sport-specific theories that better explain the complex interaction of personal and environmental variables in the naturalistic youth sport setting (Martens, 1979, 1987; Siedentop, 1980; Smith & Smoll, 1978; Thomas, 1980). Whilst not setting out to establish such theories, this thesis will adopt a pragmatic philosophy to answering the research questions that are deemed to be most pertinent to the sport.

To advance current knowledge in youth sport, the need for diverse research methods is apparent. Descriptive studies, evaluation research, and systems approach research are all types of research that are applicable in the psychological study of youth sport, with the utility of descriptive research in youth sport needs to be recognised and more highly-supported (Gould, 1995). We know little about this environment: some have argued that it cannot be explained with existing laboratory-generated theories (Martens, 1997; Siedentop, 1980; Smith & Smoll, 1978). Therefore, it seems logical that descriptive research could provide a means to understanding this complex setting and, in doing so, provide a basis for the development of new theory.

Thus, while systematic observation is widely regarded to be fundamental to the study of coaching behaviours (e.g. Kahan, 1999), in looking further into the micro-level of the coaching process, the effective use of interpretive interviews has been advocated (Potrac et al., 2002), on the basis that they can provide a rich insight into the processes underpinning the exhibited coach behaviours. Such a triangulation of research methodologies has been strongly recommended (Denzin, 1989; Patton, 1980) because the appropriate combination of qualitative and quantitative methods can
provide a richness of data that enables a sound interpretation of an intricate and adapting social world (Denzin, 1989).

Research Aims of the Thesis

In light of The FA’s apparent emphasis on player development, and responding to The FA’s (sponsor of this project) direction to the researcher to investigate ‘coaching and learning’ within elite youth football in England, the aims of this thesis are somewhat focused on investigating this unique environment from an applied perspective. Furthermore, an aim of this thesis is also to conduct research that will generate meaningful (to the relevant applied practitioners), but ultimately academically sound, data that is representative of the environment of study. Fundamentally, however, this thesis is concerned with furthering current understanding of the English elite youth football practice environment.

As an environment driven by development, and due to the previously mentioned direction from The FA to consider the issue, it is felt that ‘learning’ is inevitably going to be significant within any enquiries made. However, following much discussion with the researcher’s supervisory support team, and having acknowledged the difficulties associated with assessing and measuring learning (to be detailed within Chapter 2; see pages 48-49), the researcher has decided that the concept of learning will not be prominent within this thesis. Wishing to recognise the inherent role of learning within the elite youth football practice environment, though, enquiries will be made into players’ perceptions of learning. However, primary research attention will be paid to more objectively analysed data sources, with the coach providing the focus of investigation within much of the research undertaken.

This coach-centred research approach will still, however, embrace certain aspects that are inextricably linked to players’ learning. For instance, as Study 1b will detail the systematic observation of elite youth football coaches, an emphasis within the analysis of coaches’ behaviours will be placed on coaching behaviours that are associated with players’ learning (i.e. instruction, demonstration, questioning, and feedback; Douge & Hastie, 1993; Schempp, 2002; Williams & Hodges, 2005).
However, data collected from the players’ perspective — whilst attempting to make a limited assessment of their perceived learning — will primarily focus on the players’ perceptions of intrinsic motivation. Indeed, further research within the thesis will aim to develop coaches’ behaviours to support players’ perceptions of intrinsic motivation.

Returning to the overall aims of the thesis, though, the programme of research will ultimately seek to ascertain a greater understanding of the practice behaviours demonstrated by elite youth football coaches, by both observing coaches during practice and by asking coaches to explain their use of demonstrated behaviours. Furthermore, the thesis will aim to establish players’ perceptions of their coaches’ behaviours, and to enquire about the coaching behaviours most preferable to players. The programme of study will then aim to utilise the data generated from the earlier studies to inform an intervention that will seek to manipulate coaches’ behaviours in a specified manner.
CHAPTER 2

Review of Literature

INTRODUCTION

This chapter will seek to provide a review of the literature most relevant to this thesis. In doing so, the literature will reflect the broad range of sport science disciplines incorporated within this programme of study. Hence, to account for this diversity, the following chapter will comprise a series of sub-sections that review literature on such aspects as the methodological considerations involved in conducting research into sports coaching, coaching effectiveness, coaches' observed behaviours, as well as their beliefs. Furthermore, the review of literature concludes with an overview of Self-Determination Theory (SDT), before focussing on SDT's concept of autonomy.

INTRODUCTION TO SPORTS COACHING RESEARCH

Development of Coaching Research

Background to Coaching Research

Woodman (1993) has commented on the expansion in the application of systematic and scientific approaches to research in sports coaching over the previous two decades. As research has continued in the ensuing years it has become apparent that the area necessitates considerable research attention due to its diverse nature. Indeed, the multifaceted nature of sports coaching has meant that research in the field has centred on
such aspects of coaching as the coaching process, the role of the coach, coach philosophies, as well as studies that have investigated coaching ‘episodes’ – training, or practice sessions. Lyle (2002, p.40) has defined the ‘coaching process’ as “the contract or understanding that is entered into by the athlete(s) and coach, and the operationalisation of that agreement” - a web of complex, context-dependent, and interdependent activities (Cushion, 2001). Hence, in considering the coaching process, researchers are embracing the all-encompassing arrangement that is associated with a working relationship between a coach and his/her athlete(s). Thus, the coaching process has been found to incorporate the interaction of the coach, player, and their working environment (Cote, Salmela, Trudel, Baria, & Russell, 1995; Smith & Smoll, 1993; Saury & Durand, 1998).

The ‘operationalisation’ referred to by Lyle (2002) consists of the various modes of interaction that occur between coach and athlete(s) in their purposeful efforts to achieve the intentions for which their relationship exists: be they performance-related, or for some other function. Research concerned with the coaching process has primarily investigated the methods, activities, behaviours, interactions, and organisational functions incorporated within training and competing. However, there are no overarching theories or unifying theories about sports coaching, with the field being conceived of as being too dispersed in purpose and practice to enable this. Thus, in the absence of such a theory, it seems that many researchers have followed their own research agendas in attempts to further their own understanding of specific facets of sports coaching (Lyle, 2002).

Essentially, the crux of research within sports coaching has been tailored towards gaining a comprehensive understanding of the role of the coach, and how this role can be performed most effectively. Consequently, the vast majority of sports coaching investigations have been concerned with producing essentially descriptive research on the content of coaches’ training sessions (Kahan, 1999). Hence, there have been many published and anecdotal examples of what to coach, but arguably the most crucial concept to be developed is how to coach effectively (Martin & Lumsden, 1987).
Amorose and Weiss (1998) claimed that the focus of coach effectiveness research has been "to identify specific behaviours exhibited by coaches and to determine their influence on various achievement and psychological outcomes" (p. 396). Hence, in light of this assertion regarding 'specific behaviours', there has been much discussion over the factors deemed to constitute coach effectiveness. Rosenshine and Furst (1973) hypothesised that patterns of effective practice are so individualistic that they will never be isolated. Discussing teacher effectiveness, Locke (1979) only added to the ambiguous nature of the debate in claiming, "effective teaching must be whatever is done by teachers who get good results" (p. 4). In considering coach effectiveness, however, it is imperative to reflect on the many roles that coaches perform, and the objectives coaches seek to achieve within their position.

A more recent overview of coach effectiveness indicated that coaching practitioners require not only vast technical knowledge of their sport but also the pedagogical skills of a teacher, the counselling skills of a psychologist, the training expertise of a physiologist, and the administrative leadership of a business executive (Martens, 1997). Hence, as the central figure in the athletic environment, the coach assumes primary responsibility for the quality and direction of each athlete's sport experience and the overall success or failure of team performance (DeMarco, Mancini, & Wuest, 1993, as cited in DeMarco, Mancini, Wuest, & Schempp, 1996).

Within the existing coaching literature there seems to be a tendency to claim priority for one aspect of the behaviours that are suggested to comprise coaching effectiveness over others. For example, Fuoss and Troppman (1981) identify communication as the key ingredient of effective coaching. Indeed, Carreira Da Costa and Pieron (1992) argued that coaches' communication styles were most significant within the coaching process. Furthermore, Carreira Da Costa and Pieron contended that within the area of communication, it is the quality of feedback that is central to coach effectiveness, a feeling shared by several authors (Horn, 1984, 1992; Solomon, Striegel, Eliot, Heon, Maas & Wyda, 1996; Stewart & Corbin, 1988). Tinning (1982) however, considered instruction to be the most significant aspect of the coach's role, while Fischman and Oxendine (1993) emphasised the need to understand the motor learning process. In yet
another approach, Chelladurai (1993) focuses upon coach-athlete interaction and decision-making styles, reflecting a belief that coaching is "in essence the art and science of decision making" (p.99). Thus, the debate over coach effectiveness ensues in the absence of a satisfactory conclusion. These approaches, whilst undoubtedly contributing to existing knowledge, and to a certain extent aiding practitioners, remain limited (Cushion, 2001; Lyle, 1999).

Referring to coaching practice, Horn (2002) detailed the antecedent factors that influence the behaviours of coaches within sport settings (sociocultural context, organisational climate, and coaches' personal characteristics) as a part of her working model of coach effectiveness. Horn’s model proposes that the effects of these three factors may be mediated, to a certain extent, by the expectancies, beliefs, values, and goals of the coach which, in turn, impact: (i) athletes’ performance and behaviour, and (ii) athletes’ perceptions, interpretation, and evaluation of their coaches’ behaviour (e.g. their perceptions of competence, self-confidence, and enjoyment – influenced by their age, gender, psychological traits, and dispositions). Additionally, such self-perceptions and beliefs affect athletes' motivation and their performance and behaviour. A further significant factor outlined by Horn in determining the effectiveness of coaches is the various contextual factors of the sport (e.g. type of sport, level of competition) and additional athlete variables (e.g. age, skill level).

Hence, when considered as a whole, it is evident that there are a multitude of issues to consider when investigating coach effectiveness. Thus, from a research perspective, it seems logical to suggest that the investigation of coaches’ behaviours would be a useful starting point when seeking to understand the intricacies of the sports learning environment. Criticisms, however, have been made about the focus within coaching research on coaching episodes. The argument has been made as to the limited conclusions to be drawn from investigating isolated coaching sessions, as opposed to acknowledging the extended, cyclical, and ongoing nature of coaching (Lyle, 2002). Horn (2002) has insisted, though, that only after attaining specific knowledge of the working behaviours of sports coaches can researchers strive to understand the antecedent and mediating factors that feed into the coaches’ training and competition behaviours (Horn, 2002).
Research specifically concerned with the pedagogical behaviours displayed by coaches and physical education teachers has culminated in several accounts of the behaviours regarded as most effective within applied coaching and teaching situations. Doug and Hastie (1993) identified five behaviours that consistently emerged from their examination of effective coaches during training and competition. They reported that effective coaches “(a) frequently provide feedback and incorporate numerous prompts and hustles, (b) provide high levels of correction and reinstruction, (c) use high levels of questioning and clarifying, (d) are predominantly engaged in instruction, and (e) manage the training environment to achieve considerable order” (p.15-16).

Accepting Abraham and Collins’ (1998) recommendation that pertinent information on coaching expertise can also be accessed from the research of teaching expertise within physical education, it is relevant to consider the research-based definition of effective teaching offered by Evertson, Hawley, and Zlotnik (1984). The core skills identified by this team of researchers included: (a) providing maximum learning time (allocated and engaged time at the appropriate success level); (b) managing and organising the classroom (planning, pacing, and grouping); (c) utilising interactive teaching strategies; (d) communicating high expectations; and (e) rewarding student performance.

Discussing the needs of specific coaching groups, Woodman (1993) has suggested that at the beginner or junior level, the coach’s role is to ensure that the participant is provided with a practice and competition environment that ensures sequential development and mastery of basic skills as well as fun and participation. The coaches of elite or senior athletes, however, are responsible for developing talented athletes into successful international performers. While the functions and expectations of each role are undoubtedly different, the notion of coach effectiveness is applicable to one as much as the other. Indeed, there are certain requirements to be met in order to be deemed an effective coach with beginners, just as there are when working with international sport stars. However, in order to understand the intricacies within such environments, at opposing ends of the coaching-learning spectrum, there is a need to investigate the behaviours demonstrated by coaches reasoned to be most effective, and to consider their impact on the various needs and perceptions of their athletes. As
effective coaching behaviours vary as a function of the athlete and the sport context (Horn, 2002), it is important that researchers consider this when devising studies.

Methodological Issues within Coaching Research

Attempts to study both coaching and teaching effectiveness have been made through the use of a variety of measures. Again, if we are to accept the close links between coaching and teaching research, it is valuable to note that Medley (1979) has identified three distinct ‘eras’ of methodological approaches to studying teaching effectiveness, attributing these eras to changes that have occurred over the decades in the definition or conceptualisation of what effective teaching is. The earliest of these research orientations was based on the belief that the personality traits of the teacher were the most decisive factor in the development of the children. Hence, the research was grounded in identifying the traits associated with the “good” teacher, and how these differ from the “poor” teacher. However, with inconsistent research findings being reported, a new approach emerged.

This second era, as Medley (1979) reported, was characterised by the belief that teaching effectiveness was based on the particular teaching method or style adopted in the classroom. Research at this time investigated the effects of selected teaching techniques (e.g. ‘open’ versus ‘structured’) or teaching styles (e.g. ‘teacher-dominated’ versus ‘guided discovery’) on the academic (i.e. learning) and psychosocial growth of the children. While this approach has received extensive use, it has failed to produce consistent findings that can be replicated across classrooms. The lack of reliability with these results has been associated with the lack of consideration for the variability between the teachers’ actual behaviours within each teaching method or style (Medley, 1979).

This criticism led to the emergence of a third investigative paradigm which sought to identify effective teaching behaviours. Horn (1987) has described how this approach requires (a) valid and reliable assessments of teacher and/or student behaviours within the learning environment (i.e. measurement of process variables) and (b) a comparable
assessment of the educational product (i.e. students' performance and/or psychosocial gains during teacher-student interaction periods). Initially, research conducted using this methodology attempted to evaluate any correlation between the process variables (measures of teacher and/or student behaviour) and the product variables (student gains). However, Horn has indicated that the more valuable findings for the field are realised through inquiries into any causal relationships between the process-product measures. These, invariably, are identified through the employment of sophisticated statistical techniques and/or the creation of intervention strategies that manipulate process variables.

Furthermore, recent calls have been made for qualitative research methods to be utilised to extend this line of enquiry by investigating coaches' beliefs regarding their role along with their reasoning for their practice methods. In an attempt to begin to understand the socio-cultural dynamics of the instructional process, Potrac and colleagues (Potrac & Jones, 1999; Potrac, Brewer, Jones, Armour, & Hoff, 2000; Potrac, Jones, & Armour, 2002) have thus suggested that the systematic observation of coaches should be followed up by interviews and/or participant observation work. Such an approach, not only enables a deeper understanding of the multifaceted interactions involved in the dynamic coaching process to occur, but also an awareness of the contexts in which coaches act, and the influence these contexts have upon their respective pedagogical strategies (e.g. Salmela, Draper, & La Plante, 1993; Strean, 1998).

The next section of this review will present an overview of some of the most prominent studies of coach behaviour, citing investigations which have adopted various research methods to achieve their objectives. Initially, though, an argument shall be offered on the utility of using systematic observation to gain insight into coaches' actual behaviours, while a subsequent discussion on the merits of interview-based coach behaviour research will also be detailed.
Coach Behaviour Research

Systematic Observation of Coach Behaviours

The study of coaches' practice behaviours has been most frequently achieved through the use of systematic observation (Kahan, 1999). Systematic observation provides a sufficiently objective method to give a reliable account of teacher/coach behaviour, without being susceptible to the distortion of suggestion and perception (Siedentop, 1991). Despite being a relatively new research tool within sport pedagogy, systematic observation instruments have been credited with playing a major role in the emergence of coach behaviour as a bona fide area of empirical study (van der Mars, 1989) and have contributed more to the understanding of coach/teacher effectiveness than any other single pedagogical development (Darst, Zakrajsek, & Mancini, 1989).

Kahan (1999) has explained how the employment of systematic observation systems and direct observation has been a prominent research methodology in the field of sport pedagogy for more than 25 years. The constant production of articles, focussing on different aspects of coach behaviour, would appear to indicate that direct observation of coaches is an appropriate method for describing coaches' behaviour in training and competition (Trudel, Cote, & Donohue, 1993). Indeed, the studies conducted to date, using various observation instruments, have yielded insights that have contributed greatly to the body of knowledge in sport pedagogy (DeMarco et al., 1996; Jones, 1997). Many authors have stressed the importance of using observation of coaches' and athletes' behaviours in order to establish an empirical base for the development of a science of coaching (Lacy & Goldston, 1990; Seagrave & Ciancio, 1990; Trudel, Cote, & Bernard, 1996). In fact, Trudel et al. (1993) suggest that the emergence of systematic observation was supposed to give birth to the science of coaching. The studies carried out to date have generated much knowledge on coaches' practice behaviours. While observation-based investigations of coaching behaviours has identified much about what coaches do and suggested many variables that may relate to coaching behaviours, however, the database is still emerging and studies that supply new data are still needed (Kahan, 1999).
The use of systematic observation in sports coaching research has primarily been in providing baseline data of “actual” (demonstrated in the practice environment) coaching behaviours so as to further generate answers regarding good coaching practices and the development of associated language (Darst et al., 1989). Further, these baseline data have also been established as a precursor to highlight, through the accompanying use of qualitative methodologies, answers relating to the more general “understanding of what, to date, has been considered an esoteric coaching process” (Potrac et al., 2000; p.190). It is therefore apparent that such research is imperative if a more holistic understanding of the coaching process, and the development of a conceptual model of effective coaching practice, are to be realised. Indeed, it is only through knowing about coaching behaviours and practices that theorising about current limitations becomes possible (Abraham & Collins, 1998). Thus, to facilitate the construction of any model of effective coaching, detailed investigations to find out what good coaches actually do need to be undertaken (Jones, 1997; Millard, 1996).

Examples of such studies have been conducted with coaches in such sports as basketball (e.g. Bloom, Crompton, & Anderson, 1999; Chaumeton & Duda, 1988; Lacy & Goldston, 1990), baseball (e.g. Smith & Smoll, 1990 Smith, Smoll, Curtis, & Hunt, 1978; Smith, Smoll, & Curtis, 1979), American football (e.g. Lacy & Darst, 1985; Seagrave & Ciancio, 1990), tennis (e.g. Claxton, 1988); volleyball (e.g. Lacy & Martin, 1994; Markland & Martinek, 1988), football (e.g. Cushion & Jones, 2001; Miller, 1992; Wandzilak, Ansorge, & Potter, 1988), archery (e.g. van der Mars, Darst, & Sarscsany, 1991), and ice hockey (e.g. Trudel, Cote, & Bernard, 1996). These studies have revealed the value of observation instruments and recording what coaches do in training. However, numerous systematic observation instruments have been created and utilised in the collection of such data. Tharp and Gallimore’s (1976) study into the coaching behaviours of John Wooden, a highly successful college basketball coach in the United States during the 1960s and 1970s, was among the first research to report coaching behaviour data through the use of systematic observation. The eleven-category observation system used to assess Wooden’s coaching methods was derived from Tharp and Gallimore’s clinical research and included the following categories: instructions, modelling-positive, modelling-negative, praises, scolds, nonverbal rewards, nonverbal punishment, scold/reinstruction, other, and uncodable.
Based on Tharp and Gallimore's (1976) research, Langsdorf (1979) carried out a similar study, observing and then describing the behaviours of Frank Kush, the former head coach of Arizona State University's American football team. Darst et al. (1989) noted that Langsdorf's category system was almost the same as Tharp and Gallimore's (1976), except two additional descriptive categories had been included: 'hustle' and 'first name use'. Langsdorf's recording instrument was called the Coaching Behaviour Recording Form.

These studies inspired other researchers to both develop and use systematic observation instruments for examining coaches' work in training and competition. Consequently, a number of observation systems have been developed specifically to analyse coaching behaviour (Crossman, 1985; Lacy & Darst, 1985; Lucas, 1980; Quartermann, 1980; Rushall, 1977; Smith, Smoll, & Hunt, 1977), including computerised systems for this purpose (Franks, Johnson, & Sinclair, 1988; McKenzie & Carlson, 1984; Metzler, 1983). These systems have been used across a number of sports and at various levels of competition. Three popular systems used in systematic observation include the Coach Behaviour Assessment System (CBAS; Smith et al., 1977), the Arizona State University Observation Instrument (ASUOI; Lacy & Darst, 1984), and the Coach Analysis Instrument (CAI; Franks et al., 1988). A review of these instruments shall be presented below.

The CBAS (see Table 2.1; Smith et al., 1977) was developed over a number of years, initially analysing the behaviours of baseball coaches before being used in basketball, football, and American football. The 12 categories of the CBAS are empirically derived, and deal with two major classes of behaviours: reactive and spontaneous. The reactive behaviours are responses to immediately preceding player or team behaviours, while spontaneous behaviours are initiated by the coach. The CBAS taps behavioural dimensions that have been shown to affect both children and adults in a variety of nonathletic settings (Smith et al.). Indeed, Smith and his colleagues state that the scoring system employed by their observation tool is sufficiently comprehensive to incorporate the vast majority of coaching behaviours, and that individual differences in behavioural patterns can be easily distinguished. However, Brewer and Jones (2002) argue that, since coaching practice is not a standardised, exact science, the applicability of such generic concepts used in Smith et al.'s CBAS
may be insufficient for the purposes of gaining a clearer understanding of the working behaviours of coaches.

Class I. Reactive Behaviours

A. Responses to Desirable Performance

1. **POSITIVE REINFORCEMENT:**
   A positive, rewarding reaction, verbal or nonverbal, to a good play or good effort

2. **NONREINFORCEMENT (NR):**
   Failure to respond to a good performance

B. Responses to Mistakes/Errors

3. **MISTAKE-CONTINGENT ENCOURAGEMENT (EM):**
   Encouragement given to a player following a mistake

4. **MISTAKE-CONTINGENT TECHNICAL INSTRUCTION (TIM):**
   Instructing or demonstrating to a player how to correct a mistake

5. **PUNISHMENT (P):**
   A negative reaction, verbal or nonverbal, following a mistake

6. **PUNITIVE TECHNICAL INSTRUCTION (TIM+ P):**
   Technical instruction which is given in a punitive or hostile manner following a mistake

7. **IGNORING MISTAKES (IM):**
   Failure to respond to a player mistake

C. Response to Misbehaviours

8. **KEEPING CONTROL (KC):**
   Reactions intended to restore or maintain order among team members

Class II. Spontaneous Behaviours

A. Game-related

9. **GENERAL TECHNICAL INSTRUCTION (TIG):**
   Spontaneous instruction in the techniques and strategies of the sport (not following a mistake)

10. **GENERAL ENCOURAGEMENT (EG):**
    Spontaneous encouragement which does not follow a mistake

11. **ORGANIZATION (O):**
    Administrative behaviour which sets the stage for play by assigning duties, responsibilities, duties, etc.

   B. Game-irrelevant

12. **GENERAL COMMUNICATION (GC):**
    Interactions with players unrelated to the game

Table 2.1: Coach Behaviour Assessment System (CBAS; Smith, Smoll, & Hunt, 1977)
Lacy and Darst's (1984) ASUOI (see Table 2.2) has been widely used in a number of team sport settings and has been progressively modified and developed to specifically record the instructional and other behaviours of coaches in practice settings (Darst et al., 1989). Brewer and Jones (2002) deemed this to be important, as previous researchers have identified instructional behaviours as being the dominant percentage of all observed behaviours in practice environments (e.g. Jones, 1997). Like Smith et al.'s (1977) CBAS, the categories contained in the ASUOI not only deal with the instructional aspects of coaching, but also with the organisational/managerial components. However, the content of, and detail within, each of these broader facets differ slightly.

Unlike the CBAS, the ASUOI has been used to record both the frequency and duration of behavioural occurrences through the use of time-sampled event recording (e.g. Claxton, 1988; Cushion & Jones, 2001; Lacy & Goldston, 1990). Consequently, information obtained using the ASUOI has led to a developing database of coaching behaviours obtained from a range of sports (Trudel, et al., 1993). Previous research (Claxton, 1988; Lacy & Darst, 1985) has argued that while logical validity is apparent, content validity has been established within the ASUOI. Darst et al. (1989) claim that logical validity is evident on the basis that behavioural classifications are specifically defined and have been found to be related to the behaviours of coaches working within the sports examined thus far. This is further supported by reference to the successive use of the instrument in previous research. However, Brewer and Jones (2002) contend that this claim appears to be without conceptual basis, as persistent usage of an instrument is not sufficient to support its validity.
<table>
<thead>
<tr>
<th>Behaviour Classification</th>
<th>Behaviour Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Use of the first name</td>
<td>Using the first name or nick-name when speaking directly to a player, for example, “Nice pass, Steve” or “Jonesy, that was a poor tackle.”</td>
</tr>
<tr>
<td>2 Pre-instruction</td>
<td>Initial information given to player(s) preceding the desired action to be executed. It explains how to execute a skill, play, strategy, and so forth associated with the sport.</td>
</tr>
<tr>
<td>3 Concurrent instruction</td>
<td>Cues or reminders given during the actual execution of the skill or play.</td>
</tr>
<tr>
<td>4 Post instruction</td>
<td>Correction, re-explanation, or instructional feedback given after the execution of the skill or play.</td>
</tr>
<tr>
<td>5 Questioning</td>
<td>Any question to player(s) concerning strategies, techniques, assignments, and so forth associated with the sport, for example, “What is your role in defense?” or “What is the correct technique for throw-in at a line-out?”</td>
</tr>
<tr>
<td>6 Physical assistance</td>
<td>Physically moving the player's body to the proper position or through the correct range of a motion of a skill, for example, guiding the player's arm through the correct movement pattern when throwing in from a line-out.</td>
</tr>
<tr>
<td>7 Positive modelling</td>
<td>A demonstration of the correct performance of a skill or playing technique.</td>
</tr>
<tr>
<td>8 Negative modelling</td>
<td>A demonstration of the incorrect performance of a skill or playing technique.</td>
</tr>
<tr>
<td>9 Hustle</td>
<td>Verbal statements intended to intensify the efforts of the player(s), for example, “Run it out, run it out” or “Push yourself, push yourself.”</td>
</tr>
<tr>
<td>10 Praise</td>
<td>Verbal or non-verbal compliments, statements, or signs of acceptance, for example, “Great try” or a thumbs-up sign.</td>
</tr>
<tr>
<td>11 Scold</td>
<td>Verbal or non-verbal behaviours of displeasure, for example, “That was a terrible effort” or scowling.</td>
</tr>
<tr>
<td>12 Management</td>
<td>Verbal or non-verbal behaviours related to the organisational details of practice sessions not referring to strategies or fundamentals of the sport, for example, setting out cones or “Get into teams of five.”</td>
</tr>
<tr>
<td>13 Uncodable</td>
<td>Any behaviour that cannot be seen or heard, or does not fit into the above categories, for example, checking injuries, joking with players, being absent from the practice setting, or talking with bystanders.</td>
</tr>
<tr>
<td>14 Silence</td>
<td>Periods of time when the subject is not talking, for example, when listening to a player, or monitoring activities.</td>
</tr>
</tbody>
</table>

Table 2.2: Arizona State University Observation Instrument (ASUOI; Lacy & Darst, 1984)

The CAI (Franks et al., 1988) is one element of a triad of observation instruments that were designed to extend and improve upon the existing systematic observation.
techniques and procedures used in the sporting environment. The Computerised Coaching Analysis System (CCAS) records the behaviours of coaches and athletes during team sport practice, incorporating the Athlete Analysis Instrument and the Athlete Time Estimation Instrument along with the CAI. The process involves a trained observer coding the coach and athlete behaviours using the keyboard of a portable (IBM compatible) microcomputer and a touch-sensitive digitisation board that interfaces with the parallel port of the computer (Franks et al., 1988).

Within the CAI, the elements of organisation and instruction are central to the coach behaviours. The ‘Organisation Component’ consists of: (a) direction and explanation (clarity of coach’s speech; goals of the drill; and skills being taught); (b) realism (realism of the drills); and (c) athlete work rate (perceived effort of the athletes). The ‘Instruction Component’ focuses completely on the coach’s comments, comprising of seven dimensions: direction, setting, method, focus, appropriateness / inappropriateness, intent, and tone or character. The method of presentation used for conveying the coach’s instruction includes a diverse range of options for coding coach comments that occur prior to, during (with an additional option for when the coach interrupts play to comment), and after athlete performances. Further detail is provided for instances when the coach demonstrates aspects of performance and also for reconstructions of play. Such a selection of options for the observer should allow for a comprehensive and precise description of the coach’s instructions.

The dimension of the instrument that refers to the focus of the coaches’ comments contributes an interesting addition to systematic observation research. The focus simply relates to whether the comment was skill related or non-skill related. Prior to each coaching practice, coaches are required to complete the Coach Input Form – in essence, a coaching plan, outlining the key factors of performance and the criteria for successful and unsuccessful performance. Therefore, during the coaching session, if a comment is related to one of the skills listed in the practice plan, it is coded as skill related. Similarly, if the comment does not correspond with a skill detailed in the practice plan, it is coded as non-skill related. Hence, this section of the instrument, combined with a coaching plan, can help to determine whether or not the observed coaching behaviours are relevant to the intended task.
Concerning the appropriateness / inappropriateness of the coach's comments, the highly subjective nature of having to decide, for example, on the description or prescription of the correct mechanics of, or strategy for, a given skill, is somewhat susceptible to error. Franks et al. (1988) claim that an inappropriate skill-related comment "implies a lack of knowledge of the subject matter, a misinterpretation of the situation, or an incorrect evaluation of an athlete's or group of athletes' level of ability or performance" (p. 27). However, as the "trained" observer is responsible for interpreting the appropriateness/inappropriateness of the coach's instructions and behaviours, it would seem essential for the observer to be more qualified and to have superior coaching knowledge than the observed coaches. In this respect, utilising the CAI could prove troublesome. An additional drawback to this system is the necessity to use all of the prescribed equipment outlined by the authors. Indeed, this could prove both expensive and difficult to access.

As has been previously detailed, the systematic observation instruments described herein, along with several others, have been utilised in a range of different contexts, with coaches of different sports, and for a variety of different purposes. A summary of the key findings from systematic coach behaviour observations shall be documented in the next section of this review, with emphasis placed on the research most applicable to this thesis.

Coach-focused conclusions from Coach Behaviour Research

Behavioural Research

There are numerous methods that can be employed to present a review of the research conducted on the systematic observation of coach behaviours. However, a tabulated summary of the key findings from published studies to have systematically assessed coaches' practice behaviours has been chosen as the format to be presented in this thesis (see Appendix A). However, to provide additional reflections on some key themes within the research, specific aspects of studies that have shared related matter (i.e. a similar/conflicting purpose of study, sample group, methodology used, or
player outcomes) shall be considered in the following section, with references made to applicable coaching behaviours (see relevant systematic observation instruments for definitions). The themes highlighted for inclusion at this point have been selected on the basis of their relevance to the present thesis. Deliberating on the research in this way will promote a clear understanding of any inconsistencies and/or gaps in the literature.

**Coaches of Different Standards.** As has been previously asserted, a key feature of the coaching literature has seen researchers' attempt to identify the aspects of coaching that make coaches effective. Indeed, this was prevalent during the earliest stages of coach behaviour research. For instance, Tharp and Gallimore (1976) - pioneers in the direct observation of coaches - recorded 2300 behaviours of highly successful UCLA basketball coach, John Wooden. This study was replicated by Williams (1978) and Langsdorf (1979), both of whom investigated the behaviours displayed by 'successful' coaches. Within each of these studies, the term 'success' was defined by the respective coaches' win/loss record, an obvious, but perhaps misleading variable if directly related to coach effectiveness – successful coaches are not necessarily effective, just as effective coaches do not always achieve success. Several more recent studies have attempted to investigate coaches deemed to be more effective than others, with most adopting win/loss record-defining 'success' as their determinant (Bloom et al., 1999; Claxton, 1988; Lacy & Darst, 1985; Markland & Martinek, 1988; Seagrave & Ciancio, 1990), while others have used experience (Jones, Housner, & Kornspan, 1997; van der Mars, Darst, & Sariscsany, 1991), and competition standard (Cushion & Jones, 2001; Potrac, Jones, & Armour, 2002). Amongst these investigations, some have chosen to compare two sets of coaches based upon their implied level of effectiveness (Claxton, 1988; Cushion & Jones, 2001; Jones et al., 1997; Markland & Martinek, 1988), while the others have simply identified their subjects as being effective and reported the behaviours they observed (Bloom, et al., 1999; Lacy & Darst, 1985; Potrac et al., 2002; Seagrave & Ciancio, 1990; van der Mars et al., 1991).

Referring back to the early research into coach behaviour conducted by Tharp and Gallimore (1976), Williams (1978), Langdorf (1979), it is possible to note the disparity in the results. Although each study agreed on the use of instruction as the
most frequently used behaviour, there were differences in the observed praise-to-scold ratios, with the university-level coaches (Langsdorf, 1979; Tharp & Gallimore, 1976) providing praise and scold behaviours in almost equal proportion, while the high school coaches observed in Williams' (1978) study delivered praise to their athletes much more frequently.

Considering the more recent investigations that have studied ‘effective’ coaches, direct comparisons can be made between four of the studies that have looked exclusively at successful (Lacy & Darst, 1985; Segrave & Ciancio, 1990) or expert (Bloom et al., 1999; Potrac et al., 2003) coaches. While van der Mars et al. (1991) researched the practice behaviours of elite archery coaches, the authors were specifically concerned with the content of the coaches’ feedback, and thus used a coach behaviour recording instrument to exclusively assess feedback. Two of the studies investigating effective coaches (Lacy & Darst, 1985; Potrac et al., 2003) used the ASUOI (Lacy & Darst, 1984), while Segrave and Ciancio (1990) and Bloom et al. (1999) utilised the Coach Behaviour Recording Form (1979); an observation instrument that provided the bases for the ASUOI (Lacy & Darst, 1985). Hence, with this consistency available between the observational instrument used, it is possible to make basic comparisons between these studies. The results of each investigation indicate the use of instruction to be the dominant behaviour. However, there are apparent inconsistencies in the extent to which this behaviour is demonstrated. While the successful Pop Warner (athletes aged 12-14) American football (Segrave & Ciancio, 1990) coach provided instruction 0.87 times per minute during the observed sessions, the ten high school head American football coaches observed in Lacy and Darst’s (1985) study provided almost twice as much instruction (1.55 RPM) to their players, who were older. This rate of instruction, however, increases dramatically to 5.99 incidents of instructive behaviours per minute with the English professional football coach working with senior players (Potrac et al., 2003). While rate per minute (RPM) values were not reported by Bloom et al. (1999), the results of this study indicate the combined instruction behaviours (criticism/reinstruction, tactical-, technical-, and general-instruction) of the Fresno State Division One men’s basketball coach to account for 56.5% of total behaviours. Conflicting with the praise-to-scold ratios provided by Tharp and Gallimore (1976) and Langsdorf (1979), each of the
coaches observed in these four studies displayed at least twice as many praising behaviours to their athletes as scolding.

It is somewhat difficult to draw any conclusions from such studies as, although the reported findings detail the specific behaviours of coaches deemed to be elite, no indication is made as to what these coaches are doing that separate them from novice coaches. However, five studies (Abraham, 1997; Claxton, 1988; Cushion & Jones, 2001; Jones et al., 1997; Solomon et al., 1996) have been identified that have compared coaches of different standards through the use of popular systematic observation instruments. Amongst these, Solomon et al. also coded the behaviours of coaches in their study with an additional instrument that focused specifically on augmented feedback (Cole-DAS; Cole, 1979), while another investigation (Markland & Martinek, 1988) used only this instrument. It should be noted, however, that it would be quite misleading to regard the coaches investigated by Cushion and Jones as being wholly separate sample groups, since each of the coaches were qualified to an elite level, and were employed by professional football clubs. To categorise the coaches separately based on the league in which their professional senior team plays does not provide a fair reflection on the coaches and the standard at which they function.

Conflicting findings, however, were discovered in the results of the investigations of more and less successful (Claxton, 1988) and experienced and inexperienced (Jones et al., 1997) coaches. Claxton (1988) found that less successful coaches provided more instruction to their athletes, while Jones et al. (1997) revealed this to be the case with the more experienced coaching group. The only significant finding in terms of instructional behaviours was the finding that experienced coaches used general technical instruction (TIG) more than inexperienced coaches (Jones et al., 1997). Thus, it seems futile to infer conclusions regarding the utility of instruction based on these results, as contradictory conclusions were drawn from each study regarding the use of the behaviour by successful/experienced coaches.

Claxton (1988) observed successful coaches in his study to use questioning behaviours significantly more often than the unsuccessful coaches. The two statistically significant findings reported by Claxton were also supported by a study of
expert and non-expert tennis coaches (Abraham, 1997). Questioning was identified as a behaviour used more often by expert tennis coaches than non-experts while non-expert coaches provided more instruction. Abraham's (1997) investigation, which compared the CBAS (Smith et al., 1977) to an extended observation system, identified four differences in behaviours when using the extended observation system and found only one with the CBAS: more general communication from experts. Markland and Martinek (1988) noted that players of more successful coaches received more feedback than their less effective peers. This finding was mirrored by Solomon et al. (1996) who found that head coaches and assistants differed in the amount of feedback given. Head coaches gave feedback based on mistakes, whereas assistant coaches delivered more general, positive feedback.

*Coaches of Athletes from Different Age Groups.* Woodman (1993) emphasised that coaches need to understand specific groups and their motivation for participation, as well as how specific coaching behaviours affect those athletes. Relating this premise to athletes of different age groups, it might be anticipated that investigations that included samples of coaches working with athletes of different age groups might demonstrate dissimilar coaching behaviours. Indeed, Miller (1992) suggested that he expected to see a difference between the behaviours of coaches performing with teams of different age groups in his study. However, Miller did not elaborate on this to indicate the specific variations he anticipated other than to suggest that there may be less need for management behaviours with coaches working with older age groups because of their familiarity with the programme in which they partake, with their sport, and because of their probable higher maturity levels.

Two studies have sought to examine the behaviours of coaches working with children of different age groups (Duda & Chaumeton; 1988; Miller, 1992). Both studies involved observations of subjects coaching teams at different stages of schooling—grades 1-2 and 3-4 (Miller, 1992), and elementary, junior high, and senior high (Chaumeton & Duda, 1988). A significant conclusion drawn from the Chaumeton and Duda study was that the importance placed upon the outcomes of players’ actions by coaches tends to increase with the age group of the performers. Junior and senior high school coaches increasingly emphasised performance outcomes and de-emphasised the performance process. Further, the coaches who most frequently used the
behaviours discouraged by Smith et al. (1979) in their Coach Effectiveness Training (CET) guidelines (nonreinforcement of desirable behaviours, ignoring mistakes, punishing players, and needing to use behaviours that aim to maintain order frequently) were the high school coaches. While Chaumeton and Duda had grouped aspects of the CBAS (Smith et al., 1977) to code the coaches in their investigation, Miller (1992) used the ASUOI (Lacy & Darst, 1984). The results of Miller’s research yielded no significant differences between the coaches’ behaviours with the two groups. However, it is worth mentioning that the coaches working with the younger age groups demonstrated only slightly more management behaviours during the early season but much more in the late season. The coaches of the older age groups offered more post-instruction, positive modelling and slightly more scold behaviours in the early season. It is necessary to state that the overall volume of instruction provided was very similar for both age groups. Cote

Coach Behaviours Observed Over Time. As coaches place emphasis on certain aspects of performance during different parts of the season, it might be reasonable to expect the behaviours of coaches to differ throughout this period. For instance, there may be a necessity to concentrate on fitness in pre-season coaching sessions, and tactical understanding in early-mid season. Based on this premise, several studies have sought to track coaches over various stages of a season (Lacy & Darst, 1985; Lacy & Goldston, 1990; Miller, 1992; Segrave & Ciancio, 1990) in an attempt to assess their behavioural stability.

Lacy and Darst (1985) were the first researchers to investigate coaching behaviours over the course of an entire season. Essentially, the study identified four behaviours to alter during the season, with the categories of instruction, positive modelling, praise, and scold decreasing significantly between pre- and early-season, and to remain significantly lower between pre- and late-season. The authors argue this finding reflects a more intense teaching style adopted by the coaches in the earliest stage of the season, with a focus on the fundamental aspects of coaching and individual skills; however, no inference is made to suggest what teaching style replaced this one in the latter stages of the season.
None of the other studies identified by this review of literature (Lacy & Goldston, 1990; Miller, 1992; Segrave & Ciancio, 1990) produced any significant findings in their investigations. However, there remain some noteworthy results. The male and female basketball coaches investigated by Lacy and Goldston (1990) maintained a consistency in their behaviours over the course of the six sessions in which they were observed (three pre-season sessions and three in-season), with every category revealing very similar rates per minute figures over the two phases. While Segrave and Ciancio (1990) failed to identify any significant behavioural differences in their investigation of a successful Pop Warner American football coach, they did reveal that, like Lacy and Darst (1985), the coach's level of instruction and positive modelling declined over the course of the season. Unlike Lacy and Darst's finding, though, praise and scold behaviours remained constant. Questioning levels also decreased over time, steadily dropping from a RPM of .18 in pre-season, to .14 in early-season, .03 in mid-season, and finishing at .01 in late-season. Conversely, coach interaction rates increased as the season progressed. The authors propose the findings indicate that the coach tends to increasingly direct his/her attention toward organisational duties, partially at the expense of instruction. Finally, Miller (1992) provides support for the declining use of questioning detected by Segrave and Ciancio (1990), as the behaviour also featured less prominently in the late season of their investigation than it had in the early season. Although this was also the case with post-instruction, neither decrease in frequency was statistically significant.

**Coach Intervention Studies.** In addition to the development of a database of behaviours, analysis of behaviour has been used to provide intervention strategies for coaches' practice behaviours within sports such as baseball (DeMarco, Mancini, & West, 1997), athletics (Krane et al., 1991), and football (More & Franks, 1996). It is worth noting at this point that Smith and colleagues (Smith et al., 1979, 1990, 1995) have also implemented a programme of interventions to modify coaches' in-game behaviours. However, for the purposes of this review of coaches' practice behaviours, these studies shall be excluded.

Abraham and Collins (1998) contend that, ultimately, the utility of applied research is its application to practice. Therefore, these intervention-based investigations (DeMarco, Mancini, & West, 1997; Krane et al., 1991; More & Franks, 1996) have
sought to develop selected aspects of coaches' practice behaviours, achieving mixed results. The researchers have attempted to draw upon a range of practically-based techniques that lend themselves to the applied setting. These methods have included verbal and written presentations, modelling, qualitative and quantitative behavioural feedback, self-monitoring, goal setting, and both researcher-initiated and self-change strategies. Essentially, changes to the targeted coaching behaviours have been based on a desire to develop coach effectiveness from an athlete-development/learning perspective. Thus, the targeted behaviours have been selected due to their perceived relevance to achieving increased effectiveness. The targeted behaviours include coaches' provision of instruction, positive reinforcement, and criticism. As has been mentioned, results from these studies have revealed mixed success in terms of altering coaches' behaviours. It was found in the investigations conducted by both Krane et al. (1991) and More and Franks (1996) that a failure to achieve desirable changes was linked to a perceived discrepancy between the set behavioural targets and the coaching objectives of the participants. However, DeMarco et al. (1997) reported successful modifications, with the studied coach indicating increased self-awareness to have been a key outcome from the intervention.

**Interview-based Research**

The following section will detail the findings identified within a range of interview-based studies into various aspects of coaches' roles, including coaches' beliefs and their reasoning for behaving as they do. However, an introductory section will be presented first.

**Introduction to Interview-based coach research.** The majority of youth sport coaches have few concrete role descriptions or performance outcomes for guidance (Gilbert & Trudel, 1999). This situation leaves youth sport coaches largely on their own to construct their approach to coaching (Gilbert & Trudel, 2004). For example, some coaches may place a greater value on winning and technical skill development, while other coaches may be more concerned with fun and social development. Hence, Pratt and Eitzen (1989) have stated there is variation amongst coaches in their beliefs, coaching procedures, and overall philosophy of coaching. Some coaches are
autocratic, demanding, and rigid. Others are less so, even democratic and humane in their relationships with players. Noting that coaches do vary somewhat in their coaching styles and philosophies, there seems a necessity to investigate the relationship between coaches' underpinning beliefs and the procedures they use within their coaching.

The nature of what children and adolescents learn through participation in youth sports depends on many factors. Youngsters are constantly observing their environment and the actions of others within this context. Although a variety of individuals impact the social learning emanating from youth sport participation, the coach occupies a key position in terms of this experience (Petlichkoff, 1993). Much of the learning that occurs in this context is dependent on the coach and the environment this individual constructs (McCallister et al., 2000). Smith and Smoll (1991) concluded that youngsters are very accurate in their perception of coaching behaviours and readily internalise these perceptions. Because coaches are in positions of authority and influence, their values and philosophies regarding the sport experience may directly impact the participatory experience for the youngsters in their charge (Steelman, 1995). Indeed Petlichkoff (1993) demonstrated that youth sport coaches play a critical role in the motivational processes and that the manner of communication adopted by coaches with young athletes often determines whether the sport experience for youths is detrimental or beneficial.

Thus, it has been suggested that research should address individual coaches' interpretations of their experiences and the processes by which meanings and knowledge are used to guide actions, as such investigation could contribute towards the generation of theory that is faithful to the complex realities of sports coaching (Cote et al., 1995). The literature contains various models that demonstrate the existence of a link between people's beliefs and their behaviours. For example, Clark and Peterson (1986) developed a model of teacher thought and action which clearly represents two important domains in teaching. The first domain refers to the thought processes of teachers (teacher planning, teachers' interactive thoughts and decisions, and teachers' thoughts and beliefs), whereas the second refers to teachers' actions and their observable effects (teachers' classroom behaviour, students' classroom behaviour, and student achievement). Though each domain is important, their
relationship is of particular interest, since the model depicts a reciprocal relationship between teachers’ beliefs and their behaviours in class.

This model bears obvious similarities to the models created by Horn (2002) and Smith and Smoll (1989), discussed earlier. For instance, a central component of Horn’s working model of coach effectiveness is the proposition that coaches’ behaviours are mediated by each coach’s expectancies, values, beliefs, and goals. Furthermore, Smoll and Smith (1989) hypothesised that perceived coaching norms and role conception – contained within the ‘coach individual differences’ variable component of their model – would heavily influence the behavioural intentions of coaches and concluded that individual differences in role and norm conceptions could reveal much within the study of coach behaviours.

Cote et al. (1995) interviewed gymnastic coaches to develop a coaching model that describes a coach’s work from the coach’s perspectives. Central to the coaching model is the coaching process, which is comprised of three components: competition, training, and organisation. These three components are influenced by peripheral components which include: the contextual factors, the athletes’ personal characteristics, and the coach’s personal characteristics. The coach’s personal characteristics include “any variables that are part of the coach’s philosophy, perceptions, beliefs, or personal life that could influence the organisation, training, or competition components” (Cote et al., 1995, p.11). Since a coaching philosophy is defined as a set of values or beliefs that serve to guide the actions of a coach (Jones, Wells, Peters, & Johnson, 1988; Lyle, 2002; Martens, 1997, 2004), this model also supports the existence of a link between beliefs and behaviours.

Teacher perceptions of their own effectiveness and feelings of success provide the basis for teacher beliefs and ultimately teacher action (Fenstermacher, 1978). Considering this, Arrighi and Young (1987) proposed that viewing instruction from the perspectives of those involved in the day-to-day reality of teaching could add an important dimension to the understanding of effective teaching. Linking such thoughts to sport, it has been suggested that an assessment of the knowledge that expert coaches use to construct their mental models could provide useful guidelines for improving the coach’s development and, consequently, the child or athlete’s
education (Cote, et al., 1995; Gilbert & Trudel, 2004). The philosophies of coaches and their ability to implement these philosophies are crucial in influencing the type of learning that takes place in the sport context (McCallister et al., 2000). Thus, the extent to which coaches can articulate their philosophies and the degree to which their behaviour parallels those philosophies are important in determining the nature of participants' experience. As the coach is a central figure in the youth sport experience, knowing more about the thoughts and perceptions of coaches as to what occurs in this context might be useful in improving youth sports in general, and specifically player development.

Gilbert and Trudel (2004) have suggested that youth sport coaches could be provided with examples of model youth sport coaches' role frames. The term 'role frame' was created by Schon (1983) to define the ways in which practitioners construct the reality in which they function. Hence, Gilbert and Trudel stated that these examples could be used as a guide to help coaches to structure their own developing approach to coaching. In addition, this type of research could provide insight into the often reported discrepancy between coaches' attitudes/beliefs and their actual behaviours (Gould & Martens, 1979; McCallister et al., 2000).

*Researching Coaches' Beliefs.* Jones, Housner, and Kornspan, (1997) concluded that to understand fully the processes ongoing within coaching, it is imperative that direct observation techniques be supplemented with methods for exploring the thought processes of coaches. Pajares (1992) has acknowledged the difficulties inherent in attempting to directly measure individuals' beliefs, suggesting that, instead, beliefs must be inferred from what people say, intend, and do. Thus, it is only recently that studies examining the cognitive component of the coaching process have emerged in the literature (e.g. McCallister et al., 2000; Potrac et al., 2002; Wilcox & Trudel, 1998).

Potrac et al. (2002) have supported the calls made by Jones et al. (1997) to investigate coaches' pedagogical practice strategies, arguing that the field of coaching could benefit from such holistic examinations. These suggestions have been based on the view that behavioural investigations, whilst providing valuable knowledge regarding
the pedagogical styles utilised by coaching practitioners in training and competition, have failed to offer an insight into the social, psychological, and contextual factors that underlie and impinge upon coach behaviour (e.g. Cote et al., 1995; Kahan, 1999; Potrac et al., 2000). Furthermore, in discussing the contextual effects associated with coaching behaviour, van der Mars (1989) indicated that, in order to generate a deeper understanding of such behaviour, the quantitative data obtained from systematic observation instrumentation should be analysed ‘in light of the situations in which they were observed” (p.9). However, the available literature has largely ignored this notion (Kahan, 1999). Such a limitation is of great significance when it is considered in the context of recent discourse in coaching science, which has suggested that successful coaching practitioners are those who are capable of adapting their instructional behaviours to meet the unique demands of the local environment (Jones, 2000; Lyle, 1999; Potrac et al., 2000; Woodman, 1993). Consequently, it would appear that it is not only necessary to record the pedagogical styles of coaches, but to also reflect upon the appropriateness of such behaviours for developing desired outcomes in the quest to identify and understand effective coaching behaviour (Tinning, 1982).

Gilbert and Trudel (2004) have stated that if the ultimate goal of research is to improve coaching practice, a logical place to start would be to study effective, or model, coaches. Unfortunately, 90% of the coaching studies (n = 611) conducted between 1970 and 2001 did not use any criteria of coach effectiveness (Gilbert, 2002). This shortcoming may explain why coaching science has been criticised for its limited impact on coaching practice (Abraham & Collins, 1998). Although a consensual definition of an effective coach may never be attained, using some measure of effectiveness should be considered when sampling coaches for research. The study of effective coaches, whose tacit knowledge and experience can then be shared with young developing coaches, is critical to the application of coaching science. This is consistent with the sampling logic used in well-known studies of practitioners in sport (e.g. Bloom, 1985) and other domains (e.g. Schon, 1983).

The following section will detail the findings from a range of studies in which coaches have been qualitatively investigated. The issues addressed will include coaches’ perceptions of their role, the means through which this role is performed, as
well as the sources that have been found to contribute to coaches’ education and development.

**A Review of Findings from Previous Research.** Trudel and Gilbert (1995) compiled an exhaustive bibliography of studies related to coaches’ behaviours. They included all North American studies in which coaches’ actions were captured through the use of direct observation during practices and/or games. The collection of 111 documents contained 28 studies published in refereed journals. Among the 28 studies, only one included research on the coaching principles and beliefs of its subjects. Most of the studies were simply conducted to describe, compare, and/or improve the coaches’ behaviours. However, recent years has seen the production of several studies that have focused on coaches’ beliefs, philosophies, and role frames. Amongst the findings revealed by these investigations have been some interesting issues specific to the coaching process. However, it is worth noting that the emerging issues generally reflect the focus of the research, with some investigations interested in coaches’ practice/game behaviours, for instance, and others concerned with the processes that have influenced coaches’ development. These issues will now be briefly reviewed.

Although winning is seldom discussed as the only component of a coach’s role frame, youth sport coaches typically place *winning* at or near the centre of their approach to coaching (Chaumeton & Duda, 1988; McCallister et al., 2000; Wilcox & Trudel, 1998). For example, in a recent study of competitive youth ice hockey coaches, it was found that decisions during games were often guided by a concern for winning (Gilbert et al., 1999). The coaches in that study, like those in an ethnographic study by Strong (1992), frequently used the more skilled and physically developed players during critical times of the games (e.g. the last few minutes of a close game).

In another example, Wilcox and Trudel (1998) mapped a competitive youth ice hockey coach’s approach to coaching and also found an emphasis on winning. However, the coach also believed in athlete personal and sport specific *development*. These two beliefs often resulted in an internal role conflict for the coach. McCallister et al. (2000) also found an inconsistency between what youth baseball coaches stated was their strong commitment to *fun* and athlete development, and the emphasis they
placed on winning. This was particularly evident in important game situations when the score was close, which mirrors the findings of Gilbert et al. (1999) with ice hockey coaches. Comments from coaches in a further study (Gilbert & Trudel, 2004) provide additional support for the struggle between conflicting role frame components such as winning and athlete development. Although youth sport coaches often report a difficulty balancing development and winning, it appears that youth sport participants and their parents prefer coaches who emphasise both components (Martin et al., 2001).

Looking more specifically at coaches’ interactions with their athletes, there have been two prominent studies that have focused on this particular aspect of the coaching process. Potrac et al. (2002) and, more recently, Smith and Cushion (2006) both utilised a mixed-method approach to identify and understand the pedagogical behaviours used by professional English football coaches. Whilst Potrac et al. studied one senior-level coach during practice sessions, Smith and Cushion investigated a group of youth coaches. The emphasis within each study was to provide a detailed insight into the coaches’ justification for their use of observed behaviours during the systematic observation element of the study.

The findings from the study by Potrac et al. (2002) suggested that the coach’s practice behaviours were heavily influenced by his desire to fulfil perceived expectations of his role as a top-level English football coach. The coaches involved in the study by Smith and Cushion (2006), however, conveyed a more simplistic basis to their behaviour. Essentially, the developmental role they performed meant that the coaches’ behaviours were ultimately directed towards improving their players.

Looking more specifically at coaches’ behaviours, it was firstly identified that a high level of instructional usage – and low-levels of questioning – by the coach in Potrac et al’s (2002) study was associated with making players fully aware of their role within the team, whilst also utilising the provision of instruction as a means to demonstrate the coach’s power. Although some of the coaches observed by Smith and Cushion (2006) also emphasised a prescriptive instructional approach, there were other coaches who suggested that a ‘discovery learning’ (Davids, 1998) style was more beneficial for players’ development, with the coaches’ use of silence cited as a
deliberate coaching strategy to facilitate this independent learning approach. The primary difference between the two studies, in this respect, seems to relate to the coaches’ role, and how this is perceived to function according to players’ stage of development. The playing group within the study by Potrac et al. were focused almost entirely on winning games, with the youth players coached by Smith and Cushion’s participants concerned with learning and individual improvement.

When discussing the apparent high ‘praise’ to ‘scold’ ratio, the participants within both studies (Potrac et al., 2002; Smith & Cushion, 2006) were keen to emphasise the significance attached to creating a ‘positive’ learning environment in order to get the best out of their players. In particular, the coach investigated by Potrac et al. emphasised the use of ‘praise’ as a valuable tool that he could utilise to enhance the confidence levels and self-efficacy of his players. Specifically, he believed that praise offered the means by which he could persuade his players to believe in their ability as individuals and collectively as a team. Referring to his infrequent use of scolding, the coach contended that the overuse of this behaviour resulted in a perceived loss of respect for the coach and, consequently, a decline in the receptiveness of the players to the former’s instruction and advice. Furthermore, the youth coaches within Smith and Cushion’s study cited a need for coach empathy rather than criticism in situations in which players under-performed, recognising the limited impact on learning from.

A final comment on Potrac et al.’s (2002) original study concerns the coach’s revelation that he believed that if he was to succeed as a coach, he needed to become aware of the particular traits and requirements of his players when giving instruction. He suggested that such an understanding allowed him to tailor his interactional strategies in a way that enabled him to more effectively gain their confidence, respect, and loyalty. This concern with understanding athletes as individuals concurs with Gilbert and Trudel’s (2004) finding that the age group and the competitive level of the athletes was revealed by all six of the case study coaches in their investigation as boundaries on their approach to coaching. Unfortunately, the researchers failed to elaborate on this aspect other than to state that the age group role frame component included consideration of the various developmental characteristics associated with athletes in an age category. However, in drawing upon some of the cited quotations within their results section, it can be inferred that the age-related aspects relate to the
necessity to understand the physical and attentional issues associated with athletes’ maturational levels when devising practice sessions. The competitive level issue appears to concern the need for coaches to address the specific coaching and learning requirements for athletes of varying abilities, from a technical and tactical perspective.

While the latter paragraphs have been focused on establishing coaches’ intentions with regard to their practice behaviours, the following section will consider the sources of the knowledge that form the basis of these actions. However, information on how coaches learn to coach is based mostly on anecdotal reports (Gilbert & Trudel, 2005). For example, it has been suggested that coaching experience and observation of other coaches are the primary sources of knowledge for coaching (Goncalves, 1996; Smoll & Smith, 1981). Yet it is widely acknowledged that the simple accumulation of years of involvement does not guarantee that one will become an effective coach (Bell, 1997; Douge & Hastie, 1993). It has been proposed that effective coaches transform experience into knowledge through a process of reflection (Martens, 1997).

Reflection is the process that mediates experience and knowledge, and is therefore at the heart of all experience-based learning theories (Dewey, 1933; Kolb, 1984; Schon, 1983). Schon’s (1983; 1987) theory of reflection provides an insightful frame of reference for examining how youth sport coaches learn to coach through experience (Gilbert & Trudel, 1999). Reflection is most likely to be found in environments that encompass flexible procedures, differentiated responses, qualitative appreciation of complex processes, and decentralised responsibility for judgement and action (Schon, 1983).

The importance of having access to knowledgeable and respected coaching peers was deemed critical to facilitating the reflective process by a group of ‘model’ youth coaches in a study by Gilbert and Trudel (2001). Although coaches are often expected to consult with members of their coaching staff such as assistant coaches, the results of Gilbert and Trudel’s study showed that this option is not always feasible or preferable in the youth sport environment. The results also demonstrated that if a member of the coaching staff is not selected as a sounding board, coaches will find a
peer elsewhere if possible (e.g. parent or other coaches). Hence, although peer sounding boards must be accessible, they must also be respected and trusted for their knowledge of coaching (Gilbert & Trudel, 2005). However, it should be emphasised that not all youth sport coaches will have access to peer sounding boards outside of their team.

Wenger (1998) has stated that access to peers is critical for coach development because it encourages a community of practice approach to learning. Indeed, the value of consulting with knowledgeable peers has frequently been advocated, both in the literature on coaching (DeMarco & McCullick, 1997; Smith & Smoll, 1996) and experiential learning (Schon, 1983). However, Gilbert and Trudel (2005) have stressed that, to date, the role of peers has only been described as an option for strategy generation, either in the form of advice seeking or through observational learning.

Whilst the impact of accumulating practice experience remains scientifically inconclusive, it remains that coaching experience and observation of other coaches have often been cited as the primary sources of knowledge for coaching (Gould, Giannini, Krane, & Hodge, 1990; Salmela, 1996). For example, Gould and colleagues surveyed 130 coaches in the United States and found experiential knowledge and informal education to be among the most important themes to arise. Furthermore, Jones, Armour and Potrac (2002) have commented that the prior experiences of the coaching practitioner, the nature of the coach education programmes, and the traditional beliefs about effective coaching behaviour could all influence the performance strategies of coaches and their resulting conduct.

Thus, while coaching experience and the observation of other coaches remain primary sources of knowledge for coaches and coaching (Cushion, 2001; Gilbert & Trudel, 2001; Gould et al., 1990; Salmela, 1996), inherent in the process of learning how to coach would appear to be an element of socialisation within a subculture (Jones et al., 2003), with a personal set of coaching views emerging from observations of, and interaction with, existing coaches of the best way to perform the role (Lyle, 1999).
**Athlete-focused conclusions from Coach Behaviour Research**

Having reviewed the interview-based and systematic observation research of coaches' practice behaviours from the coaches' perspectives, it is now applicable to detail the implications of these behaviours for athletes. However, while it has been recognised that studies to gain a qualitative understanding of coaches' behaviours are scant, use of this method of research to establish athletes' perceptions has not been identified. Thus, the investigations reviewed within this section are exclusively questionnaire-based, with many of the studies having evaluated athletes' perceptions of coaches' behaviours, while others have focused on athletes' preferences. The first section discusses research in which athletes' perceptions of coaches' 'actual' behaviours have been recorded, before a tabular overview of literature detailing athletes' perceptions of 'perceived' coaching behaviours is offered. Finally, studies that have investigated athletes' coaching preferences will be considered.

**Impact of Observed Coach Behaviours on Athletes' Psychological Responses**

Of those systematic observation studies of coach behaviour reviewed in the previous section, relatively few attempted to investigate the impact of coaches' behaviours on the behaviour, performance, or even perceptions of athletes. The studies that have addressed the relationship between coaches' behaviours and their athletes have primarily involved the use of the CBAS (Smith et al., 1977). Following the development of the CBAS, Smith and Smoll and their colleagues (Smith et al., 1978; Smith et al., 1979; Smith et al., 1983) conducted a series of investigations intended to examine the link between coaches' behaviours and young athletes' psychosocial development. It is this programme of study which has contributed most to this method of research.

Following the coding of the in-game behaviours of 51 male Little League baseball coaches, Smith et al. (1978) revealed that athletes who played for coaches who displayed high percentages (out of total observed behaviours) of supportive (reinforcement for player successes and encouragement in response to player errors) and instructional (general technical instruction and mistake-contingent technical instruction) behaviours had more positive post-season attitudes toward their coach,
their teammates, and their sport than did players whose coaches exhibited lower percentages of these supportive and instructional behaviours. Furthermore, high percentages of supportive behaviours on the part of the coach were allied with higher levels of post-season self-esteem in the players. Extending the work of Smith et al. (1978), Smith et al. (1979) used more experimentally based methods to investigate for causal links between coaches' behaviour and young athletes' psychosocial growth. Essentially, the study investigated the behaviours and consequent athlete perceptions of two groups of coaches — one which had received Coach Effectiveness Training (CET), and one which had not. The CET was based on the findings previously identified by Smith et al. (1978) — emphasising the desirability of increasing four specific behaviours: reinforcement (for effort as well as good performance), mistake-contingent encouragement, corrective instruction (given in an encouraging and supportive fashion), and technical instruction (spontaneous instruction in the techniques and strategies of the sport). Coaches were also urged to decrease nonreinforcement, punishment, punitive instruction, and to also avoid having to use regimenting behaviours (keeping control). Further support was subsequently found for coaches' provision of supportive and instructional behaviours.

Smith et al. (1983) conducted another observational study with 31 youth basketball coaches and 182 of their male athletes, repeating the same procedures used in the 1978 and 1979 investigations. Once more, the results of the investigation provided support for the researchers' hypothesised link between coaches' behaviours and certain post-season perceptions held by their athletes. In particular, a significant positive correlation was found between the extent to which coaches responded to player errors during games with mistake-contingent technical instruction and players' evaluation of their coaches (e.g. how much they liked the coach, how much they thought their coach knew about basketball, and how good a teacher their coach was) and their attraction towards the sport. Conversely, players' attitudes towards their coach and their team were negatively related to high levels of general technical instruction (instruction given in a general manner without reference to a specific player performance), control keeping behaviours (e.g. disciplining or maintaining order), and punishment-oriented feedback (in response to player errors).
Horn (1985) used the CBAS to observe 5 softball coaches’ behaviours towards 72 individual athletes, while also asking the athletes to report on selected aspects of their self-perceptions (e.g. perceived competence, perceived performance control, and expectancy for success) at pre- and post-season. A significant finding from the study revealed that players who received high percentages of either reinforcement or non-reinforcement (coaches giving no reinforcement after a player’s success) did not increase in perceptions of competence. In contrast, higher percentages of critical feedback were associated with increases in players’ perceptions of competence. Reflecting on these results, Horn proposed that the impact of feedback on athletes’ perceptions might be strongly related to the conditionality and relevance of the feedback. Specifically, coaches may not always give positive reinforcement conditional to performance, but rather may use it as a motivational technique. However, criticism may be given more contingently to performance and thus may serve as a valuable source of information to athletes in terms of their self-assessment of skill competence.

This line of research will now be continued, with data on coaches’ actual behaviours being supplemented by findings based on the behaviours athletes perceive to have been used by coaches.
The following results shall be displayed in tabular form, providing an overview of the significant findings identified from research carried out in this area.

<table>
<thead>
<tr>
<th>Study</th>
<th>Research Instrument(s) Used</th>
<th>Sample Source</th>
<th>Perceived Coach Behaviours</th>
<th>Athletes' Perceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith, Smoll, &amp; Barnett (1995)</td>
<td>CBAS (Smith et al., 1977) (questionnaire format)</td>
<td>Little League baseball</td>
<td>CET-trained coaches (i.e. positive evaluations of reinforcement/correction)</td>
<td>Positive evaluations of coach &amp; teammates</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Positive &amp; information-based feedback</td>
<td>Higher enjoyment of sport</td>
</tr>
<tr>
<td>Black &amp; Weiss (1992)</td>
<td>CBAS (Smith et al., 1977) (questionnaire format)</td>
<td>Youth swimming (aged 10-18)</td>
<td>High levels of post-success praise &amp; informational feedback, &amp; low levels of post-error encouragement &amp; informational feedback</td>
<td>Higher perceived competence</td>
</tr>
<tr>
<td>Allen &amp; Howe (1998)</td>
<td>CBAS (Smith et al., 1977) (questionnaire format)</td>
<td>Youth field hockey (aged 14-18)</td>
<td>Low in autocratic behaviours, higher positive &amp; informational feedback, low punishment-oriented feedback</td>
<td>Higher perceived competence</td>
</tr>
<tr>
<td>Amorose &amp; Horn (2000)</td>
<td>CBAS (Smith et al., 1977) (questionnaire format) &amp; LSS (Chelladurai &amp; Saleh, 1980)</td>
<td>Collegiate athletes</td>
<td>High frequencies of training and instruction, low frequencies of social support, &amp; to be low in autocratic decision-making style</td>
<td>Higher enjoyment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Higher perceived competence</td>
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<td></td>
<td></td>
<td>Higher perceived competence</td>
</tr>
<tr>
<td>Hollembeak &amp; Amorose (2005)</td>
<td>LSS (Chelladurai &amp; Saleh, 1980)</td>
<td>University athletes (aged 17-25)</td>
<td>• High training &amp; instruction</td>
<td>• Low autonomy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• High democratic &amp; low autocratic decision-making</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.1: Summary of Athletes’ Psychological Responses to Perceived Coach Behaviours

The studies contained within table 2.1 demonstrate a relative consistency in the way in which coaches’ perceived behaviours impact on the investigated athletes. Essentially, athletes’ high levels of intrinsic motivation (including perceptions of enjoyment and competence) was found to positively relate to coaches’ provision of technical instruction, feedback that was supportive and information-based, and to democratic decision-making styles. However, the university athletes investigated by Hollembeak and Amorose (2005) – the oldest sample group within this selected review – identified these coaching behaviours that have been preferred within the other studies to relate to the participants’ low perceptions of autonomy.
Athletes’ Preferences for Different Types of Coaching Behaviours

A related line of research has involved the investigation of coaching or leadership behaviours most desired by athletes. Research in this area supports the hypothesis that increased age and athletic maturity affect the type of leadership behaviours preferred by athletes. However, these preferences seem to be stronger within the younger age ranges. For instance, Terry and Howe (1984) and Terry (1984) both used the LSS to investigate preferred coaching behaviours with athletes ranging from 17-40 and 17-28 years of age respectively, with neither study identifying any preferential differences between age groups. However, Chelladurai and his colleagues (Chelladurai, 1978; Chelladurai & Carron, 1982; 1983; Chelladurai & Saleh, 1978) had previously used the LSS to carry out similar research that had generated consistent significant findings. In the most recent of these studies, Chelladurai and Carron (1983) investigated early high school, high school junior, high school senior, and university level male basketball players, they found that the preference for coaches who demonstrate high levels of socially supportive behaviour and adopt an autocratic leadership style linearly increased across the four age levels. Discussing their findings, Chelladurai and Carron suggested that preference for an autocratic coaching style might increase with age and with athletic maturity because sport, as a social system, is generally an autocratic endeavour. Athletes who remain in sport (i.e. those who progress through the various competitive levels) may become “socialised” into preferring less personal responsibility, thus allocating more control to coaches. Horn (2002) hypothesised that those athletes who prefer to retain personal responsibility for their behaviour and who do not adapt to the autocratic coaching style may be de-selected from participation at more elite competitive levels. Referring to Chelladurai and Carron’s conclusions, Horn has proposed that the preference for an autocratic coaching style as young athletes get older may not be such a developmental phenomenon as an environmentally imposed one.

Whilst it has just been reported that Terry and Howe (1984) and Terry (1984) investigated leadership preferences of athletes within different age ranges, these same studies also incorporated an inquiry into the preferences of athletes participating in
individual and team sports. Both investigations revealed that athletes participating in sports that require interaction between group members (i.e. interdependent, within a team) showed greater preference for an autocratic coaching style and less preference for a democratic coaching style than did athletes participating in independent (i.e. noninteracting, individual) sports. In addition, Terry (1984) also noticed that interdependent sport athletes showed greater preference for high frequencies of training and instruction and rewarding behaviour from their coaches, and less preference for democratic and social support behaviour than did the independent support athletes.

Qualitative research into this area, as has been previously mentioned, has not been found to have been conducted on this aspect of the coach-athlete relationship.

COACH BEHAVIOURS AND PLAYER LEARNING AND DEVELOPMENT

Introduction: Researching Learning within Studies of Coaching

Recalling the various attempts to explain coach effectiveness at the beginning of this chapter (e.g. Martens, 1997; DeMarco, Mancini, & Wuest, 1993), and to list the most important pedagogical behaviours demonstrated by coaches (e.g. Douge & Hastie, 1993), it is apparent that athlete learning is a significant feature within most coaching environments. Accepting this, one might expect to find the theme of athlete learning to feature prominently within coaching research. However, there has been a failure to draw specific relationships between behaviour and practice and personal development outcomes (Lyle, 2002). This failure is largely due to the many problems inherent in assessing learning within open, ever-changing contexts such as the sport environment. Chance (2003) has described behavioural learning to be represented by a change in behaviour. Hence, in measuring behavioural learning, it is recommended that one assesses changes in behaviour. Chance proposed that such assessments may be achieved by measuring changes in the number of errors observed, intensity, speed, latency, or rate of behaviour. However, such specialised modes of assessment are not
so applicable in the dynamic, responsive, and ever-evolving contexts of team sports. Stratton, Reilly, Williams, and Richardson (2004) have suggested that learning be assessed through the observation of athletes within training sessions and games, or through more objective methods such as skills tests, quantitative performance statistics, or qualitative methods. Williams et al. concede, however, that regardless of the particular method or combination of approaches adopted, it is difficult to determine accurately the level of learning acquired by individual athletes. Therefore, it is not surprising to notice that ‘learning’ did not feature as a dependent variable within any of the coach behaviour studies reviewed. Whilst it is plausible that many of the coaching behaviours recorded throughout the numerous hours of systematic observation conducted were motivated by a desire to inspire learning, the complexities associated with measuring sports learning force researchers employing observation techniques in applied settings to consider other, more quantifiable variables when conducting research. Hence, athletes’ perceived competence and effort levels, for example, are recorded.

From an applied point of view, however, it is apparent that the primary role of any coach is to help their athletes to develop and improve. To achieve this, coaches need to have an understanding of how athletes learn, and how practice should be structured and organised. 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 & Laughlin, 1994; Brewer et al., 1999). Coaches are therefore required to not only have expert knowledge of their sport, but they must also have an understanding of the individuals they are coaching. Relating this to youth coaching, in particular, this further requires knowledge of how children think and learn, how they attend, perceive, remember, and make decisions (Connell, 1997). This knowledge, thus, must then be continually implemented to shape the young athlete’s sports experience.

Learning has been defined as “...a set of processes associated with practice or experience that leads to relatively permanent changes in the capability for movement” (Schmidt & Lee, 1999, p.264). Based on the influence of cognitive psychology, learning is viewed as an active, constructive process requiring effortful information processing or manipulation on the part of the student (Peterson & Swing, 1982;
Schuell, 1986). Research has shown that how the coach facilitates learning in the athlete is crucial to enhancing performance (DeMarco, Mancini & West, 1996; More & Franks, 1996).

The impact of adult feedback as a form of competence information for children is a feature of several recently published theories on the psychosocial growth of children in educational contexts. Schunk (1984), for example, adopted Bandura's (1977) self-efficacy theory to explain what he has termed differential levels of motivated learning (i.e., motivation to acquire academic skills and knowledge) in the classroom setting. Schunk claims that certain teaching behaviours, such as the instructor's presentation of learning tasks and the quality and content of the teacher's feedback, can affect the learner's self-efficacy by providing them with positive or negative information concerning their competencies. The students' perceptions of their competencies, in turn, affect their motivation to engage in mastery behaviours.

Feedback, however, is just one behaviour exhibited by coaches that influence athletes' motivation and learning. The following section will individually consider coaches' use of behaviours which have been identified as being predominantly associated with learning (Douge & Hastie, 1993; Schempp, 2003; Williams & Hodges, 2005), with some of the behaviours also related to athletes' motivation. The selected behaviours to be reviewed in the section to follow thus includes coaches' use of instruction, demonstration, questioning, and feedback, with applicable research cited throughout the section that will be drawn from various disciplines.
Coach Behaviours Impacting on Athletes' Motivation and Learning

This section of the report will discuss some of the more intricate aspects of coaching behaviours, considering how their usage may impact on the motivational and/or learning experiences of performers in sport.

Instruction

Hodges and Franks (2002) explain that effective instruction may be crucial to the pursuit of optimal sporting performance; the more effective the instruction, the more the instructor's role will enhance athlete performance. There has been much debate within the motor skill acquisition literature regarding the effectiveness of numerous methods used to provide instruction. However, it is beyond the remit of this research to discuss the various arguments that have been put forward (for a comprehensive review, see Hodges and Franks, 2002, or Wulf and Prinz, 2001). This section will provide an overview of the impact instruction.

The term 'instruction', in the teaching and coaching literature, has encompassed a variety of different concepts. For instance, coaches and teachers use of instruction can be deemed to include the employment of demonstrations, the delivery of task-focused questions. However, for the purposes of the present review, Hodges and Franks' (2002, p.793) basic definition shall be used: "...information given to athletes by the coach at the start of practice or during practice but independently of performance".

There are several issues to be considered when providing instruction, each of which can be seen to contribute to the effectiveness of the said instruction on the development of the learner. For instance, Williams et al. (2003) have urged for instructions to be kept brief and simple as athletes have a limited capacity to take in information, particularly when learning a new skill. Hence, the duration of each instructional moment is deemed to have an impact on player development. The frequencies at which instruction is provided, therefore, is likely to be another 'learning' factor, with further potential to overload the performers with information. Moreover, the timing of this instruction is important; is instruction provided prior to performance more effective than instruction given to athletes while they are...
performing? The need for instruction prior to performance is obvious; without knowledge of the task to be undertaken, performers will not be aware of their performance objectives. Indeed, without knowledge of the intricacies of the task, feedback will be of no benefit (Newell, Carlton and Antoniou, 1990). Thus, they differ in impact to corrective instructions supplied after the completion of a performance. There is a lack of empirical evidence to supply answers to these issues and suggest, qualitatively, how instruction is provided most effectively. However, while it is not yet possible to assess completely the range of skills needed for effective instruction, we should endeavour to assess skills where and when we can (Siedentop, 1991). In the interim, findings from systematic observation studies do provide some data for discussion.

As mentioned at the beginning of this section, there is often a discrepancy amongst researchers as to what exactly constitutes ‘instruction’. These inconsistencies in defining the concept can make comparisons between research findings awkward. For instance, in studies that have used the Arizona State University Observation Instrument (ASUOI, Lacy & Darst, 1984), there have been apparent disagreements between researchers as to the behavioural categories deemed to be ‘instructional’. Cushion and Jones (2001) and Potrac, Jones and Armour (2002), for example, included the following categories within their analysis of ‘instruction’: pre-instruction, concurrent instruction, post-instruction, questioning, physical assistance, positive modelling, and negative modelling. Miller (1992), however, used the same categories, minus questioning. On the other hand, Claxton (1988), Lacy and Darst (1985), and Lacy and Goldston (1990) simply included pre-instruction, concurrent instruction and post-instruction in their analysis of instruction. For the purposes of this review, the studies shall be compared using the instructional categories adopted by Cushion and Jones (2001) and Potrac et al. (2002).

Use of instruction between studies varies quite considerably, with instructional behaviours accounting for 30.7% of all the high school tennis coaches' behaviours in Claxton's (1988) study, while Cushion and Jones (2001) found professional youth football coaches used instruction as 63.7% of all of their behaviours. While there are differences between the specific frequencies at which instruction is used, many studies in youth sport (Bloom et al., 1999; Claxton, 1988; Cushion & Jones, 2001;
Lacy & Goldston, 1990; Lacy & Martin, 1994; Miller, 1992; Segrave & Ciancio, 1990) have reported instruction to be the largest category. However, the amount identified by Cushion and Jones (2001) was greater than had been previously been found. The authors suggested that the elite nature of the coaching context in their study may have affected their results, citing Terry and Howe's (1984) proposal that top-level performers in interdependent sports prefer high levels of instruction and direction.

Looking closer at these studies, it is possible to note the timing of the instruction provided by the investigated coaches. 'Pre-instruction', defined as 'initial information given to player(s) preceding the desired action to be executed' (Lacy & Darst, 1984; p. 63), was reported to be the most frequently used (with 10% of the total behaviours) instructional behaviour in just one study (Claxton, 1988). While 'post-instruction', or 'correction' (defined as 'correction, re-explanation, or instructional feedback given after the execution of the skill or play' by both of these classifications [Lacy & Darst, 1984; p.63]), as the category was re-named by Lacy and Martin (1994), was the instructional behaviour reported most frequently by Lacy and Martin (10.7%) and Potrac et al. (2002, 26.1%). The results from three studies found 'concurrent' instruction to be the most frequent form of instruction to be used (Lacy & Goldston, 1990, 19.6%; Miller, 1992, 15.1%; Cushion & Jones, 2001, 29.7%).

Differences were identified in the instructional behaviours of the Premier and Nationwide League football coaches observed by Cushion and Jones (2001). When instruction was broken into pre-, concurrent, and post-instruction, there were differences between the leagues for pre- and concurrent instruction, but there was no significant difference in post-instruction. The Premier League coaches utilised more concurrent (33.75% : 23.08%) and less pre-instruction (11.95% : 18.96%) than their Nationwide League counterparts. Coaches from both leagues emitted more pre- and concurrent instruction than had been found in the research into senior level professional English football coaches (Potrac et al., 2002).
Demonstration

In teaching skills, particularly new skills, often the best way of communicating information is through demonstration (Williams & Hodges, 2005). Demonstrations (commonly referred to as modelling) can aid the learning of skills by accurately and skilfully portraying the critical features of the skill being taught (Magill, 1989). These demonstrations can occur before practice, to give the learners 'the idea of movement' (Gentile, 1972), or during practice, to confirm and extend the learner's understanding of the task. McCullagh (1987) noted that, provided the person is skilled in the act of demonstration, the athletes will learn from their coach or one of their peers.

Scully and Newell (1985) have argued that learners pick up the relative motions between the key body parts rather than specific information cues about the movement. Hence, according to this perspective, demonstrations should be most effective early in learning, when the player is attempting to acquire a new movement pattern (Magill & Schoenfelder-Zohdi, 1996). Williams et al. (2003) have stated that later in learning, when the performer is trying to refine or 'scale' an existing movement pattern, demonstrations are presumed to be no more effective than verbal instructions. At this stage of learning, continued practice on the task is deemed to be the more valuable variable in acquiring skill (Scully, 1988).

The accuracy of any provided demonstration is crucial, since observational learning is based on the direct imitation of the visually presented skill. If a specific skill is the focus of a particular practice session, then it is important that learners have a precise reference to base their subsequent attempts upon. Therefore, if the coach is not technically adept they should consider asking a skilled member of the group to perform the demonstration (Williams et al., 2003).

Demonstrations benefit learning by creating a representation of performance that can be copied. Cognitive mediation theory (Carroll & Bandura, 1987) suggests that the information conveyed in the demonstration is extracted via selective attention to the critical features of performance. This information is then transformed into symbolic codes that are stored in memory as internal models for action. This internal model is then, after rehearsal and organisation, turned into a physical action, providing the
required motivation and physical abilities are present. The cognitive representation not only guides the learner’s response production, it also provides the standard against which feedback is compared.

By creating a representation of physical relationships (e.g. body parts, forces, speeds) demonstrations enhance the learner’s understanding of the skill to be learned. Both slow-motion and real-time demonstrations are useful, although real-time demonstrations are more important in later stages to help the learner acquire the speed and flow characteristics of the movement (Scully, 1988). Mawer (1990) has suggested that the demonstration should be accompanied by succinct verbal instructions, aimed at ensuring the learner’s attention is directed to aspects of performance that will yield benefit.

The theoretical literature stresses the importance of demonstrations being skilfully performed, but does not indicate the extent to which demonstrations should focus on ‘correct’ or ‘incorrect’ performance. Studies of coaching behaviour, however, have shown that ‘successful’ coaches (as defined in the respective studies) tend to give more demonstrations of correct performance than of incorrect performance (Claxton, 1988; Cushion & Jones, 2001; Lacy & Darst, 1985; Potrac et al., 2002; Segrave & Ciancio, 1990). Results suggest that demonstrations account for 3.4-6.1% of all coaching behaviours and that demonstrations of correct performance outnumber those of incorrect performance by approximately 3:1. One exception to this ratio was the Cushion and Jones (2001) study, in which positive demonstrations exceeded negative demonstrations on a ratio of 15:1. However, this ratio seems more attributable to the low levels of negative modelling (0.21% of all behaviours) than to the regularly reported level of positive modelling (3.2%).

**Questioning**

Citing the use of questioning as a valuable teaching strategy, Claxton (1988) suggested that its value within coaching might not yet have been realised. While Claxton called for more research to be conducted on the utility of questioning within coaching, these investigations have not been forthcoming. Chambers and Vickers
(2006), however, who recently investigated the effects of questioning (combined with feedback) on swimmers' performance and technique, suggest that questioning provides coaches with a means to encourage their athletes' active learning through problem solving, discovery, and performance awareness.

The key findings from the study by Chambers and Vickers (2006) suggest that the use of questioning techniques can contribute to both technical and performance improvements, with the researchers indicating that coaches' use of the behaviour was also suggested to have improved coach-athlete communication. In the absence of appropriate literature from within the sports setting, investigations from the field of education can be considered.

Educators' questions constitute a basic means of engaging learners' attention, promoting verbal responses, and evaluating learners' progress (Chaudron, 1988). A list of the benefits to be realised from using questioning techniques when teaching have been compiled by Kissock and Iyortsuun (1982, p.6):

1. Develop processes of thinking and guide inquiry and decision making.
2. Acquire and clarify information, answer concerns, and develop skills.
3. Determine the knowledge students bring to the lesson so lesson plans can be made to meet their needs.
4. Provide motivation by encouraging active participation in learning.
5. Lead students to consider new ideas and make use of ideas already learned.
6. Help students clarify their ideas, structure their study, and learn about things that interest them.
7. Encourage students to ask their own questions.
8. Gain information from students on which to judge their performance and understanding.
9. Provoke students and teachers to share ideas they have.
10. Challenge beliefs and guide reconsideration of values people hold.
11. Help teachers assess the effectiveness of their own teaching.

To fulfil each of the purposes outlined above, questions should be constructed with the goal of instruction clearly in mind, and be presented in a way that has the greatest
effect (Dantonio & Beisenherz, 2001). Questions require different levels of thought processes to answer them. Some questions demand simply the recall and presentation of information that have been presented to the learner before. Other questions compel the learner to think through a problem or situation and provide an answer that had not been explicitly taught, or had not been used in the particular situation. Other questions necessitate the learner to convey their beliefs on a particular matter, or ask that they justify a belief. Ultimately, however, it has been suggested that learning is increased when teachers use questioning effectively to help students develop and use critical thinking abilities (Kissock & Iyortsuun, 1982).

Knowing that questions have distinct characteristics, serve various functions, and stimulate different kinds of thinking should help coaches/teachers achieve the potential values to be realised through questioning. Indeed, Mills (1995) suggested the thoughtful use of questions might be the quintessential activity of an effective teacher. In some classrooms, over half of the class time is taken up with question-and-answer exchanges (Gall, 1984). Evidence suggests that teachers tend to ask mostly factual questions, with fewer questions requiring students to think beyond the recall of information (Galton et al., 1980; Stodolsky et al., 1981). Such an emphasis on recitation undoubtedly has its place in education in that teachers need to check students’ knowledge and understanding, and diagnose student learning difficulties. However, in order to develop learners’ cognitive skills and level of thinking, higher order questions are required (Mawer, 1995).

Kidman (2001, p. 120) has indicated that higher-order questions necessitate abstract or higher-level thinking processes that “challenge athletes to apply, analyse, synthesise, evaluate, and create knowledge”, recommending that coaches ask more questions of this type in order to increase athletes’ opportunities for independent evaluation. Whitmore (2003) has commented that open questions prompt descriptive answers that promote awareness and responsibility, while closed questions can prohibit the opportunity to explore further detail. Whitmore added that closed questions do not compel the recipient of the question to engage their brain, while Hunkins (1995) contrasted that open questioning techniques encourage learners to become actively involved within the learning process.
However, as has been noted, research into the use of questioning within sport is very limited. Indeed, as a potentially invaluable coaching behaviour, it is somewhat surprising that the CBAS (Smith, Smoll & Hunt, 1977) does not include a coaching category that explicitly classifies the use of questioning. However, ‘questioning’ (defined as “Any question to player(s) concerning strategies, techniques, assignments, and so forth associated with the sport” [Lacy & Darst, 1984, p. 63]) was included as a behavioural category in the ASUOI. Typically, the use of questioning has been found to be a seldom used coaching technique, averaging just 2.65% of total behaviours in a review of studies using the ASUOI (Claxton, 1988; Cushion & Jones, 2001; Lacy & Goldston, 1990; Lacy & Martin, 1994; Miller, 1992; Potrac et al., 2002).

However, some interesting findings amongst these investigations were apparent. Claxton’s (1988) systematic observation of more and less successful high school tennis coaches revealed a statistically significant difference between the frequencies with which more successful coaches (2.8% of total behaviours) used questioning than less successful coaches (1.3%). Cushion and Jones’ (2001) research into English youth football Premier and Nationwide League coaches demonstrated a further statistically significant difference between two pre-defined coaching groups. The Premier League coaches in this study used questioning as 2.03% of their total recorded behaviours, while this figure was 4.95% for the Nationwide League coaches. A mixed-method approach (Potrac et al., 2002) used to analyse the coaching behaviours of a senior level English professional football coach portrayed the use of questioning in a somewhat negative light. The authors referred to the concept of ‘power’ as a reason to explain the “relatively low use of questioning” (2.97% of all recorded behaviours), with the coach’s authoritarian style of coaching was adopted so as not to be perceived as a weak coach. It was felt that the coach’s players “would have little confidence in a coach who was asking them for solutions to problems encountered on the field of play” (p.293).

**Feedback**

Horn (1987) has reported on three characteristics or components of adult feedback behaviour that are most consistently associated with the performance and psychological development of children. These components include (a) the
contingency and quality of feedback exhibited by teachers/coaches in response to children's performance successes and failures, (b) the frequency and quality of performance-relevant information provided to children during their performance attempts, and (c) the direct or implicit attribution contained in the evaluative feedback given by the teacher or coach.

The following sections will seek to review some of these decisive aspects of feedback provision, considering the differences between specific and non-specific feedback (i.e. the importance of feedback content), the frequency with which feedback is provided, and the timing at which this feedback is disseminated.

Content of feedback: general versus specific information

Information that is provided to an athlete about their actions is one of the most important variables affecting the learning and subsequent performance of a skill (see Franks, 1996, for a practical review). Knowledge about the proficiency with which athletes perform a skill is critical to the learning process. Indeed, it has been suggested that failure to provide such knowledge may even prevent learning from taking place. Furthermore, the specific content of this information has been demonstrated to be a strong determinant of skilful performance, with Newell (1981) indicating that precise information about the observed action will generate significantly more benefits for the athletes than feedback that is imprecise. However, the provision of feedback that lacks specific information can also be deemed to have a positive motivating role. Practitioners who provide feedback can convey a variety of messages, each of which influence the learning process in different ways (Schmidt & Wrisberg, 2000).

General Feedback. Feedback provided to performers that is lacking in detailed information can be considered 'general'. This feedback can be delivered in various mediums, however, at the most basic level, coaches providing general feedback will either praise or criticise player performance. Praise and criticism, in this respect, refer to particular types of evaluative feedback given in response to an athlete's performance that express the coach's basic approval of or disappointment in the learner's performance or behaviour (Horn, 1987). However, it is once again important
to stress that this praise or criticism will not indicate to the learner the particular aspects of their performance that have been evaluated by the coach.

Wittrock (1978) established two functions of teacher feedback. Firstly, there is a motivational or reinforcing function aspect, increasing future behaviour by appropriately praising or rewarding it. Wittrock argued this function does not involve understanding or learning with awareness. Secondly, there is the informational function of teacher praise that provides feedback about the accuracy of a response/action. (This second function will be discussed in the next section). When athletes are making progress in their performance, their motivation is said to be further increased (Schempp, 2002). Thus, by providing performers with supporting information about this progress, coaches reinforce their athletes’ desire to strive to achieve their goals. Schmidt and Wrisberg (2000) have reported that learners who are given motivating feedback during practice claim that they enjoy what they are doing more, they try harder, and that they are prepared to practice longer. Without feedback, learners’ motivation can deteriorate, and their practise can become inefficient or even cease altogether.

Keeping learners informed of their development usually translates into the exertion of greater effort during practice. Subsequently, athletes who give greater effort during practice generally, in time, experience better learning (Schmidt & Wrisberg, 2000). Further, when learners receive positive feedback (general praise) from instructors after a performance attempt, the feedback has a reinforcing function: increasing the probability that the action will be repeated under similar circumstances. The intent of punishment is exactly the opposite – to decrease the chances of a response being repeated again (Adams, 1978). Coaches can provide praise and scolding in both verbal (i.e. spoken words) and non-verbal (i.e. facial expressions, hand gestures) forms. It has been suggested (Schmidt & Wrisberg, 2000) that in order to increase the effectiveness of this type of feedback, coaches should deliver verbal and non-verbal signals that transmit the same meaning to learners.

It should be noted, however, while praise can be considered an effective tool for the coach, its overuse can be interpreted as non-specific feedback, which can dilute effectiveness (Schmidt, 1991). The efficacy of praise is a function of its
appropriateness and specificity (Carreira Da Costa & Peiron, 1992). The motivational function has long been considered important for teaching children to learn associations well enough to repeat them in applicable future situations. However, echoing Schmidt (1991), Wittrock (1990) also warned that teacher praise should be used discriminatively and contingently to realise the motivational or reinforcement gains.

Reviewing the systematic observation literature, it is apparent that all of the studies into coach behaviours have reported that coaches provide more positive reinforcing behaviours than negative behaviours (or punishment). Essentially, research findings have indicated that instances wherein coaches provide a 'scold' to their players (either collectively or to individuals; a distinction is not made) occur much less often than occasions in which athletes receive 'praise' (Bloom et al., 1999; Claxton, 1988; Cushion & Jones, 2001; Lacy & Goldston, 1990; Lacy & Martin, 1994; Miller, 1992; Segrave & Ciancio, 1990). The scold to praise ratio across each of the aforementioned 'youth' sport studies varied between 1:2 to 1:5, except, interestingly, for Cushion and Jones' (2001) study with English professional youth football coaches, which had an approximate ratio of 1:9. An additional point worth noting emerged in Claxton's (1988) study, which revealed that coaches of more successful teams provided less praise (7.2% of the total recorded behaviours) than the less successful coaches (12.1%).

Potrac et al. (2002) carried out a systematic observation of an English senior professional football coach and found a much greater scold to praise ratio, 1:33. However, while Potrac et al. (p. 196) reported that the coach in their study had used praise “far in excess of the levels reported in the available systematic literature (e.g. Bloom et al., 1999; Lacy & Darst, 1985; amongst others)”, this statement is not quite true. In fact, the use of praise, as a total percentage of all of the observed coaching behaviours, in both the Bloom et al. and Lacy and Darst investigations, was higher than in Potrac et al.'s study (13.6%, 11.4%, and 11.1%, respectively). The major reason for the high ratio of scold to praise behaviours reported in Potrac et al.'s study was the very low frequency of scold behaviours (0.33% of all observed behaviours). The interpretive interview data that emerged from this study helps to explain the potential reason for this low use of scolding. The subject in Potrac et al.'s study
indicated a belief that the overuse of scold behaviours could lead to a perceived loss of respect for the coach, and a subsequent decline in the receptiveness of the players. Hence, the coach’s conscious decision to try to avoid scolding his players. There are obvious differences between scolding a 12 year old boy and scolding a grown man, however, it is beyond the focus of the present research to further investigate the apparent power and respect issues involved.

Specific Feedback. There are a number of sources from which specific feedback about performance can be obtained. Firstly, intrinsic feedback is one method utilised to supply information on performed actions. This has been defined as information gained from the body’s own proprioceptors, such as muscle spindles, joint receptors, etc. (for a more detailed description of this physiological process see Schmidt, 1988, chapters 6-8). A second source of feedback is that which augments the feedback from within the individual; termed as extrinsic information or Knowledge of Results (KR; Williams & Hodges, 2005). Knowledge of Performance (KP) is a term that has also been used to differentiate between the outcomes of a performance action (KR) and information about the movements employed to complete the action (KP). A comprehensive discussion of this issue can be gained from Gentile (1972) and Salmoni, Schmidt, and Walter (1984).

While the information provided from the sources mentioned is crucial to skilled performance, coaches have very little control over these systems. Therefore, it is the coach’s role to supply athletes with extrinsic feedback on observed performance, to assist the athlete in making any necessary adjustments. Most empirical research has concentrated on the importance of knowledge of results during skill learning, primarily due to difficulties associated with attempting to provide knowledge of performance within a controlled experimental setting and in trying to measure changes in body movements. In most learning environments, learners are able to assess their own level of success in achieving a pre-defined goal; hence coaches are much more likely to provide learners with knowledge of performance about how the movement was performed than the outcome (Magill, 2001). This information provided by the coach is typically referred to as terminal augmented feedback (Williams et al., 2003).
Although learning can occur without a coach's feedback, Williams et al. (2003) have stated that the provision of augmented information leads to more efficient learning, enhances the development of motor skills, and leads to better eventual performance. Williams et al. went on to claim that performers who receive constructive feedback also become more interested in the task, put more effort into practice, and persist longer after feedback is removed.

As coaches are responsible for much of the augmented feedback received by athletes as they perform, it is imperative that the feedback they provide reflects effective strategies identified in the literature. Schmidt (1988) stated that augmented feedback produces learning, not through the reward or punishment of responses, but by the provision of information about actions from a previous trial, and by suggestion of how to change subsequent trials. Hence, the information should reinforce the specific aspects of performance that are 'correct', and/or should identify discrepancies between actual and desired performance, so that the 'incorrect' aspects can be modified. Feedback to any performance should be enhanced by the inclusion of informational content, and comments that have no specific information should be limited (Sinclair, 1985). Sinclair has argued that feedback should be on-task, specific, and prescriptive. Hence, feedback should be provided on a specific task, with an emphasis on how to perform the task better during the next attempt.

While it is commonly accepted that the inclusion of information will provide for effective feedback comments, studies concerning the nature of this information are inconclusive. Markland and Martinek (1988) analysed the behaviour of high school varsity coaches and discovered that the majority of feedback supplied by more successful coaches was 'corrective' in nature, given in reference to a perceived error in performance. Of the total feedback provided by coaches in their study, the researchers found that 73% of it was specific (i.e. supportive ['specific information about those aspects of the motor skill that were performed reasonably well, or executed correctly'] or corrective ['prescriptive or modifying information given in reference to some error in the performance of a motor skill']). However, recognising the lack of research into the quality of feedback provided by coaches, Markland and Martinek have suggested that future studies should look into the type and amount of feedback given to players. Indeed, Schmidt and Weinberg (2000) have acknowledged
that while instructional feedback can serve as a source of motivation, reinforcement, and information for learners, it can sometimes create a dependency which diminishes learning.

**Frequency of feedback.** The frequency with which the athletes receive feedback is also an important feature in determining the behaviour's effectiveness. Practice in which athletes receive feedback after every performance (a schedule referred to as 100% relative frequency) has been shown to aid performance during acquisition, but to degrade learning relative to other feedback schedules (Swinnen et al., 1990; Winstein & Schmidt, 1990). These findings provide empirical support for the 'guidance hypothesis' which suggests that immediate performance is facilitated because the subject is guided towards the target by the feedback, but that long-term retention (i.e. learning) is degraded because the athlete will rely on these guidance properties to perform correctly. The findings also provide support for Schmidt's (1988) contention that relative frequency should be large in initial practice to guide the athlete to enhanced performance, but systematically smaller as practice continues and so force the learner to engage in other processes to aid retention (e.g. detect one's own errors, attend to sensory feedback).

One principle of instrumental learning (see Thorndike's [1927] Law of Effect) is that feedback that is given only occasionally is generally more effective for learning than feedback that is given after every practice attempt. The results of studies examining the effects of various schedules of feedback show that participants who receive intermittent reinforcement during practice continue to perform at higher levels when the reinforcing feedback is withdrawn than those who receive reinforcement after every practice attempt. Furthermore, less frequent feedback can be quite effective when it follows performances the learner perceives to be particularly exceptional (Schmidt & Wrisberg, 2000).

**Timing of feedback.** Rather than giving immediate feedback, research has suggested that coaches should delay any response to allow athletes an opportunity to evaluate their own performance. It has been stated that the provision of feedback right after a trial can have a detrimental effect on the long-term retention of what is being learned (Swinnen, Schmidt, Nicholson, & Schapiro, 1990). Instant feedback deprives learners
of the opportunity to process their own response-generated sensory feedback (Rose, 1997). Chen (2001) has recommended that coaches view their role as facilitators rather than teachers. He claims that the role of a facilitator is to bring forth what is already within the student, whereas a teacher gives students what they did not have before. Hence, the more actively the student can participate in the learning process, the more he or she will learn.

Because learners can only effectively process a limited amount of information at once, little benefit can be derived from coaching information if the task demand itself consumes most or all of the learner's attentional capacity. Markland and Martinek (1988) noted that successful high school basketball coaches gave more immediate, terminal feedback than did less successful coaches — the inference being that successful coaches provide their feedback once the learner is free from the immediate attentional demands of the performance. 'Immediate terminal' feedback was defined as "feedback provided after the completed motor skill attempt and before participation in one or more intervening motor skill attempts". This temporal location of feedback is supported in the motor learning literature. Schmidt (1988) states that during the delay between the learner's response and the provision of feedback, the active learner is engaged in processing information about the response. The learner's perception of the movement is thus retained so that when augmented feedback is received the two can be associated.

*Link to Next Section*

Whilst the review of coach behaviour literature revealed very little in terms of the role that coaches' behaviours play in the sport-specific learning and development of athletes, many studies reported outcomes that related to the impact of coaches' behaviours on athletes' motivation. Indeed, this, along with more specific information on coaches' learning-focused behaviours, has just been reported on within this section. However, remembering the various difficulties associated with the measurement or assessment of learning within sport, as reported earlier, it remains that researchers investigating coaches within applied settings face perhaps an insurmountable struggle in attempting to quantify and report the actual learning that occurs during coaching practices. Thus, in accepting these complexities, much
research has attempted to approach the concept of learning from another perspective, by directly considering the relationship between motivation and learning. The next and final section of this review of literature will detail the links between learning and self-determination theory (Deci & Ryan, 1985), before focusing specifically on research relative to the concept of autonomy and learning.

SELF-DETERMINATION AND AUTONOMY-SUPPORTIVE BEHAVIOURS

Introduction to Motivation and Learning

It has been stated that motivation can affect both new learning and the performance of previously learned skills, strategies, and behaviours. Moreover, motivation can affect what, when, and how we learn (Schunk, 1991). With much of the research into motivation and learning being conducted in the academic domain, it has been found that students who are motivated to learn about a topic are apt to engage in activities they believe will help them to learn. This engagement involves students attending carefully to the instruction, mentally organising and rehearsing the material to be learned, making notes to facilitate subsequent practice, checking their level of understanding, and asking for help when they do not understand the material (Zimmerman & Martinez-Pons, 1992). Collectively, these activities improve learning. In contrast, students unmotivated to learn are not apt to be as systematic in their learning efforts. They may be inattentive during the lesson and not organise or rehearse material. They may not monitor their level of understanding or ask for help when they do not understand what is being taught.

Schunk (1991) has argued that motivation bears a reciprocal relationship with learning and performance; that is, motivation influences learning and performance and what students do and learn influences their motivation. When students attain learning goals, goal attainment conveys to them that they possess the requisite
capabilities for learning. These beliefs motivate them to set new, challenging goals. Hence, students who are motivated to learn often find that once they do, they are intrinsically motivated to continue their learning (Meece, 1991).

Based on this reported link between motivation and learning, a review of applicable motivation and learning literature will now be offered. Essentially, the review will begin with an overview of the motivational literature, introducing Deci and Ryan's (1985) self-determination theory, before following a more specific course to consider the relationship between autonomy and learning.

**Motivation**

The concept of motivation has been defined as "the hypothetical construct used to describe the internal and/or external forces that produce the initiation, direction, intensity, and persistence of behaviour" (Vallerand & Thill, 1993, p.18). People have not only different amounts of motivation, but also different kinds. That is, they vary not only in the level of motivation (i.e. how much motivation), but also in orientation of that motivation (i.e. what type of motivation). Orientation of motivation is concerned with the 'why' of behaviour (Deci & Ryan, 1985; McClelland, 1985; Weiner, 1992); therefore, the reasons for engaging in an activity reflect the person's motivational orientation. Using a sporting scenario to elaborate on this, an athlete could be motivated to learn a new skill because he or she understands the potential utility or value of acquiring the skill, or because being observed by the athlete's coach attempting to learn the skill will create a favourable impression and enhance the athlete's chances of playing in his or her team. In this example, the amount of motivation does not necessarily vary, but the nature and focus of the motivation being evidenced certainly does.

The two alternative motivational approaches depicted in the previous scenario represent the concepts of intrinsic and extrinsic motivation. Intrinsic motivation refers to behaviours performed due to interest and enjoyment. Thus, this relates to the
example of the athlete attempting to acquire the skill due to its utility or value. In contrast, extrinsic motivation refers to behaviours carried out to attain contingent outcomes that lie outside the activity itself (Deci, 1971; Vallerand & Ratelle, 2002). The athlete who practises the skill in order to gain a place on their team, therefore, depicts this form of motivation. Over three decades of research has shown that the quality of experience and performance can be very different when one is behaving for intrinsic versus extrinsic reasons (Ryan & Deci, 2000).

Over the years, several theoretical positions have been formulated in the field of motivation (see Ford, 1992). Prominent amongst these is the Self-Determination Theory proposed by Deci and Ryan (1985).

**Self-Determination Theory**

Self-determination theory (SDT) is an organismic theory of motivation that accounts for three psychological needs that are crucial in the energisation of human behaviour: the needs of autonomy, competence and relatedness (Deci & Ryan, 1985; Ryan, 1995). Based on the cognitive perspective of humanistic approaches in psychology, and fostering the theoretical views of White (1959) and DeCharms (1968), Deci and Ryan (1985) proposed SDT. The theorists argue that there are three basic psychological needs (autonomy, competence, and relatedness) linked to intrinsic motivation and to the self-determination of human behaviour. More precisely, the need for autonomy is defined as the need to feel ownership of one’s behaviour (deCharms, 1968). The need for competence refers to the need that individuals want to produce desired outcomes and to experience mastery and effectiveness when dealing with their environment (Harter, 1978; White, 1959). The need for relatedness is the need to feel that one can relate to others and with the social world in general (Ryan, 1993). People are motivated to satisfy each of these needs because they are considered critical for the development of the self in terms of growth, social development, and personal well-being (Deci & Ryan, 1985, 1991; Ryan & Deci, 2000a, 2000b).
Cognitive Evaluation Theory (CET) was presented by Deci and Ryan (1985) to specify the factors in social contexts that produce variability in intrinsic motivation. CET, which is considered a sub-theory of self-determination theory, argues that interpersonal events and structures (e.g. rewards, communications, feedback) that conduce toward feelings of competence during action can enhance intrinsic motivation for that action because they allow satisfaction of the basic psychological need for competence. Accordingly, for example, optimal challenges, effectance promoting feedback, and freedom from demeaning evaluations are all predicted to facilitate intrinsic motivation.

CET further specifies that feelings of competence will not enhance intrinsic motivation unless they are accompanied by a sense of autonomy or, in attributional terms, by an internal locus of causality (IPLOC; deCharms, 1968). Thus, people not only experience perceived competence, they must also experience their behaviour to be self-determined if intrinsic motivation is to be maintained or enhanced. Stated differently, for a high level of intrinsic motivation, people must experience satisfaction of the needs for both competence and autonomy.

Accounting for this, SDT (Deci & Ryan, 1985, 1991) indicates that internalisation — the process through which individuals tend to regulate and integrate experiences to their sense of self (Ryan & Deci, 2002) — of initially non-intrinsically motivating behaviours can vary based on a continuum ranging from extrinsic motivation at one end and intrinsic motivation at the other. Within this continuum, there are four main types of extrinsic motivation, or else, four processes of internalisation (external regulation, introjected regulation, identified regulation, and integrated regulation) of an initially externally regulated behaviour. External regulation and introjected regulation are considered to be controlling forms of motivation, whereas identified regulation, integrated regulation, and intrinsic motivation are viewed as self-determined forms.

Vallerand's (1997) model of motivation posits that the different motivational types are influenced by a number of social factors. Hence, Deci and Ryan (1985) predicted that social factors which increase perceptions of competence, autonomy, and
relatedness, will satisfy these needs and foster self-determination, whereas social factors which undermine such perceptions will promote controlling forms of behaviour. Lastly, the model predicts that the different types of motivation will lead to important cognitive, affective, and behavioural consequences. Vallerand (1997) proposed that this motivational sequence of 'social factors → psychological mediators → types of motivation → consequences' can be encountered at a global, contextual, and situational motivational level.

The 'consequences' stage of Vallerand's (1997) model refers to the cognitive (e.g. concentration levels), affective (e.g. enjoyment, boredom), and behavioural (e.g. effort and persistence at a particular task) consequences of different motivational types. Based on Deci and Ryan's theorising (1991), Vallerand proposed that positive outcomes should result from self-determined forms of motivation (intrinsic motivation and identified regulation), whereas negative outcomes should result from less self-determined forms of motivation (especially amotivation and external regulation). Support for this prediction has been given in the context of work, interpersonal relationships, education, and sport.

For example, Sarrazin, Guillet, and Cury (2001) outlined how SDT expects that perceptions of competence, autonomy, and relatedness lead an athlete to freely and long-lastingly re-engage in the activities in which these feelings were experienced. Thus, knowing conditions that facilitate versus undermine these three fundamental perceptions in sport constitutes an important objective of research when one wishes to motivate individuals in sport for a long time. Similarly, it might be assumed that the manipulation of the three basic tenets of SDT could impact on athletes' motives to learn within sporting environments.
As has been mentioned in the overview of SDT, one's perceptions of internalisation can be influenced by the perceived impact of the social context and interpersonal events (e.g. rewards, communications, feedback) on an individual's feelings of competence, autonomy, and relatedness (Deci & Ryan, 1985).

One specific element within the social context that has been found to influence motivation is interpersonal behaviour (see Deci & Ryan, 1987; Ryan & Stiller, 1999). Researchers have mostly been interested in the effects of two specific styles: a controlling style – in which the significant other acts in a coercive, pressuring, authoritarian way, and an autonomy-supportive style – where the significant other supports freedom, encourages autonomy, and implicates individuals in the decision-making process. According to SDT (Deci & Ryan, 1985), a controlling interpersonal style, like other controlling influences (e.g. deadlines, rewards), should bring about an external locus of causality and thus undermine feelings of autonomy and, correspondingly, self-determination. On the other hand, an autonomy-supportive style should facilitate an internal locus of causality and thus enhance feelings of autonomy and, consequently, promote self-determined forms of regulation.

Research in education (e.g. Cordova & Lepper, 1996; Gottfried, Fleming, & Gottfried, 1994; Vallerand, Fortier, & Guay, 1997) and in physical activity and health contexts (e.g. Goudas, Fox, Biddle, & Underwood, 1995; Williams & Deci, 1996; Williams, Grow, Freedman, Ryan, & Deci, 1996) have confirmed these predictions. More specifically, it was found that an autonomy-supportive style, be it from teachers, parents, coaches, school administrators, or health care professionals, facilitates self-determined forms of regulation (intrinsic and identified), decreases non-self-determined types (introjected, external, amotivated), whereas a controlling style undermines self-determination.

According to SDT, the internalisation process is a natural motivated tendency. That is, it is a process that is thought to accrue spontaneously, similar to other intrinsically motivated processes. Consequently, the internalisation process can also be impeded or
facilitated by the social context. More specifically, it is theorised that the context will influence both the amount and quality of internalisation (Deci, Eghrari, Patrick, & Leone, 1994; Isaac, Sansone, & Smith, 1999; Sansone, Weir, Harpster, & Morgan, 1992). The principle implication of the previous statement is that too much control on the part of other people may actually have adverse effects on internalisation. Indeed, for internalisation to proceed such that the regulation becomes self-determined, it is hypothesised that an autonomy-supportive context is necessary (Reeve, 2002).

Reeve (2002) has succinctly summarised two key conclusions to be drawn from educationally-based research into learners’ autonomy and their educators’ support of that autonomy conducted over the last two decades. Specifically, (1) autonomously-motivated students thrive in educational settings, and (2) students benefit when teachers support their autonomy. Further, the positive classroom outcomes experienced by autonomously-motivated students appear in both the academic and developmental domains.

The first conclusion essentially means that the quality of a student’s motivation explains part of why he or she achieves highly, enjoys school, prefers optimal challenges, and generates creative products. To provide the evidence for this conclusion, researchers asked students to self-report their academic motivation, and they found that the degree to which their motivation was self-determined versus controlled predicted a series of outcomes. These outcomes included higher academic achievement (Miserandino, 1996; Flink et al., 1992), higher perceived competence (Ryan & Grolnick, 1986), a preference for optimal challenge (Shapira, 1976; Boggiano, Main, & Katz, 1988; Pittman et al., 1982), pleasure from optimal challenge (Harter, 1974, 1978), stronger perceptions of control (Boggiano & Barrett, 1985), and greater creativity (Amabile, 1985).

The second conclusion recognises that the quality of a student’s motivation depends, in part, on the quality of the student-teacher relationship (Eccles & Midgley, 1989). It essentially means that students achieve highly, learn conceptually, and stay in school in part because their teachers support their autonomy rather than control their behaviour. The studies that provide evidence for this conclusion assessed (with questionnaire) or manipulated (through an experiment) the teachers’ interpersonal
motivating styles and found that students benefited from autonomy-supportive teachers in many ways. In particular, the students acquired higher academic achievement (Flink, Boggiano, & Barrett, 1990; Boggiano et al., 1993), higher perceived competence (Deci, Schwartz et al., 1981; Ryan & Grolnick, 1986; Williams et al., 1994), higher self-esteem (Deci, Schwartz et al., 1981; Deci, Nezlek, & Sheinman, 1981), greater conceptual understanding (Benware & Deci, 1984; Boggiano et al., 1993; Flink et al., 1990; Grolnick & Ryan, 1987), greater flexibility in thinking (McGraw & McCullers, 1979), more active information processing (Grolnick & Ryan, 1987), and greater creativity (Koestner et al., 1984).

While the majority of the research discussed to this point has been derived from the educational domain, there are obvious links to the field of sport. For instance, among the particularly influential social agents within sport, coaches' behaviour seems to have a crucial impact on athletes' motivation (Smith & Smoll, 1996; Vallerand & Losier, 1999). Coaches design practice sessions, group children, give recognition, evaluate performance, share their authority, and shape the sport setting. In sum, they establish an environment that can have an important impact on athletes' motivation and learning. Thus, leading on from the themes of autonomous learners and autonomy-supportive behaviours, the following two sections will provide a more detailed review of research into the implications of being autonomously motivated, as well as the associated links identified with learners who are taught in autonomy-supportive environments. While research concerned with these two areas within the sport domain is scant, applicable findings from sport will be discussed.

_Autonomously-Motivated Learners_

Most educators and developmentalists would agree that learning is primarily an active process and occurs most optimally when there is an internal motivation on the part of the learner to engage and assimilate information (deCharms, 1976; Thomas, 1980). Furthermore, it has become increasingly evident that motivation to learn is not solely a function of the immediate environment; it is also a function of the motivational orientation of the learner (Gottfried, 1983; Grolnick & Ryan, 1987; Harter, 1981;
Ryan & Grolnick, 1986). Rigby et al. (1992) have declared that an autonomous motivational orientation promotes a fuller engagement with learning materials and thus higher quality learning.

Grolnick and Ryan (1987) had late-elementary school children complete a questionnaire developed by Ryan and Connell (1989) to assess the children's reasons for doing their school work. These researchers found that when students reported more autonomous reasons for doing their school work (i.e. identified and intrinsic reasons) they displayed higher-quality learning than when they reported less autonomous reasons (i.e. external and introjected reasons). Grolnick, Ryan and Deci (1991) also found that perceived autonomy (i.e. identified and intrinsic reasons) was positively associated with classroom achievement.

Benware and Deci (1984) studied college students' learning using a directed learning paradigm. These researchers found that subjects' self-reports of interest in assigned material, enjoyment of the material, and active involvement in learning covaried with their conceptual understanding of the material. Because the self-report variables reflected subjects' sense of autonomy and self-regulation in the learning process, this study provided further indication of a positive relation between autonomy and conceptual learning.

The effects on learning of ego involvement (when interpreted to mean having one's self-esteem contingent upon the outcome of performance) is also relevant here. Several studies (e.g. Plant & Ryan, 1985; Ryan, 1982; Ryan, Koestner, & Deci, 1991) have shown that an ego involvement undermines intrinsic motivation, thus indicating that, much like introjected regulation, ego involvement is a form of controlling (rather then autonomous) motivation. Research and theory on ego versus task involvement by Nichol (1984) and on performance versus learning goals by Dweck (1986), are also consistent with the assertion that ego involvement (or performance goals) represents a less autonomous form of engagement than does task involvement (or learning goals). Golan and Graham (1990) and Nolen (1988) have reported that ego involvement leads to a more superficial processing of information. This suggests, then, in line with the findings from Grolnick and Ryan (1987) and Benware and Deci (1984), that when a
Deeper level of processing is necessary for high-quality learning, ego involvement will result in impaired learning.

Several other studies have expanded upon the findings that self-determined forms of motivation are related to enhanced learning. For example, Vallerand and Bissonette (1992) reported that more controlling forms of motivation (i.e. external regulation and introjected regulation) were positively correlated with dropping out of school, whereas autonomous forms (i.e. integrated regulation and intrinsic motivation) were negatively correlated with dropping out. Ryan and Connell (1989) found that both introjected regulation and identified regulation were positively correlated with children’s self-reports of trying hard and their parents’ reports of the children’s motivation.

Research has shown that athletes who are intrinsically motivated and self-determined in their behaviours invest more effort (Pelletier et al., 1995; Williams & Gill, 1995; Fortier & Grenier, 1999; Li, 1999), report higher levels of concentration (Briere et al., 1995; Pelletier et al., 1995), are more persistent (Fortier & Grenier, 1999; Pelletier et al., 2001, 2003; Sarrazin et al., 2001), and perform better (Beauchamp et al., 1996; Pelletier, 2003) than athletes who rely on non-self-determined types of motivation. It is thus in athletes’ best interest that coaches nurture their athletes’ intrinsic motivation and self-determined types of extrinsic motivation.

The relative autonomy of motivation has been found to relate to quality of experience and sport attitudes (Pelletier et al., 1995), and with readiness to initiate exercise and enjoyment (Markland, 1999; Mullan & Markland, 1997). Goudas, Biddle, and Fox (1994) showed that children in physical education (PE) classes with more autonomous motivational styles expressed more interest in physical activities and less ego involvement (Seifriz, Duda, & Chi, 1992). Goudas, Biddle and Underwood (1995) also showed that undergraduate PE students in a gymnastics course who experienced greater autonomy in class were more likely to evidence intrinsic interest and report intentions to persist.
Several field studies have explored the effects of autonomy support and involvement of significant others on intrinsic motivation and internalisation. For example, Deci, Schwartz, Sheinman, and Ryan (1981) developed a measure of autonomy support within the classroom that assessed the degree to which teachers attempt to motivate learning in an autonomy-supportive versus a controlling manner. Children in more autonomy-supportive classrooms (i.e. classrooms where teachers tend to take the students' frame of reference) displayed greater curiosity, more independent mastery attempts, and higher self-esteem than students in more controlling classrooms. Further, Ryan and Grolnick (1986) found that students who perceived their teaching environments as more autonomy-supportive tended to be more intrinsically interested in learning and to feel more academically competent.

A number of studies have focused on the extent to which contextual factors related to autonomy support and interpersonal relatedness influence people's learning. Grolnick and Ryan (1987) found that a focus on the extrinsic reward of grades would result in less depth of processing and subsequently less integration and mastery of learned material than would intrinsic motivation. More recent findings have emerged from the educational domain that support the positive contribution of perceived autonomy support to the development of autonomous regulations, improved conceptual learning, and the display of more positive affect towards education (Black & Deci, 2000).

A study by Hamm and Reeve (2002) invited students to rate and score the impact of a set of autonomy-supportive behaviours that emerged from prior research (Deci et al., 1982; Flink et al., 1990; Reeve et al., 1999) on the subjects' self-reports of self-determination and competence. The findings from this study revealed that students reported significantly higher perceptions of both self-determination and competence when teachers listened more, encouraged conversation, allocated time for independent work, and held the instructional materials less. As to the conversational statements (i.e. what the teacher said), students reported significantly higher perceptions of competence when their teachers provided hints but resisted giving answers. Students also felt more competent when teachers voiced perspective-taking statements. The rated subjective impressions were also important, as students felt more self-
determined and more competent when teachers behaved in ways that supported their intrinsic motivation and valuing of what they were learning.

In two recent longitudinal studies, the motivational orientation and supportiveness of parents and coaches fostered autonomous motivation in adolescents and in competitive swimmers, which in turn increased their persistence in sports (Fortier, 2000; Pelletier, Fortier, Vallerand, & Briere, 2001). Sarrazin, Vallerand, Guillet, Pelletier, and Cury (2002) also found that task-involving climates (contrasted with ego-involving climates) promoted need satisfaction and negatively predicted drop-out in a 21-month longitudinal study of adolescent handballers.

Studies conducted in the sport setting have provided support for the basic tenets of SDT with respect to the relationship of autonomy-support to positive motivational outcomes. Blanchard and Vallerand (1996; cited in Vallerand & Losier, 1999) observed the mediating effect of perceived need satisfaction on the relationship between coaches’ behaviours and athletes’ motivation. Using self-reports, the researchers examined if basketball players’ perceptions of relatedness, competence, and autonomy mediated the impact of their coach’s interpersonal style and their team cohesion on their motivation towards basketball. Path analyses showed that the impact of both the coach’s style and team cohesion on athletes’ motivation was mediated by perceptions of the three fundamental needs. Specifically, the more athletes perceived their coach to be autonomy supportive and their team cohesive, the more they felt competent, autonomous, and connected with their teammates and, in turn, the more they played basketball out of intrinsic and self-determined extrinsic motivation.

Athletes’ perceptions of the coach as autonomy-supportive were also positively related to the perceptions of autonomy in studies conducted with swimmers (Pelletier, Fortier, Vallerand, & Briere, 2001), gymnasts (Gagne, Ryan, & Bargmannn, 2003), athletes (Hollembeak & Amorose, 2005), and cricketers and footballers (Reinboth, Duda, & Ntoumanis, 2004). Again, in studies conducted by Ntoumanis (2001) and Standage, Duda, and Ntoumanis (2003) in the context of physical education, students’ perceptions of an autonomy-supportive climate were strong positive predictors of students’ perceptions of autonomy. Thus, environments low in their controlling
features (e.g. a situation where coaches give athletes responsibilities, offer choices and options) are more likely to foster feelings of personal causation and facilitate the perception of oneself as an origin of one’s behaviour (deCharms, 1968).

**Identifying Autonomy-Supportive Behaviours**

Whilst some of the studies reviewed in the previous section have indicated details of autonomy-supportive behaviours, a more comprehensive overview of the actual behaviours and actions deemed to support learners' autonomy is required. These shall now be addressed. Once more, those behaviours that have been utilised within sport-focused investigations will be specifically highlighted.

Cognitive evaluation theory underscores the importance of autonomy support for intrinsic motivation (Deci & Ryan, 1980, 1985). Being autonomy-supportive (Deci & Ryan, 1985) means that ‘an individual in a position of authority (e.g., and instructor [or a coach]) takes the other’s (e.g. a student’s [or an athlete’s]) perspective, acknowledges the other’s feelings, and provides the other with pertinent information and opportunities for choice, while minimising the use of pressures and demands’ (Black & Deci, 2000, p.742). Grolnick and Ryan (1989) further defined autonomy support as parents (or coaches) placing value on self-initiation as well as encouraging choice, independent problem solving, and participation in decision making. Autonomy support thus implies that athletes are regarded as individuals deserving self-determination, and not mere pawns that should be controlled to obtain a certain outcome (deCharms, 1968). Conversely, controlling behaviours are defined as pressures to think, feel or behave in specified ways, thereby ignoring the person’s needs and feelings (Deci & Ryan, 1985). Controlling behaviours can be seen as placing value on control and employing power-persuasive techniques that pressure others to comply (Grolnick & Ryan, 1989). Although research has typically operationalised autonomy-supportive behaviours as providing choice (e.g. Zuckerman et al., 1978), the combined definitions of the construct provided by Deci and Ryan (1985) and Grolnick and Ryan's (1989) suggests a more complex set of behaviours.

Research (Deci, Spiegel, Ryan, Koestner, & Kauffman, 1982; Flink, Boggiano, & Barrett, 1990; Reeve, Bolt, & Cai, 1999) that sought to identify the specific
behaviours that characterise autonomy-supportive teaching has identified autonomy-supportive teachers to distinguish themselves from controlling teachers by listening more, spending less time holding instructional materials such as notes or books, giving students time for independent work, and giving fewer answers to the problems students face. Among the set of conversational statements, autonomy-supportive teachers distinguished themselves by avoiding directives, praising mastery, avoiding criticism, giving answers less often, responding to student-generated questions, perspective taking, and demonstrating empathy in communications with students. Among the set of subjective impressions, autonomy-supportive teachers distinguished themselves by supporting intrinsic motivation, supporting internalisations, and coming across as less demanding or pressuring.

In essence, autonomy-supportive teachers are responsive (e.g. spend time listening), supportive (e.g. praise the quality of performance), flexible (e.g. give students time to work in their own way), and motivate through interest (e.g. support intrinsic motivation). Controlling teachers essentially take charge (e.g. hold the instructional materials, use directives/commands), shape students toward a right answer (e.g. give solutions), evaluate (e.g. criticise), and motivate through pressure (e.g. seem demanding and controlling).

Specifying autonomy-supportive behaviours to the field of sport, Mageau and Vallerand (2003) have claimed that autonomy-supportive individuals support athletes' autonomy in a number of ways. An overview of selected behaviours from this paper is presented in table 2.4, below:
<table>
<thead>
<tr>
<th><strong>Autonomy-supportive Actions</strong></th>
<th><strong>Research Findings</strong></th>
<th><strong>Supporting References</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Provide choice within specific rules and limits</td>
<td>Teaching methods that enable student choice associated with greater intrinsic motivation</td>
<td>Goudas, Biddle, Fox, &amp; Underwood (1995); Swann &amp; Pittman (1977); Zuckerman, Eysenck, &amp; Eysenck (1978)</td>
</tr>
<tr>
<td>(2) Provide a rationale for tasks and limits</td>
<td>A rationale facilitates the internalisation of the reasons for activity engagement</td>
<td>Cordova &amp; Lepper (1996); Freedman &amp; Phillips (1985)</td>
</tr>
<tr>
<td>(3) Acknowledge the other person’s feelings and perspective</td>
<td>Perspective taking shows that athletes are perceived by their coach as individuals with specific needs and feelings, positively impacting on their intrinsic motivation</td>
<td>Koestner, Ryan, Bernieri, &amp; Holt (1984); Deci, Eghrari, Patrick, &amp; Leone (1994)</td>
</tr>
<tr>
<td>(4) Provide athletes with opportunities for initiative taking and independent work</td>
<td>Children who felt that they could make decisions (to some extent) regarding the way in which activities were undertaken reported higher intrinsic motivation</td>
<td>Boggiano (1998); Boggiano, Flink, Shields, Seelbach, &amp; Barrett (1993); Grolnick, Frodi, Bridges (1984)</td>
</tr>
<tr>
<td>(5) Provide non-controlling competence feedback</td>
<td>When positive informational (as opposed to controlling) feedback is prominent people’s perceptions of competence are enhanced, which, in turn, has a positive impact on intrinsic motivation</td>
<td>Fisher (1978); Kast &amp; Connor (1988); Ryan, Mims, &amp; Koestner (1983); Vallerand &amp; Reid (1984)</td>
</tr>
</tbody>
</table>

Table 2.4: Identified Autonomy-supportive Behaviours (adapted from Mageau & Vallerand, 2003)

**Can Autonomy-Supportive Behaviours be taught?**

Some studies have implemented autonomy-supportive training methods to assist practitioners in developing autonomy-supportive behaviours. For example, Williams, Gagne, Ryan, and Deci (2002) trained physicians to be autonomy-supportive with patients and found that patients became more autonomously motivated to abstain from smoking. Similarly, Deci, Connell, and Ryan (1989) trained managers to become more autonomy-supportive with employees and found that employees in turn became more satisfied at work and more trustful of the organisation. However, more detailed accounts of two separate investigations with school teachers, led by Reeve and his colleagues (1998, 2004), will now be presented.
Reeve (1998) conducted a study to help teachers learn to be autonomy-supportive with students. To facilitate this educational process, the researcher prepared an informational booklet about self-determination and autonomy-support and gave it to a group of pre-service teachers. The booklets explained the concept of autonomy-support, illustrated what it looks like in a classroom setting, summarised the benefits of autonomy-support, and presented a couple of case studies so that readers could think about how to apply an autonomy-supportive style to student-teacher interactions. Other groups of preservice teachers received (using random assignment) informational booklets about other instructional strategies.

Results indicated that the preservice teachers did learn how to be autonomy-supportive with students (Reeve, 1998), but their prior beliefs about the nature of motivation strongly affected how willing they were to accept the merits of an autonomy-supportive style. Preservice teachers with prior beliefs about motivation that were conceptually consistent with autonomy support agreed with the information, and they assimilated it rather easily. Preservice teachers with prior beliefs about motivation that were inconsistent with autonomy-support initially disagreed with the information. Control-oriented preservice teachers who found the information to be a superior alternative to their pre-existing controlling motivational strategies experienced conceptual change and willingly adopted an autonomy-supportive orientation. Control-oriented preservice teachers who found the information to be an inferior alternative to their pre-existing beliefs resisted conceptual change and maintained their commitment to a controlling orientation. Reeve concluded that preservice teachers could learn to be autonomy supportive, but that they experience enduring conceptual change only to the extent that they see autonomy support as a superior alternative to their pre-existing strategies.

In a more recent study, Reeve, Jang, Carrell, Jeon, and Barch (2004) trained secondary school teachers to enhance their support of their students' autonomy, hypothesizing this to lead to an increase in students' levels of engagement. Teachers from two different schools were trained within a delayed-treatment experimental design that consisted of two components: (1) a group-delivered informational session on how to support students' autonomy, and (2) independent study using a study-specific website. Specifically, teachers were directed towards increasing their usage
of four autonomy-supportive instructional strategies that had been identified by the researchers. These strategies included teachers’ nurturing of students’ inner motivational resources; using informational, non-controlling language; promoting value in uninteresting activities; and acknowledging and accepting students’ expressions of negative affect. The results from this study indicated that teachers were able to motivate their students in more autonomy-supportive ways, prompting increased engagement from students.

Referring to such investigations, Gagne et al. (2003) suggested that an intervention study be designed to train coaches to be autonomy-supportive toward their athletes and to then investigate the effects on athletes’ motivation, well-being, and performance. Whilst such a study has not yet been apparent within the literature, Mallet (2005) has presented a case study of evidence-based coaching that was consistent with the autonomy-supportive behaviours proposed by Mageau and Vallerand (2003). This case study entailed Mallett presenting an overview of key aspects within the autonomy-supportive approach he adopted whilst coaching two Olympic hurdling squads, conveying the rationale for the methods he used through the portrayal of selected examples from his experiences.

The autonomy-supportive behaviours described were ultimately grounded in an athlete-centred approach, as the coach sought to promote the perception of choice, personal ownership, and an internal locus of causality by transferring responsibility for several aspects of performance strategies, for example, to his athletes. Summarising the examples cited within Mallett’s case study, the means through which this approach was carried out involved the use of a democratic leadership style that utilised guided discovery and problem-solving teaching styles (Mosston & Ashworth, 1986); divergent questioning; self-(assisted with video footage) and peer-led informational feedback (with occasional instances of coach feedback); and the rationalisation of any coaching decisions. In evaluating the approach the author adopted, Mallett acknowledged that some mode of analysing athlete perceptions (which was not achieved) would have enhanced the case study presented. However, Mallett’s subjective assessment of the methods utilised indicated a recognition of “positive behavioural and affective outcomes that were considered attributable at least in part to the autonomy-supportive approach” (p. 427), as the author cited prevalent
eagerness to pursue excellence, a complimentary attitude, and a work ethic that was favourable in comparison to previous squads the author had worked with.

LINKS TO THE REMAINDER OF THE THESIS

Thus, the literature reviewed within this chapter will provide the basis to the research to be undertaken within this thesis. That is, a contextual validation procedure for a systematic observation instrument will be presented prior to a systematic observation study of elite youth coaches’ behaviours. Thus, the literature reviewed within the present chapter on systematic observation research methods and coaches’ recorded practice behaviours link to these investigations. Extending this, an interview-based study of coaches’ perceptions of their role and their use of specific coaching behaviours will follow. Again, the qualitative-based literature from the present review that has focussed on coaches’ beliefs and philosophies regarding their performance of their role is relevant to this study. Furthermore, and picking up on the absence of current literature on this aspect of the coaching process, players will also be interviewed to ascertain their preferences for coaches’ practice behaviours. To draw links to related literature, the questionnaire-based research into athletes’ coaching preferences will feed into this study. Finally, a piece of intervention research will be presented in which the focus is to modify coaches’ behaviours to encourage them to become more supportive of their players’ autonomy. Hence, the research on SDT and autonomy-support presented within this chapter is linked to this last study. By way of re-acquainting the reader with the aspects of the literature review relevant to each study, a brief overview of related literature will feature at the beginning of each of the appropriate chapters.
CHAPTER 3

Study Ia: Systematic Observation of Elite Youth Football Coaches’ Behaviours: Instrument Development and Validation

STRUCTURE OF THE CHAPTER

This chapter first provides an introduction to factors identified within the literature that support the case for developing and validating a systematic observation instrument for use within specific settings. Subsequently, an elaborate 5-step process (Brewer & Jones, 2002) is undertaken to validate a systematic observation instrument for use within elite level youth football, before a discussion on the outcomes from the process is offered.

INTRODUCTION

Researchers desiring to better understand precisely what happens in the coaching -learning situation have given impetus to the development of descriptive-analytic research (Wilson, Buzzell & Jensen, 1975). One such methodology, pre-eminent within the realm of sports pedagogy, is systematic observation. It provides an increasingly objective means of identifying and delineating the pedagogical behaviours of a coach or teacher in the practice setting (Crossman, 1985). Indeed, this has been the dominant research tool in the analysis of coaching behaviours (Kahan, 1999).

As the primary function of the methodology used within any particular coaching setting is to provide as high a quantity of valid and reliable data as possible, it could be argued that if an instrument is not able to fulfil this agenda within specific contexts, the
information generated is of little use (Brewer & Jones, 2002). Reflecting this issue, Brewer and Jones have argued that the inclusion of perceived generic coaching behaviours within the existing systematic observation instruments prevents these instruments from being sufficiently context-specific. For instance, the 14 categories contained within the ASUOI (Lacy & Darst, 1984) have been used to categorise the behaviours of coaches from sports diverse as American football (e.g. Lacy & Darst, 1985), tennis (e.g. Claxton, 1988), basketball (e.g. Lacy & Goldston, 1990), volleyball (e.g. Lacy & Martin, 1994), and football (e.g. Cushion & Jones, 2001). Whilst it is conceivable that the behavioural categories of the ASUOI are applicable within each of these different sports and each individual context, there is also a likelihood that each coaching situation includes sport-specific, playing level dependent, and/or cultural differences in behaviours that are not identified by the ASUOI. Indeed, referring to the CBAS (Smith et al., 1977), Sherman and Hassan (1986) concluded that the instrument had only moderate reliability in both youth baseball and football, suggesting that such a measure could be improved if categories were adapted to the context of use.

Potential sport-specific and cultural variations in coach behaviours may be predicted due to the inevitable effects experienced during each coach’s development within a given sport. For instance, unique influences might be anticipated during educational programmes and within ongoing applied practices (e.g. educational/academic courses, organisational directions, experiential learning; Brewer, Jones, & Potrac, 2000). Jones and Kidman (1996; cited in Brewer & Jones, 2002) have suggested that this will initiate cultural differences, reflecting the common nature of coach education programmes to be devised by the relevant sports’ governing bodies and/or national coach education programmes.

The suggestion that the athletes’ playing level might be a cause in undetected behavioural differences can be explained by an apparent disparity in coaches’ and athletes’ motivations for their practice (Brewer et al., 2000; Lacy & Martin, 1994; Wandlizak, Ansgorge & Potter, 1988). For instance, it might be suggested that an elite level coach’s use of ‘praise’ might frequently be quite different in content and aim from a ‘fun camp’
coach's recorded use of the same behaviour as the elite level coach may use the behaviour to encourage learning and development, while the fun camp coach promotes enjoyment. Brewer and Jones (2002) have commented on the lack of published literature pertaining to instrument validation for populations with differing participation motivations and levels of competition (i.e. elite versus novice).

RESEARCH AIM

As a consequence of such frailties with the existing systematic observation systems (and additional issues to be discussed further in this chapter), it was suggested that if a more accurate picture of a coach's behaviour is to be recorded, there might be a requirement for sports specific observation tools to be developed (Brewer & Jones, 2002). Hence, as a precursor to Study 1b, Brewer and Jones's recommended steps for establishing contextually valid systematic observation instruments were followed, as the aim of this section of the research was to develop and validate a systematic observation instrument for use with English elite youth football coaches. Furthermore, in seeking to modify an existing systematic observation instrument, the researcher sought to make adaptations to behavioural categories that were of most relevance to coaches' learning-focused actions. Hence, coaches' use of instruction, demonstration, questioning and feedback (Douge & Hastie, 1993; Schempp, 2002; Williams & Hodges, 2005) were of immediate concern.
METHOD

Establishing a contextually valid systematic observation instrument

This section will now detail the five-step process (Brewer & Jones, 2002) undertaken to achieve contextual validity with the instrument in development. However, it is important to briefly outline the rationale underpinning each of the detailed steps involved in the process. The first step of the process entails a training element to enhance the researcher's understanding and ability to demonstrate the methodology entailed (Darst et al., 1989), while the second step involves the actual instrument development stage, as contextually-relevant behavioural categories to be included in the modified instrument are created; ensuring content validity (Vogts, 1999). The third step involves processes that are concerned with obtaining logical or face validity with the instrument (Vogts, 1999). The final two steps are linked as they relate to the achievement of the instrument’s reliability by following the recommended procedures of Darst et al. (1989). Step four involves inter-rater reliability testing to obtain reliability with the behavioural classifications, while the fifth step relates to the test-retest reliability of the researcher when using the instrument.

Step 1: Observer training

The initial stage involved in this process requires the researcher to become familiar with the concepts and procedures involved in systematic observation to ensure a thorough comprehension of the methodology employed (Darst et al., 1989). Brewer and Jones (2002) recommend that, for the purposes of getting acquainted with the systematic observation process, an existing instrument deemed as suitable to the environment to be studied be used.

Therefore, based on a review of the literature, a decision was made to test two of the most popular systematic observation instruments used for analysis in youth team sports: the CBAS (Smith et al., 1977) and the ASUOI (Lacy & Darst, 1984). This involved carrying
out live observations (for 45 minutes each) with each of the instruments, coding the behaviours of a university Under 19's football team's coach on each occasion. It was felt that observing this particular coach (and team) was suitably applicable to the requirements of this initial process, as the process was most concerned with the rigour of the categories included in the instruments for application to English football coaches. The emphasis on elite youth football coaches was not seen as essential at this point. The observer was located along the sidelines of the playing area for each observation, using event recording to code the frequencies of each behavioural category.

Following the completion of the pilot observations, it was noticed that there was quite a high frequency of behaviours that could not be coded by the existing categories, particularly when using the CBAS. For instance, when the coach asked his players a question to clarify their understanding of a particular aspect of team play, a category that corresponded with this behaviour could not be identified within the CBAS. In this instance, the 'questioning' classification within the ASUOI satisfied the coding of this behaviour. However, while the ASUOI does accommodate 'uncodable' behaviours that do not obviously fit within any of the other behavioural categories, it was felt that this category featured too regularly during this initial coding session. Compared with the total number of unaccountable behaviours accumulated while using the CBAS, though, the ASUOI's 'uncodable' behaviour category was used less frequently.

It was also noted how the ASUOI provided greater opportunity for detail in relation to the instances during which instruction was provided. Specifically, the CBAS groups the provision of verbal instruction and visual demonstrations within the same behaviour categories, whereas the ASUOI acknowledges the differences inherent in both instructional behaviours, and separates them into individual behavioural categories. The level of detail required is obviously dependent on the researcher's objectives. However, in light of the comprehensive investigation of coaches' learning-focused practice behaviours in which this elite youth football coaches' observation instrument is intended to be used, differentiation between such instructional techniques seemed important. It was felt that both the CBAS and ASUOI, though, were equally slight in categorising aspects of feedback behaviours. The ASUOI simply offers 'praise' and 'scold'
classifications in which to code feedback behaviours; praise in response to complimentary behaviours, and scold in reply to undesirable behaviours. The CBAS, similarly, has ‘reinforcement’ and ‘punishment’ behaviours, which were used in similar instances to the ASUOI’s praise and scold. These feedback classifications provide some preliminary indications as to the positive/negative nature of feedback. From a basic psychological perspective, it was felt that such knowledge was quite useful. However, in considering the vast frequencies of feedback coded during these initial sessions, it was felt that additional information could be obtained by further subdividing the feedback categories. Whilst the CBAS also includes the categories of ‘nonreinforcement’ and ‘ignoring mistakes’—both related to feedback, but inferring the lack thereof—it was felt that as these behaviours refer to an observed coach’s failure to react to certain behaviours (‘good performance’ / ‘player mistake’), such subjectivity in deciding whether an athlete’s performance was ‘good’ or a ‘mistake’ requires expert knowledge on the part of the observer. Hence, it was believed that subjective coding during the systematic observation of coaches could lead to a high potential for inconsistent and/or inaccurate data.

Finally, the initial observations with both instruments revealed occasions in which the researcher failed to code instances of coach behaviour, simply because the time spent physically recording a previous behaviour had prevented the researcher from clearly witnessing the subsequent behaviour(s). Furthermore, instances occurred in which the researcher was aware of verbal coach-athlete interaction, however, due to a combination of the researcher’s physical distance from the coach and players, and the low volume of verbal communication, the researcher could not decipher the comments made. Thus, in terms of the applicability of the two observation instruments for the present researcher’s requirements, it was concluded that both the ASUOI and CBAS were inadequately detailed to provide a thorough reflection of the practice behaviours exhibited by English football coaches. However, the researcher concluded that, due to the increased specificity identified within the ASUOI’s categorisation of learning-focused behaviours such as instruction, demonstration, and questioning (Douge & Hastie, 1993; Schempp, 2002; Williams & Hodges, 2005), this instrument was regarded as preferable.
Thus, having selected an appropriate training tool, it is suggested that those planning to use the tool within the field are required to become familiar with the behavioural classifications of the instrument (Darst et al., 1989). The researcher achieved this through an intense studying period in which the definitions of each of the behavioural categories were memorised. The researcher then practised using the instrument by observing youth football coaching sessions. The emphasis here was on the need for strict coding of behaviours according to their behavioural definitions, testing the researcher’s knowledge of the learned behaviour categories. Brewer and Jones (2002) have recommended that this testing period be conducted in a live coaching situation. However, as a decision had been made to video-record any future coaching sessions in which the developed instrument was to be used (to be reported on later), there was no need for such live coding in this instance. Instead, observer training and testing procedures were all based on video-recorded coaching sessions. Brewer and Jones have indicated that this training period is complete when there is an 85% inter-observer agreement (Siedentop, 1976) reached between the trainee and a researcher experienced in the use of the instrument. However, as the researcher was unable to acquire the assistance of such an experienced researcher, it was decided by the researcher that an alternative testing procedure should be devised. This process involved the recruitment of a group of experienced coaches (N=6 [four of whom were also academic researchers]) from various sports. Experienced coaches (i.e. each with more than 10 years coaching experience) were selected at this point as it was felt that they would be able to identify with the behavioural categories most easily. Each of the experienced coaches individually observed and coded with the researcher a coach’s behaviours during a 15 minute segment (i.e. 6 x 15 minute segments were used in total) from a video-recorded football coaching session that had not been previously viewed by either person. Whilst the researcher coded the coaches’ behaviours based on his memorised behavioural definitions, each of the experienced coaches were provided with a 30 minute preparatory session prior to the observation (during which the behavioural definitions were fully explained), and were permitted to refer to the behavioural definitions during the 15 minute observation period. Percentages of observer agreement were reported using the scored-interval method (Darst et al., 1989), with each of the six levels of agreement exceeding the required 85% (Siedentop, 1976).
To ensure a consistency in the behavioural coding process was achieved, the intra-observer reliability of both the ASUOI and the researcher recording the data was established (Thomas & Nelson, 1996). Darst et al. (1989) have described intra-observer reliability to be the extent to which there is agreement between different records of the same event, reported by the same observer but at different times. Thus, the researcher was required to observe and code the same video-recorded coaching session on separate occasions. Following a recommendation from Darst et al., a two-week time period separated the first coding session and the second. The researcher made no referrals to any of the original materials (i.e. the video tape or the codings recorded) during this time. The level of intra-observer agreement was calculated following the completion of the second coding session by comparing the percentage agreements between session 1 and session 2 for the frequency (number of times behaviours were recorded) of each behaviour classification. This calculation presented a mean retest percentage of 89%, with accepted levels set at 85% (Siedentop, 1976).

Step 2: Amending an existing systematic observation instrument
The objective of this phase of the validating process was to make the behavioural definitions within the instrument to be used as comprehensive as possible, to reduce the frequency of uncodable behaviours that have been identified in previous studies (e.g. Claxton, 1988; Lacy & Goldston, 1990), and include those behaviours that are found to consistently appear within English elite youth football coaches’ practice sessions. By effectively doing so, Brewer and Jones (2002) have argued the developed instrument can be regarded as having content validity. The content validity of an instrument is regarded as the extent to which a measure adequately and comprehensively measures what it claims to be measuring (Thomas & Nelson, 1996).

The procedure involved in this particular stage required the observation of coaching practice sessions, qualitatively describing any regularly observed behaviour displayed by the coaches that had not already been identified as a discrete behaviour on the ASUOI. As a key focus of this instrument development and validation procedure was to contextualise the instrument for the population in which it is intended to be used,
observations were made of English elite youth football coaches. Thus, this aspect of the process was completed by observing five video-recorded Academy sessions (from 3 different Academies; each lasting a minimum of 1.5 hours), and by frequently observing coaches at a Centre of Excellence at which the researcher was employed, to identify outstanding behavioural categories.

Following the conclusion of this process, behavioural category definitions were created to describe the newly developed English elite youth football coach behaviour classifications. Having been aware of the behavioural definitions created by Brewer and Jones (2002) in the development of the Rugby Union Coaches’ Observation Instrument (RUCCI; see Appendix B), it was decided that these definitions would be consulted at this stage to assist the procedure. That is, acknowledging the current process as a methodological replication of the original work of Brewer and Jones for Rugby Union coaches, the researcher felt that the similarities in the motives shared in the validation of the two instruments could provide the foundation for applicable consistencies in the classifications identified by the developed instruments. This suggestion was supported by Brewer (personal communication). However, reaffirming the focus of the entire procedure on making the newly developed instrument contextually valid for English elite youth football, the researcher considered it imperative to only repeat behavioural classifications that could be strongly justified, and to make appropriate distinctions where necessary. The newly developed instrument was named the Elite Youth Football Coaches Observation Instrument (EYFCOI; see figure 3.1), with the completed version containing 26 behavioural categories. Having elaborated upon some of the initial categories contained within the ASUOI, and devised further behavioural classifications that were completely independent from this original instrument, the EYFCOI was much more comprehensive, and also more complex than the initial model created by Lacy and Darst (1984). Comparing the EYFCOI to the RUCCI, it is apparent that the majority of the coaching behaviours found to occur within elite level rugby union were also identified within elite level youth football. It might be suggested that the professional standard at which both studied populations compete is significant in explaining this finding. A further vindication for the high repetition of behavioural categories between the two
instruments could be the researchers’ stated incorporation of coaches’ learning-focused behaviours in devising the respective instruments.

In considering the amendments made to the ASUOI, there were certain core aspects identified to be lacking within the prototype that were deemed to be fundamentally essential to the accurate reporting of coaches’ learning-focused practice behaviours. These necessary alterations were mostly concerned with behaviours recognised to be indicative of effective coaching (Douge & Hastie, 1993; Schempp, 2002; Williams & Hodges, 2005): instruction, demonstration, correction, questioning, and feedback. Specifically, the changes concerned distinctions between the various means in which these behaviours can be administered, and the timing of the behaviours’ usage. Focusing on the latter point first, the ASUOI makes no recognition of reactionary behaviours that differ as a function of timing; that is, whether they occur during or after skill performance. Much skill acquisition literature (e.g. Swinnen et al., 1990) has focused on this issue, discussing the various skill retention consequences of information that is supplied to athletes at various stages of performance. Furthermore, it was felt that the content of the behaviour communicated had genuine implications for players’ motivation and learning that were not adequately addressed by Lacy and Darst’s (1984) observation tool. These issues and the subsequent behavioural changes shall now be detailed further.

To appease the issue of behavioural timing, categories were introduced to represent informational moments of a verbal nature that occurred before, during, and after active performance moments (i.e. mid-drill, mid-technical practice, etc.). These behaviours were thus classified as being either ‘pre-’, ‘concurrent’, or ‘post-’ performance. It is important to stress that concurrent behaviours were defined to be simultaneous to active participation in an activity. Hence, it was decided that incidents in which a coach provided feedback to a player as the athlete returned to the back of a line, for instance, would not be concurrent, but post-play feedback. Thus, any occasion in which interaction occurs after the initiation of a coaching segment (i.e. after pre-instruction has been completed), whilst a player is not physically involved in performance, is regarded as post-play. Essentially, this time-based differentiation affected the instruction/correction, and feedback behaviours.
<table>
<thead>
<tr>
<th>Behavioural Classification</th>
<th>Behavioural Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-instruction</td>
<td>Directional information given to player(s) preceding the desired action to be undertaken. It explains how to execute the skill, play, task or drill that it precedes.</td>
</tr>
<tr>
<td>Technical/tactical explanation</td>
<td>The coach rationalises through explanation of how the practices that are being undertaken would relate to the game situation, either from a technical (technique) or strategical (tactical) basis. Examples: “From this situation in a game you would…” “The point of this drill is to…”</td>
</tr>
<tr>
<td>Concurrent instruction</td>
<td>Cues, reminders or instructions given during the actual performance of the drill, skill or play. Examples: “Now run left”, “More depth on the run” as the play develops.</td>
</tr>
<tr>
<td>Concurrent positive feedback</td>
<td>Positive feedback of a specific (technical/tactical) nature given to the player(s) during the actual performance of the drill, skill or play. Examples: “Keep running, that’s a great position you’ve taken up.”</td>
</tr>
<tr>
<td>Concurrent negative feedback</td>
<td>Negative feedback of a specific (technical/tactical) nature given to the player(s) during the actual performance of the drill, skill or play. Examples: “You’re not closing him down quick enough.”</td>
</tr>
<tr>
<td>Concurrent praise</td>
<td>Non-specific positive feedback, in the form of demonstrations of satisfaction or pleasure, at skill or practice attempts given during the actual performance of the drill, skill or play. These demonstrations may be either verbal or non-verbal in nature. Examples: “Good.” “Well played.” A smile, thumbs up sign, pat on the back, as play develops.</td>
</tr>
<tr>
<td>Post-play positive feedback</td>
<td>Positive feedback of a specific (technical/tactical) nature given to the player(s) at the conclusion of a specific skill or task. Examples: “You controlled the ball extremely well after you received that pass.” “The timing of that pass was excellent.”</td>
</tr>
<tr>
<td>Post-play negative feedback</td>
<td>Negative feedback of a specific (technical/tactical) nature given to the player(s) at the conclusion of a specific skill or task. Examples: “That last pass you made was not strong enough.” “You weren’t striking through the ball there.”</td>
</tr>
<tr>
<td>Hustle</td>
<td>Verbal statements or non-verbal actions intended to intensify the efforts of the players. Examples: “Pace, pace, pace.” “Come on, faster, move.” Repeated clapping to ‘gee players up.’</td>
</tr>
<tr>
<td>Positive demonstration</td>
<td>A coach-led physical or enacted demonstration by the coach of the correct performance of a skill or technique.</td>
</tr>
<tr>
<td>Negative demonstration</td>
<td>A coach-led physical or enacted demonstration by the coach of the incorrect performance of a skill or technique.</td>
</tr>
<tr>
<td>Concurrent scold</td>
<td>Verbal or non-verbal behaviours demonstrating displeasure at the players’ skill or practice attempts given during the actual performance of the skill, drill or play. Examples: “That’s awful!” “That’s just not good enough!” Shaking of the head, shaking of a clenched fist.</td>
</tr>
<tr>
<td>Post-play correction</td>
<td>Information or re-explanation given after the execution of a skill or play which informs the player of how the performance would need to be altered in order to improve. Examples: “Next time you need to accelerate onto the pass and take the ball into your run at pace.” “In future you should try to get more depth on the run.”</td>
</tr>
<tr>
<td>Post-play praise</td>
<td>Non-specific positive feedback, in the form of demonstrations of satisfaction or pleasure, at skill or practice attempts, given at the conclusion of the skill or exercise. These demonstrations may be either verbal or non-verbal in nature. Examples: “That was great stuff.” “Well done.” A smile, thumbs up sign, pat on the back.</td>
</tr>
<tr>
<td>Post-play scold</td>
<td>Verbal or non-verbal behaviours demonstrating displeasure at the players’ skill</td>
</tr>
</tbody>
</table>
Feedback behaviours were also further sub-divided according to the content of the behaviour conveyed to players by their coach. The rationale for this alteration was due to the varied connotations associated with delivering certain behaviours in different ways. For instance, there was considered to be a large conceptual difference between the responses of “Great stuff, Johnny, that’s excellent”, and “Well done, Johnny, the weight of that pass was perfect”, which may occur during the performance of a skill. According
to the behavioural definitions of the ASUOI, though, each of these instances would be classed as ‘praise’. However, from the player’s perspective, whilst both feedback instances are likely to have a positive impact on the player’s confidence and motivation (Schmidt & Wrisberg, 2000), it might be suggested that the information contained within the second example also has significant consequences for the player’s learning. Therefore, feedback behaviours included within the EYFCOI were divided based upon their informational/motivational content (Wittrock, 1978). Furthermore, the feedback category was also separated by the positive/negative nature of the content. That is, whether the feedback was reinforcing or critical of player performance.

It was felt that the ‘questioning’ category within the ASUOI was rather limiting. With the reported influence of effective questioning on the cognitive development of children (Dantonio & Beisenherz, 2001; Hunkins, 1995; Mosston, 1976) it seemed valuable to differentiate between different types of questions asked by coaches. Hence, rather than simply categorising each question asked during a practice session under a ‘questioning’ behaviour, ‘procedural’ (relating to general procedures or routines), ‘closed’ (requiring low-level thinking and responses), and ‘open’ (promoting diverse, higher-level thinking and responses) question categories were developed.

Coaches had been identified to also utilise praise and scold in response to players’ general behaviour within practice sessions. Whilst it has been suggested that the use of such behaviours has little impact on player learning (Brewer & Jones, 2002), it was felt that they could effect an individual’s psychological perceptions of a coaching session, and therefore merited inclusion within an instrument that sought to be comprehensive. Similarly, to further enhance the instrument’s rigorous inclusion of coaches’ behaviours, an ‘observation’ classification was included. This category incorporated all instances in which coaches were found to be watching aspects of their practice session. The EYFCOI does not profess to interpret the focus of attention during this point, merely to acknowledge moments in which the observed coach is seen to be watching players perform.
An additional category that was deemed to have significance to players' learning was the classification termed 'technical/tactical explanation'. Essentially, this behaviour reflected observed instances in which coaches explicitly linked practice activities to game scenarios. Thus, while the behaviour is instructional in nature, it is distinctive from the other instructional behaviours due to the direct references to game performance that explain 'why' the practice activity is being undertaken, contextualising the exercise. Brewer, Jones and Potrac (2000) have suggested this behaviour might influence players' game understanding and their awareness of coaches' philosophies and ideas.

Extending Brewer and Jones' (2002) inclusion of 'use of humour' as a pedagogical strategy within the RUCCI, the nature of coaches' humour was modified to distinguish between the use of humour 'at' players (wherein the humour involved is directed at a specific player(s)) and humour 'with' players (the humour is shared with everyone, at the expense of no one). Brewer and Jones cited the work of Orlick and Zitzelberger (1996) to highlight the significance of identifying and recording such behaviours, proposing that they reflect both the interpersonal style of the coach in terms of feedback and instructional delivery, and also the socio-cultural climate of the coach-athlete interface. Therefore, although these categories do not have any learning connotations, differences between the two types of humour used thus provide greater insight into this coach-athlete relationship.

'Confer with staff' also emerged as a new category within the developed instrument. Brewer and Jones (2002) included a category titled 'conferring with assistants' within the RUCCI, citing the influence of assistants on the composition of the coaching practice as being significant to understanding the social construction of the coaching session. From a similar perspective, it was considered important to record coaches' interaction with other members of staff, reflecting the level of support coaches draw upon during practice sessions. This category was titled 'confer with staff' in the EYFCOI due to observations made during the construction of the instrument that indicated that, rather than structurally operating as a head coach and assistant coach, many elite youth football environments contain coaches who are regarded as equals.
Thus, these discussed behaviours were integrated along with the aspects of the ASUOI that remained within the newly formed EYFCOI to create a systematic observation instrument that was more considerate of the player-development focused climate in which elite youth football coaches work. Particular attention has been paid to the learning focused behaviours of instruction, correction, questioning, and feedback (Douge & Hastie, 1993; Schempp, 2002; Williams & Hodges, 2005), further encapsulating the intricacies associated with coach-player interactions in a developmental environment. Additional behaviours that more comprehensively reflect the nature of the social situation to be studied were also included. Collectively, the EYFCOI has made several amendments to the ASUOI that will help to produce a truer representation of coaches' behaviours within practice sessions.

Step 3: Establishing face validity within the instrument

Cheffers (1977) stated that categorised behaviours need to be demonstrated within the research environment in which the instrument is to be used before legitimacy in this context can be claimed. Face validity relates to an instrument's ability to measure what it is supposing to measure (Thomas & Nelson, 1996). Therefore, to establish face validity for the EYFCOI there is a necessity to demonstrate that the component features of the tool are applicable to coaches working with elite youth football players. Specifically, it is imperative to confirm that the definition supplied for each classification is accurately describing the true nature of the behaviours to be observed (Brewer & Jones, 2002). Vogt (1999) suggested that communication with specialists in the relevant field of study was most appropriate for attaining face validity. Therefore, a group of 5 elite youth football coaches were assembled to review and validate the developing instrument in terms of the applicability of the newly added categories (Gilbert, Trudel, Gaumond, & Larocque, 1999). Each of the participants in this face validation process were either current or former Academy/Centre of Excellence coaches with a minimum of 4 years experience of coaching at this level. However, it is important to note that the intended sample of coaches to be involved in further study were not involved in this process, as this could influence their behaviour during later analysis. The instrument was also reviewed by a panel of 4 academic researchers. The intention of this process was to provide applicable
criticism as to the complexity of the instrument, the quality of the definitions developed, and the completeness of the instrument (Brewer & Jones, 2002). The participating academic researchers included two experienced, doctoral researchers, and two PhD students. None of the researchers had experience in systematic observation research, but all had previously been involved in the validation process (i.e. with psychometric questionnaires).

The panel members from each group were asked to consider the developed instrument from the perspective of their own expertise (i.e. as an elite youth football coach / researcher). As a basis for their review, the panellists were provided with a list of criteria (Brewer & Jones, 2002, p.152; adapted from Safrit, 1986, p.213): (a) Are important elements of a content area omitted from the behaviour categories? (b) Are unimportant elements of content area erroneously included? (c) Are all elements of the content reflective of youth football coaches' working behaviours in the practice environment? Issues and questions regarding the added and/or amended behaviours were discussed, clarified and amended (where applicable) by the researcher and the panel members, modifying the coding instrument as necessary.

Step 4: Interobserver Reliability

Interobserver agreement occurs when one observer's records of an event are compared with a second who is trained and competent in using the instrument (Cushion & Jones, 2001). Siedentop (1976) has set an acceptable level of interobserver agreement at 85%. Therefore, having achieved satisfaction with the instrument's categories in the previous stage of the validity process, video-recorded examples of each category were then carefully selected and displayed to a new panel for classification.

This new panel comprised of 8 post-graduate research students (5 male/3 female; with no prior experience of systematic observation instruments), each of whom had no previous involvement in the instrument development or validation process. Participants were provided with a reference section (Instrument Validation Help Notes; see Appendix C) that provided the definitions of each of the behaviours in a format that had been designed
to make distinguishing between behaviours as simple as possible. For instance, behaviours on the first page of the reference were put in a tabular format to illustrate the behaviours that occurred 'pre-', 'during', and 'post' play, while columns clearly divided instructional, feedback, general praise/scold, and correctional behaviours. Participants were informed that behaviours on the second page could occur at any stage within a coaching session. However, these too were sectioned in columns (where possible) to help make them distinct from other behaviours (e.g. columns included 'demonstration', 'social behaviour', 'questioning', and 'humour'). Following an education period to help familiarise participants with the behavioural categories, the participants were individually shown video footage of 50 (two examples of each categorised behaviour, minus the 'Uncodable' category) coaching episodes, in which a coaching behaviour had been identified by the researcher. These video clips had been randomly compiled and were presented on a 24 inch colour television to each participant. Each participant viewed the selection of behaviours and was asked to simply categorise the behaviour they had just seen, choosing one of the coding options available from the observation instrument (participants were allowed to refer to the reference section to assist their decision).

Following 3 reliability checks with participants, it was apparent that Siedentop's (1976) criterion for interobserver agreement (agreement exceeding 85%) was not being reached, as each of the panel members attained agreement levels much lower than the desired figure. After the reliability tests had been completed, the researcher went through each of the clips with the participants to inform them as to whether agreement/disagreement had occurred. Particular interest was paid to the specific clips in which disagreement had occurred. Speaking with each of the participants during this process, the researcher enquired about aspects of the reliability test that they had found difficult. The consensus with all three of the participants was that they, in retrospect, could clearly identify the behaviours the researcher had coded in each clip, but had been confused by other behaviours within the same clip. Due to the speed with which some of the behaviours occur, it is almost impossible to identify video clips that portray isolated, discrete behaviours. Hence, many of the clips include several different coaching behaviours that could be categorised. More, McGarry, Partridge and Franks (1996) reported on how they
attributed the problems they encountered in reaching inter-rater reliability criterion on certain dimensions within their systematic observation instrument (the Coach Analysis Instrument, 1988) to the ability of the observers to accurately observe and detect coaching behaviours.

Considering this issue, it was deemed necessary to alter the interobserver reliability checks to ensure that participants were providing their opinion on the specific behaviour the researcher intended them to categorise in each clip. In doing so, the researcher was concerned with maintaining the participants' objectivity, and being careful not to influence the participants' decisions. However, the researcher felt that by adapting the interobserver reliability test to include some explicit directing to the particular behaviour in question for each clip, no reliability issues would be compromised. For instance, if a clip was included that had been categorised by the researcher to be showing an example of a 'positive demonstration', but in which the coach could also be heard to be saying "stop messing about...stand on the line and watch this..." before demonstrating the action, it would be easy for a coder to suggest that a 'Scold (general)' (i.e. "stop messing about") and/or a 'Management' (i.e. "stand on the line and watch this") behaviour had occurred. However, the researcher felt it would not be damaging to the reliability test to indicate to the participants, in this instance, that the behaviour of concern within this clip was a physical one; there are still several physical behaviours that the clip could possibly be illustrating (i.e. physical gestures that convey pleasure or displeasure with the players' performance or social behaviours, or a positive or negative demonstration). Hence, the participant must then decide which physical behaviour they feel the coach is performing. Similarly, if players were practising a drill during which time the coach is commenting on performance, and then play suddenly stops, before the coach says, "good play, well done", the researcher felt it was appropriate to tell the participants that the particular behaviour requiring their attention within this clip occurred after play had stopped (i.e. not to pay attention to what the coach had been saying while play was ongoing). The participants would then have to decide whether the verbal behaviour in the clip was one of the 5 'post' play behaviours outlined on their the first page of their reference section, or one of the other behaviours that can occur at any stage of play (on the second page).
Following these changes to the interobserver reliability test procedure, testing resumed with 3 new participants added to the panel. Once more, each of the participants were post-graduate researchers with no exposure to any of this research. Each of the 8 participants achieved agreement levels equal to, or more than the 85% agreement standard (Siedentop, 1976). Therefore, no modifications to the EYFCOI were deemed necessary at this stage of the validation process.

Step 5: Establishing Intraobserver Reliability
Achieving intra-observer agreement requires an observer to observe the same events twice at different points in time (van der Mars, 1989). Thus, the researcher initially video-recorded a coaching session and subsequently coded the behaviours from this session. Following this, a 14-day period was allowed to elapse (so as to avoid memory influencing the scored data; Darst et al., 1989) before the researcher rescored the same session. The same criterion percentage (85%; Siedentop, 1976) applied to intra-observer agreement. The data sets were compared for mean retest reliability coefficients between the behavioural records of the same coaching session. This level of agreement was satisfactorily exceeded, demonstrating that both the instrument and the observer were reliable in data recording. To maintain intra-observer reliability, the researcher will repeat this process throughout the data analysis process so as to ensure a consistency of data coding.
DISCUSSION

This chapter has detailed the process of contextually validating a systematic observation instrument for use within the environment of elite youth football coaching. The final result is an observational tool that includes 26 categories (the Elite Youth Football Coaches' Observation Instrument, EYFCOI). Twelve of these categories were regarded as instructional behaviours (also including coaches' use of specific feedback), eight of the behaviours related to the provision of feedback, five were associated with coaches' management of players, while coaches' use of hustle, humour, and observation were regarded as isolated behaviours.

The 5 step process undertaken (Brewer & Jones, 2002) has ensured that the developed instrument has received a rigorous testing protocol. Subsequently, the EYFCOI has been found to have content and face validity, indicating that the tool can be confidently used to identify the practice behaviours of elite youth football coaches. Indeed, with the support of coaches from within the specific context of study, the research instrument now provides a means by which the practice behaviours of elite youth football coaches can be comprehensively recorded, covering an array of behaviours that were deemed to be authentic by experienced practitioners. However, it is important to emphasise that, whilst detailed systematic observation instruments (like the EYFCOI) provide a pre-defined framework that can be used to meticulously code a given context, the rigid nature of this type of research prevents the study of more intricate, subtle aspects ongoing within every practice setting (e.g. individual coach-athlete interactions, the coach's tone of voice). Thus, whilst the strengths of the EYFCOI as a systematic observation instrument have been detailed within this chapter, it is necessary to acknowledge that this mode of investigation is not without weakness.

The level of detail applied to the classification of behaviours within the EYFCOI necessitates that applied use of the instrument will require an appropriate level of training. The instrument might be regarded as being complex due to the number of behavioural categories; however, due to the time-based dimensions apparent within the
instrument, coupled with the emphasis on coaches' informational/general communications, it is anticipated that anyone training to use the tool will soon find the EYFCOI relatively easy to operate. Furthermore, it is believed that the EYFCOI can be used by researchers from various backgrounds. The precise nature of the behavioural categories lends itself well to researchers seeking to accurately understand the practice behaviours of elite youth coaches, whatever the researcher's motivation. Thus, it is felt that those interested in investigating coaching practice from a social, psychological, or skill acquisition perspective, for instance, will find the EYFCOI to be of use.

From the author's point of view, however, it is intended that the instrument will be used to generate detailed knowledge on the practice behaviours of elite level youth football coaches. More specifically, coaches' use of instruction and feedback is of primary significance, as a comparison of the practice behaviours of elite youth coaches' working with players of different age groups will be made in the next chapter.
CHAPTER 4

Study 1b: Systematic Observation of Elite Youth Football Coaches’ Behaviours: Over Time and Between Age Groups

STRUCTURE OF THE CHAPTER

This chapter will comprise a review of literature that is relevant to the study to be undertaken, followed by the research rationale and aims for the study. An overview of the research methods utilised in systematically observing coaches’ practice behaviours will then be presented, with the results and discussion to follow. Finally, some methodological considerations are offered.

LITERATURE REVIEW

This section will draw on the main body of literature reviewed within Chapter 2 in providing a condensed summary of the research literature most relevant to the present study. Thus, as a systematic observation of coaches’ practice behaviours will conducted within this chapter, the systematic observation research that has sought to consider similar objectives to those held within this investigation will be included. Furthermore, the literature within Chapter 2 that focuses on athletes’ perceptions of coaches’ behaviours will also be included within this chapter’s initial review of literature.

Coach Behaviours Observed Over Time and Between Age Groups

Systematic observation studies have been implemented for a variety of purposes. Two such reasons have been to investigate the stability of coaches’ behaviours, and to record
how coaches' behaviours function according to the recipient athletes' age. A brief review of the research to have considered these themes is presented below.

The findings from research that has assessed the stability of coaches' behaviours over time have varied somewhat. For instance, whilst Lacy and Darst (1985) observed coaches' use of instruction, positive modelling, and praise and scold to have significantly decreased between pre- and early-season, and to remain significantly lower between pre- and late-season, no other studies (i.e. Lacy & Goldston, 1990; Miller, 1992; Segrave & Ciancio, 1990) have found such significant findings. However, whilst not statistically significant, Segrave and Ciancio's findings do share some commonalities with those realised by Lacy and Darst in that the coach they investigated provided less instruction and positive modelling as the season progressed. Indeed, to a certain extent, it can be argued that a finding from Miller's research was consistent with these declining instruction findings. That is, like Segrave and Ciancio had also observed, coaches' use of questioning declined over the course of the season. Thus, considered collectively, it could be concluded that coaches' instructional provision might be expected to decrease over the duration of a season. In evaluating this finding within their study, Lacy and Darst argued that a more intensive teaching style was prevalent in the early stages of the season that was found to be withdrawn as the season progressed. However, the apparent consistency of coaching behaviours recorded within Lacy and Goldston's study of male and female basketball coaches suggests that this might not always be so.

Investigations of coaches' behaviours across age groups are rare, with only Miller (1992) and Duda and Chaumeton (1988) having systematically researched this theme. Despite indicating an expectation to identify a behavioural discrepancy in coaches' use of management behaviours, Miller found no significant differences in coaches' behaviours. However, slightly more management behaviours were observed by the coaches of the younger age group within this study, partially reinforcing Miller's original prediction. Furthermore, it was also found that coaches of the older age group provided more post-instruction, positive modelling, and more scold behaviours than coaches of younger athletes. Again, though, it is important to stress that these findings were purely descriptive. However, Duda and Chaumeton (1988) identified significant differences
between the coaches of elementary, junior high, and senior high school coaches. These findings noted differences between the increased emphasis placed on performance outcomes by coaches of junior and high school coaches that was not apparent with the coaches of the youngest athletes.

Impact of Coaches' Behaviours on Players' Perceptions

Whilst research has been conducted to investigate differences between athletes' preferences for coaching behaviours across age groups, no such research has considered how athletes' perceptions of coaching behaviours varies between different age ranges. Thus, no data can be presented on this issue. Rather, this section will highlight research that has established the impact of coaches' behaviours on athletes' perceptions of intrinsic motivation and enjoyment and effort.

Essentially, the research has found athletes to react favourably to coaches' frequent provision of instruction, informational feedback, and a democratic style of decision-making. For instance, Black and Weiss (1992) found that athletes who perceived their coaches to have given them high frequencies of information after successful performances and high frequencies of encouragement and information after unsuccessful performances exhibited higher scores on measures of perceived competence, perceived success, and intrinsic motivation than did athletes who felt their coaches gave lower frequencies of positive and information-based feedback. Amorose and Horn (2000, 2001) also identified that athletes' who perceived their coaches to be low in autocratic behaviours, and who provided higher frequencies of positive and information-based feedback, to score higher on intrinsic motivation than did players who perceived their coaches to demonstrate the opposite feedback patterns.

Price and Weiss (2000) revealed that athletes' enjoyed and felt more competent at their sport when coached by leaders whom they perceived to have used a more democratic decision-making style, and more frequent training and instruction, positive feedback, and social support. This aspect regarding coaches' specific feedback provision has also been
alluded to within studies of motor learning. That is, motivational feedback that is informational, whilst also enhancing athletes’ effort and persistence to achieve, is suggested to encourage learners to replicate aspects of performance that are correct, or strive to improve any inadequate aspects of performance (Schmidt, 1988). Indeed, informing individuals about their learning progress has further been suggested to translates into the exertion of greater effort during practice, with athletes who give greater effort during practice generally, in time, experience better learning (Schmidt & Wrisberg, 2000).

RESEARCH RATIONALE AND RESEARCH AIMS

This study, as the first within this programme of research into coaching within English professional Football Clubs’ Academies/Centres of Excellence, is intent on gaining an insight into the current practice behaviours exhibited by coaches. Furthermore, this interest is concerned with identifying current practice across the age ranges these developmental centres cater for, and the players’ perceptions of their coaches’ behaviours. This desire to investigate this area is also based on a lack of current knowledge within this setting. Whilst Cushion and Jones (2001), Potrac et al. (2002), and Smith and Cushion (2006) have established initial data within elite-level English football – studying the in-game (Smith & Cushion, 2005) and in-practice (Cushion & Jones, 2001) behaviours of elite level youth (of an unspecified age) and senior level coaches (Potrac et al., 2002) – the line of study planned within this chapter will add to this existing knowledge. Specifically, the present research will achieve this by investigating youth coaches working with different age groups, and by monitoring their behaviours over time, whilst also considering the impact of the coaching sessions on their players’ perceptions.
Hence, a study has been planned that will investigate the behaviours of Under 12 (U12), Under 15 (U15), and Under 19 (U19) coaches over time, along with players' perceptions of these behaviours.

The research aims are:

(i) To identify the practice behaviours exhibited by elite youth football coaches

(ii) To discover how these practice behaviours vary as a function of player age

(iii) To investigate the stability of coaches’ practice behaviours over time

(iv) To gain an understanding of the players’ perceptions of enjoyment, effort, pressure, and learning during practice sessions

(v) To provide a basis from which further study into elite youth sport coaching could stem

METHOD

Participants

The participants for this study were fifteen male professional youth football coaches, and an unspecified number of elite youth football players. Each of the coaches worked at either an FA Academy \( (N = 9) \) or a Centre of Excellence \( (N = 6) \) with either the Under 12 \( (N = 5) \), Under 15 \( (N = 5) \), or Under 19 \( (N = 5) \) age group. The mean age of the coaches was 40.2 years (S.D. = 5.71). Due to the repeated data collection procedures involved in this study – and the lack of guarantees regarding each player’s attendance at each session
- it was decided that simply the players in attendance at each coaching session would complete the *Perceptions of Coaching Session Questionnaire*. These data would give an indication of the perceptions of those in attendance at each individual session, but prevent repeated measures analysis of individual players across time.

**Issues with collecting players' data:** Discussions with the coaches prior to the collection of data revealed that the coaches thought it was unlikely to have consistent attendances from the same players within each of the observed sessions. This concern was expressed most strongly by the Under 19 coaches, who indicated that it was common for their players to be called to train with the first team squad, therefore forbidding them from training with the Under 19 group. The coaches indicated that this instruction to train with another squad would often occur immediately prior to the Under 19 coaches' planned session time, and sometimes even during the session. Furthermore, the Under 19 coaches stressed that it was possible that some of their players might be involved in reserve team fixtures the night before observed sessions. This too would result in the non-participation of players within the observed sessions. Another concern expressed by the coaches (the Under 12 and Under 15 coaches, in particular) was the potential for their players to be 'pushed up' an age group during the course of the data collection period. The coaches claimed it was common for players to move up and down age groups according to coaches' beliefs on what is best for the players' development. Again, this issue could prove a hindrance to collecting repeated data from the players across the four observed sessions in which each group was to participate.

**Instrumentation**

*Elite Youth Football Coaches Observation Instrument (EYFCOI)*

The instrument used to collect the behavioural data was the Elite Youth Football Coaches Observation Instrument (EYFCOI), a modified tool from the Arizona State University Observation Instrument (ASUOI) (Lacy & Darst, 1984). The EYFCOI has 26 specifically defined behavioural categories (see Table 3.1).
Perceptions of Coaching Session Questionnaire

The Intrinsic Motivation Inventory (IMI) was originally developed by Ryan, Mims, and Koestner (1983) to assess the overall level of intrinsic motivation experienced by an individual engaged in an achievement oriented task. For this study, a sport-oriented version of the IMI (McAuley, Duncan, & Tammen, 1989) was used. The sport version of the IMI includes four subscales which measure various underlying dimensions or indices of intrinsic motivation including: (a) interest-enjoyment, (b) perceived competence, (c) effort-importance, and (d) tension-pressure. For this study, however, it was decided that only three of the subscales from the IMI (interest-enjoyment, effort-importance, and tension-pressure) would be utilised. The perceived competence subscale was omitted to allow for the inclusion of an additional subscale that was created by the researcher. The researcher felt it was important to keep the questionnaire brief, due to the age and attentional capacities of some of the youngest participants (i.e. 10/11 year olds). A 'perceived learning' subscale was devised. This added subscale sought the participants' perceptions of their 'learning' from the coaching session in which they had just participated. The subscale was validated by a panel of experienced researchers, who met to discuss the feasibility of including items within the questionnaire that focused specifically on 'learning'. The panel included three researchers with prior experience in the validation of questionnaires, in addition to two PhD students. Acknowledging that the intention of the study was not to make conclusive statements regarding players' in-practice learning, it was agreed that the 'perceived learning' items should present generic statements relating to sports learning. Thus, the panel discussed and agreed upon the 8 items that were subsequently included. The revised questionnaire had a total of 25 statements that participants were asked to respond to (see Appendix D).

All items were scored on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). High scores on the subscales of interest-enjoyment and effort-importance correspond to a high level of intrinsic motivation. Conversely, a low score on the subscale of tension-pressure would indicate a high level of intrinsic motivation. Further, high scores on the learning subscale would indicate a high level of perceived learning. The psychometric properties of the IMI have been reported on by McAuley et
al. (1989) and by Vallerand and Fortier (1998). The factor structure of the IMI was confirmed via the use of linear structural relationships. It was concluded by McAuley et al. (1989) that the IMI measures both specific components of intrinsic motivation as well as reflecting the overall levels of intrinsic motivation one experiences as a result of engaging in a specified activity.

*Enhancing the Systematic Observation Process.* When considering the use of a video-recorder to capture the behaviours of coaches as an alternative to ‘live’ recording, I had to contemplate the potential consequences of such a method. Darst et al. (1989) have discussed the increased chance of subject reactivity to the presence of a video-recorder at the coaching sessions. While researchers have recommended the covert collection of data during systematic observation of coaches (e.g. Smoll et al., 1978), quite often, aside from being unethical, attempts to remain hidden from subjects are just not possible. Therefore, the difference between the impact a video-recording of a coaching session and a ‘live’ coder will have on subject reactivity is questionable. Potential equipment failure was another concern raised by Darst et al. Indeed, there are various elements to the process video-recording of a coaching session that could go wrong, such as a battery dying, or arriving at a session without the necessary video-tape. However, as Darst et al., suggest, this can all be minimised by ensuring that researchers are adequately trained and thoroughly prepared prior to the data collection period.

The advantages to the use of video-recording are many. Kounin (1970) noted the value of using video-recording as a method of data collection:

> We decided to use videotapes. The combination of a lens and videotape recorder meets the criteria of a good observer and recorder. The lens has no biases, theories, preconceptions, needs, or interests. It takes in all that is occurring in its field and makes no distinction between what is boring or interesting, major or minor, important or unimportant, outstanding or ordinary, good or bad. And the videotape records it all without forgetting, exaggerating, theorising, judging, interpreting, or eliminating (p.62).
This record of events can also be reviewed over and over again, a crucial feature of this procedure in allowing opportunities for clarifying uncertainties about the coding of behaviours. Furthermore, with recorded footage of coaching behaviours safe and stored, researchers have the benefit of being able to return to the video-tapes to use the recorded footage for different types of analyses.

An additional aspect to the enhanced quality of data that is collected during this process relates specifically to the coaches' verbal behaviours. In live observations the researcher is often obliged to follow the coaches around to increase the clarity and accuracy of the their hearing of the coaches' verbal behaviours, which can be highly intrusive (Darst et al., 1989). Therefore, a more effective method might be to transmit the verbal communications of the coach directly to the video-camera.

**Video-recording and microphone equipment**

The equipment used to ensure more accurate collection of the verbal data in the study was the Sennheiser Evolution Wireless Series eW 100 (headmic). Each coach wore a 'headmic' during each observation that was connected to a pocket transmitter. The headmic was secured on the coach's head by elastic strapping, with the small microphone piece located in front of the coach's mouth. This pocket transmitter was hooked onto each coach's shorts / tracksuit trousers, for minimal interference. The verbal cues picked up by the headmic were transmitted from the pocket transmitter to a pocket receiver, connected to the video-camera. Thus, each verbal stimulus was transmitted directly to the video-camera.

**Procedure**

**Pilot Study.** To test the proposed data collection process, a 'soccer fun camp' coach (working with an under 12 age group) and a university football team coach (working with players under the age of twenty-one) were both observed for 45 minutes on two occasions (a total of 1.5 hours per coach). The players participating in each of these sessions were
asked to complete the questionnaire that had been designed for use in the actual study (the Intrinsic Motivation Inventory (IMI; McAuley, Duncan, & Tammen, 1989; see Instrumentation). Essentially, this process was conducted to assess the appropriateness of the proposed data collection procedures, and to check the accuracy of the equipment to be used in the collection of data (i.e. the video-recorder, microphone, and the questionnaire). Further, as the researcher had limited experience in using a video-camera, it was felt that the piloting process could be used as a familiarisation period with this equipment.

Following the four observed sessions, the players who completed the questionnaires reported that they had been able to satisfactorily complete the questionnaire, without any language or grammatical concerns. Further, the researcher felt very comfortable with the operating of the video-camera and microphone. The coaches indicated that they had initially felt self-conscious when wearing the microphone, but explained that they soon felt comfortable with the equipment.

The video-tapes of the pilot coaching sessions were analysed using time-sampled event-recording (Rushall, 1977), a method commonly used in the analysis of systematic coach observation (e.g. Cushion & Jones, 2001). Thus, each time an identifiable and pre-defined behaviour from the EYFCOI was observed, including any change in behaviour, a record was made. Any behaviour lasting longer than 5 seconds was recorded again, but marked with a dash (-), indicating it was a continuation of a previous behaviour rather than a new one. This procedure allowed the data to be analysed with regard to specific events (event recording), and time intervals spent in each behaviour category (interval recording). However, the practice of conducting this data recording method proved to be very complex. The researcher discovered during this piloting experience that very few intervals were actually recorded. The prime reason for this, from the researcher's experience, was that the coaches' use of pre-defined behaviours were highly interspersed with one another. For instance, during pre-activity discussions with their players, coaches were often observed to provide pre-instruction (as anticipated). However, the researcher found these pre-instruction moments to often include aspects of management, questioning, and demonstration behaviours, for example. The only behaviour which provided regularly recorded intervals was the observation category. Therefore, the
researcher concluded from the piloting process that, as there were so few occurrences of behavioural intervals, event recording would be the most useful method to employ. Although, to provide data on the coaches' use of observation – not an obviously discrete behaviour – intervals were interval recorded.

*Data Collection (Main Study)*

Each coach was observed on four occasions (i.e. 15 coaches x 4 observations = 60 observed coaching sessions) during typical practice sessions, which took place at the clubs' respective training grounds. Each observation lasted for 35 minutes, with the coaches of each age group being observed for a total of 140 minutes (totalling 2,100 minutes of observed coaching time for the entire study). A stop watch was used for timing.

A trained observer stood close to the practice area to video record the participants' behaviours throughout the observation period. As previously stated, the verbal behaviours of the coaches were also transmitted to the video-camera. The coaches were informed that the researcher was interested in observing all aspects of their coaching performance. Observations took place during 'typical' practice sessions (i.e. no practice matches). In this respect, data collection was undertaken at representative times during the coaching session (i.e. drills, attack versus defence, phases of play). No data were collected during the conditioning segments of the training sessions, nor during the warm-up or cool-down. The researcher specified that the 35 minute observation period would begin immediately after the 'warm-up'. It was felt that beginning the observation at this point would maximise the amount of actual 'coaching' time observed, giving an accurate portrayal of 'typical' coaching behaviours.

The content of all observed practices during the study was decided upon by the coaches themselves. The researcher felt that allowing the coaches to decide upon the content of a practice was an important procedure because it gave each coach input on what was being analysed. It was reasoned that using this approach might lead the coaches to react more
positively to the analysis procedures being used, and any subsequent feedback to be provided.

At the completion of the practice session, all of the players involved in the observed session were immediately led to an indoor room, where they were asked to complete the 25-item Perceptions of Coaching Session Questionnaire. On each occasion, the researcher read out the introductory passage at the beginning of the questionnaire to inform the participants of the need to read each item carefully, to take their time, to be as honest as possible, and to assure participants that their responses would remain completely confidential.

Reliability

Data were collected on the coaches' behaviours by the researcher. Each behaviour category had been carefully defined, and the researcher was thoroughly familiar with the EYFCOI and the data collection procedures. Checks on inter-observer agreement (IOA) had been made during the development of the EYFCOI (see Chapter 3). To satisfy intra-observer agreement and subsequently maintain a consistent standard of behaviour recording during the analysis of data, a video-tape of one of the coaching sessions filmed during the pilot study was coded after every ten sessions. Therefore, the same session was observed and coded at the beginning of the data analysis process, and again coded intermittently during data analysis. Siedentop (1976) defines the criterion for intraobserver agreement as 85%, and is determined by dividing the number of agreements by the total number of incidents, then multiplying by 100%.

<table>
<thead>
<tr>
<th>Occasion when Test was Performed</th>
<th>Level of Agreement (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to Data Analysis</td>
<td>92%</td>
</tr>
<tr>
<td>Following Analysis of Session 10</td>
<td>94%</td>
</tr>
<tr>
<td>Following Analysis of Session 20</td>
<td>96%</td>
</tr>
<tr>
<td>Following Analysis of Session 30</td>
<td>96%</td>
</tr>
<tr>
<td>Following Analysis of Session 40</td>
<td>97%</td>
</tr>
<tr>
<td>Following Analysis of Session 50</td>
<td>96%</td>
</tr>
</tbody>
</table>

Table 4.1: Intra-observer agreement levels recorded throughout the collection of data
Data Analysis

The researcher used event recording techniques to tally the total number of behaviours for each category of the EYFCOI. This process was conducted with the use of the SportsCode Performance Analysis Software, which enabled the researcher to easily view and review the video-recorded footage to ensure accurate coding of each behaviour. Percentages and rates per minute (R.P.M.) were also calculated for each behaviour category. The R.P.M. was calculated by dividing the total for each category by the total number of minutes observed. Percentages were calculated by dividing each independent behaviour category by the total number of independent behaviours.

Various totals were compiled for different aspects of descriptive analysis. These compiled totals include: each individual practice session (i.e. 60 individual sessions), for each coach's four practice sessions combined (i.e. an averaged total for each of the 15 participants), for the clusters of coaches grouped by players' age group (i.e. 3 averaged totals for the respective U12, U15, and U19 age groups), for the entire group of coaches separately totalled across each of the four observation periods (i.e. 4 averaged totals across sessions 1-4), and for the entire group of coaches as a whole (1 averaged total for all of the coaches across all of their sessions).

Analysis of variance was utilised to examine statistical differences between the three age group coaches' observed behaviours, and to analyse the total behaviours over time, ANOVA was also employed to examine age group differences in players' perceptions of enjoyment/interest, effort/importance and learning. Significant findings were only observed in relation to players' perceptions. Reasons for the non-significant findings with respect to coach behaviours will be elaborated upon within the Discussion section. Due to the lack of significant differences in coach behaviours over time or between age groups, the analyses presented within the next section are based on the descriptive data.
RESULTS

Results will be discussed in relation to the stability of the coaches' behaviours and players' perceptions over time, while the findings on the between-age group analysis for coaches' behaviours and players' perceptions will also be presented. An introductory section will firstly provide a descriptive overview of the total observed coaching behaviours. However, it is important to note at this stage that the majority of the results exhibited in this section are descriptive findings. Indeed, the only statistical findings presented relate to the questionnaire responses compared according to players' age group. Thus, the analytic statements made in reference to all other data are not inferring statistical significance, merely depicting observations from the descriptive results.

Coach Behaviours: Total Sample Group

The results indicated that in 2,100 minutes of observation 32,261 discrete behaviours were recorded during observations of the 15 coaches. The frequency, rate per minute (R.P.M.), and percentage (of total observed behaviours) for each behaviour category for the combined group of coaches is shown in table 4.2.

The largest single category recorded was management, accounting for 23.51% of the total behavioural frequencies recorded. Thus, almost one in four of the behaviours initiated by coaches were a form of management behaviour, involving some type of organisational function. The R.P.M. data indicate that management-related behaviours occurred approximately 3-4 times per minute for the entire sample group.

The next most frequently observed behaviour was concurrent instruction (17.78%), which, on average, was provided almost 3 times every minute by the group. When instruction is formed into a single category, however, by combining the components contained within the EYFCOI that relate to the instructional process (i.e. pre-instruction,
concurrent instruction, post-play correction, technical/tactical explanation, open and closed questioning, and concurrent and post-play positive and negative feedback), instruction then becomes the largest overall recorded behaviour with 47.71%. This equates to more than 7 informational instances in an average minute. Thus, instruction was provided more than any other behaviour, with the instructional process accounting for almost one half of the total frequency of behaviours observed.

Following concurrent instruction, pre-instruction (9.93%) was the next most frequently observed behaviour, with approximately three instances of pre-instruction recorded every two minutes. Concurrent praise (9.84%) was supplied to the players at a very similar rate, indicating that the coaches frequently provided general forms of encouragement. Moments of observation – recorded when 5-second intervals elapsed without any other coach activity – were the next most frequently recorded behaviour (8.83%), occurring approximately four times in every 3 minute period.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Frequency</th>
<th>Percentage (%)</th>
<th>R.P.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Instruction</td>
<td>3203</td>
<td>9.93</td>
<td>1.53</td>
</tr>
<tr>
<td>Concurrent Instruction</td>
<td>5731</td>
<td>17.78</td>
<td>2.73</td>
</tr>
<tr>
<td>Post-play Correction</td>
<td>1837</td>
<td>5.69</td>
<td>0.87</td>
</tr>
<tr>
<td>Positive Demonstration</td>
<td>788</td>
<td>2.44</td>
<td>0.38</td>
</tr>
<tr>
<td>Negative Demonstration</td>
<td>170</td>
<td>0.53</td>
<td>0.08</td>
</tr>
<tr>
<td>Concurrent Positive Feedback</td>
<td>970</td>
<td>3</td>
<td>0.46</td>
</tr>
<tr>
<td>Concurrent Negative Feedback</td>
<td>342</td>
<td>1.06</td>
<td>0.16</td>
</tr>
<tr>
<td>Concurrent Praise</td>
<td>3176</td>
<td>9.84</td>
<td>1.51</td>
</tr>
<tr>
<td>Concurrent Scold</td>
<td>120</td>
<td>0.37</td>
<td>0.06</td>
</tr>
<tr>
<td>Post-play Positive Feedback</td>
<td>590</td>
<td>1.83</td>
<td>0.28</td>
</tr>
<tr>
<td>Post-play Negative Feedback</td>
<td>687</td>
<td>2.13</td>
<td>0.33</td>
</tr>
<tr>
<td>Praise at Skill Attempt</td>
<td>883</td>
<td>2.74</td>
<td>0.42</td>
</tr>
<tr>
<td>Scold (Skill)</td>
<td>132</td>
<td>0.41</td>
<td>0.06</td>
</tr>
<tr>
<td>Praise (General)</td>
<td>52</td>
<td>0.16</td>
<td>0.02</td>
</tr>
<tr>
<td>Scold (General)</td>
<td>55</td>
<td>0.17</td>
<td>0.03</td>
</tr>
<tr>
<td>Procedural Questioning</td>
<td>824</td>
<td>2.55</td>
<td>0.39</td>
</tr>
<tr>
<td>Open Questioning</td>
<td>565</td>
<td>1.75</td>
<td>0.27</td>
</tr>
<tr>
<td>Closed Questioning</td>
<td>277</td>
<td>0.86</td>
<td>0.13</td>
</tr>
<tr>
<td>Humour 'At' Players</td>
<td>124</td>
<td>0.38</td>
<td>0.06</td>
</tr>
<tr>
<td>Humour 'With' Players</td>
<td>213</td>
<td>0.66</td>
<td>0.1</td>
</tr>
<tr>
<td>Hustle</td>
<td>459</td>
<td>1.42</td>
<td>0.22</td>
</tr>
<tr>
<td>Confer with Staff</td>
<td>335</td>
<td>1.04</td>
<td>0.16</td>
</tr>
<tr>
<td>Management</td>
<td>7584</td>
<td>23.51</td>
<td>3.61</td>
</tr>
<tr>
<td>Technical/Tactical Explanation</td>
<td>236</td>
<td>0.73</td>
<td>0.11</td>
</tr>
<tr>
<td>Observation</td>
<td>2848</td>
<td>8.83</td>
<td>1.36</td>
</tr>
<tr>
<td>Un-codable</td>
<td>60</td>
<td>0.19</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>32261</strong></td>
<td><strong>99.98</strong></td>
<td><strong>15.36</strong></td>
</tr>
</tbody>
</table>

Table 4.2: Total Frequency, R.P.M., and Percentage of Behaviours for all Coaches
Further details on the grouped instructional behaviours are detailed below. In addition, groups have been formed to reflect the behaviours of feedback and management. Total feedback is made up of the eight concurrent/post-play, positive/negative, and general/specific categories included within the EYFCOI. Group management contains the categories of management, confer with staff, procedural questioning, and praise (general) and scold (general). The data on each of the grouped behaviours are summarised below, and also in table 4.3.

*Total Instruction*

The coaches provided concurrent instruction much more frequently to players (2.73 R.P.M.) than instruction supplied prior to the onset of performance (1.53 R.P.M.), whilst corrective information supplied after play had stopped was observed even less frequently (0.87 R.P.M.). The coaching group initiated almost five times more positive (0.38 R.P.M.) demonstrations than negative (0.08 R.P.M.). The coaches' use of questioning revealed that open questions (0.27 R.P.M.) were used more than twice as frequently as closed questions (0.13 R.P.M.).

*Total Feedback*

The praise to scold ratio for the total group of coaches was approximately 4.5 to 1. Therefore, the coaches observed during this study were positively reinforcing behaviours much more often than they were criticising. Considering the informational content of the feedback, it is apparent that coaches provided more general (2.05 R.P.M.) than specific (1.24 R.P.M.) feedback. The feedback was supplied to players more than twice as often during performance (2.19 R.P.M.) than post-performance (1.1 R.P.M.). Analysing the content of the feedback provided during and after performance, it can be seen that more specific positive feedback (0.46 R.P.M.) was provided during play than specific negative feedback (0.16 R.P.M.). Contrastingly, slightly more specific negative feedback was provided post-performance (0.33 R.P.M.) than specific positive feedback (0.28 R.P.M.). Much more general positive feedback was supplied both during and after play (1.51 and 0.42 R.P.M., respectively) than general negative feedback (both 0.06 R.P.M.).
Group Management

The coaches' use of management behaviours has already been noted to have been the single most frequently observed behaviour. This category, though, was also supplemented by other organisational behaviours to account for 27.56% of the total recorded behaviours. The most frequently observed of these was procedural questioning (0.39 R.P.M.), followed by coaches' moments of conferring with other staff (0.26 R.P.M.). The group of coaches very rarely provided general praise or scolding behaviours to their players (0.03 R.P.M. and 0.02 R.P.M., respectively).

<table>
<thead>
<tr>
<th>Total Instruction</th>
<th>Frequency</th>
<th>Percentage (%)</th>
<th>R.P.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction (Pre- &amp; Concurrent)</td>
<td>148.9</td>
<td>27.57</td>
<td>4.26</td>
</tr>
<tr>
<td>Post-play Correction</td>
<td>30.62</td>
<td>5.69</td>
<td>0.87</td>
</tr>
<tr>
<td>Demonstration</td>
<td>15.97</td>
<td>2.99</td>
<td>0.46</td>
</tr>
<tr>
<td>Questioning</td>
<td>14.03</td>
<td>2.65</td>
<td>0.4</td>
</tr>
<tr>
<td>Technical/Tactical Explanation</td>
<td>3.93</td>
<td>0.73</td>
<td>0.12</td>
</tr>
<tr>
<td>Specific Feedback</td>
<td>43.15</td>
<td>8.00</td>
<td>1.24</td>
</tr>
<tr>
<td>Post-play Feedback</td>
<td>38.20</td>
<td>7.12</td>
<td>1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Feedback</th>
<th>Frequency</th>
<th>Percentage (%)</th>
<th>R.P.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Feedback</td>
<td>93.68</td>
<td>17.40</td>
<td>2.68</td>
</tr>
<tr>
<td>Negative Feedback</td>
<td>21.35</td>
<td>3.96</td>
<td>0.61</td>
</tr>
<tr>
<td>Specific Feedback</td>
<td>43.15</td>
<td>8.00</td>
<td>1.24</td>
</tr>
<tr>
<td>General Feedback</td>
<td>71.88</td>
<td>13.36</td>
<td>2.05</td>
</tr>
<tr>
<td>Concurrent Feedback</td>
<td>76.83</td>
<td>14.24</td>
<td>2.19</td>
</tr>
<tr>
<td>Post-play Feedback</td>
<td>38.20</td>
<td>7.12</td>
<td>1.1</td>
</tr>
<tr>
<td>Group Management</td>
<td>147.50</td>
<td>27.56</td>
<td>4.21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Praise (General)</th>
<th>Frequency</th>
<th>Percentage (%)</th>
<th>R.P.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scold (General)</td>
<td>0.92</td>
<td>0.17</td>
<td>0.02</td>
</tr>
<tr>
<td>Procedural Questioning</td>
<td>13.73</td>
<td>2.59</td>
<td>0.39</td>
</tr>
<tr>
<td>Confer with Staff</td>
<td>5.58</td>
<td>1.04</td>
<td>0.16</td>
</tr>
<tr>
<td>Management</td>
<td>126.40</td>
<td>23.60</td>
<td>3.61</td>
</tr>
</tbody>
</table>

Table 4.3: Combined Frequency, Percentage, and R.P.M. Averages for the Grouped Behaviour Categories, and their Component Behaviours.

Coach Behaviours Observed Over Time

The behaviours exhibited by the coaches as a total group were again combined for this analysis. However, the focus of this aspect of the investigation was to identify the relative stability of the coaches’ demonstrated practice behaviours over time. The frequency, rate per minute (R.P.M.), and percentage (of total observed behaviours) for each behaviour
category for the combined group of coaches over the four periods of observation are shown in Table 4.4.

Table 4.4 examines the average frequencies, percentages, and rates per minute (R.P.M.) for the collective group of coaches' use of behaviours across the four observation points. Therefore, the data in the table can be used to make a comparison of the rate at which each individual behaviour was demonstrated by the collective group during each of the four observation periods. To assess the general stability of the behaviours, the behaviours were grouped together according to the clusters presented in table 4.3 to provide averaged findings for the use of total instruction, total feedback, and group management. These collated data on the coaching group's behaviours indicates that the coaches' demonstrated relatively stable behaviours over the mid-late season period. This consistency is clearly illustrated within figure 4.1, below.
<table>
<thead>
<tr>
<th>Observation Session</th>
<th>Average Frequency</th>
<th>Percentage (%)</th>
<th>R.P.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Pre-Instruction</td>
<td>55.67</td>
<td>49.4</td>
<td>59.00</td>
</tr>
<tr>
<td>Concurrent Instruction</td>
<td>91.86</td>
<td>107.33</td>
<td>83.8</td>
</tr>
<tr>
<td>Post-play Correction</td>
<td>33.73</td>
<td>28.47</td>
<td>33.73</td>
</tr>
<tr>
<td>Positive Demonstration</td>
<td>17.47</td>
<td>13</td>
<td>11.40</td>
</tr>
<tr>
<td>Negative Demonstration</td>
<td>2.93</td>
<td>3.8</td>
<td>1.67</td>
</tr>
<tr>
<td>Concurrent Negative Feedback</td>
<td>5.93</td>
<td>5.8</td>
<td>5.73</td>
</tr>
<tr>
<td>Concurrent Praise</td>
<td>55.07</td>
<td>64</td>
<td>39.47</td>
</tr>
<tr>
<td>Concurrent Scold</td>
<td>2.0</td>
<td>1.73</td>
<td>1.40</td>
</tr>
<tr>
<td>Post-play Positive Feedback</td>
<td>9.4</td>
<td>9.13</td>
<td>10.93</td>
</tr>
<tr>
<td>Post-play Negative Feedback</td>
<td>13.07</td>
<td>10.13</td>
<td>10.67</td>
</tr>
<tr>
<td>Praise at Skill Attempt</td>
<td>11.4</td>
<td>13.73</td>
<td>19.13</td>
</tr>
<tr>
<td>Scold (Skill)</td>
<td>1.60</td>
<td>2.67</td>
<td>3.33</td>
</tr>
<tr>
<td>Praise (General)</td>
<td>1.13</td>
<td>1.07</td>
<td>0.60</td>
</tr>
<tr>
<td>Scold (General)</td>
<td>0.93</td>
<td>0.53</td>
<td>1.00</td>
</tr>
<tr>
<td>Procedural Questioning</td>
<td>15.33</td>
<td>12.8</td>
<td>13.87</td>
</tr>
<tr>
<td>Open Questioning</td>
<td>10.53</td>
<td>8.8</td>
<td>8.07</td>
</tr>
<tr>
<td>Closed Questioning</td>
<td>4.13</td>
<td>5.53</td>
<td>3.47</td>
</tr>
<tr>
<td>Humour 'At' Players</td>
<td>2.8</td>
<td>1.2</td>
<td>2.27</td>
</tr>
<tr>
<td>Humour 'With' Players</td>
<td>4.8</td>
<td>3.2</td>
<td>2.67</td>
</tr>
<tr>
<td>Hustle</td>
<td>7.87</td>
<td>8.53</td>
<td>7.07</td>
</tr>
<tr>
<td>Confer with Staff</td>
<td>5.33</td>
<td>5.53</td>
<td>5.27</td>
</tr>
<tr>
<td>Management</td>
<td>125.2</td>
<td>127.53</td>
<td>133.33</td>
</tr>
<tr>
<td>Technical/Tactical Explanation</td>
<td>3.47</td>
<td>4.93</td>
<td>3.07</td>
</tr>
<tr>
<td>Observation</td>
<td>44</td>
<td>47.8</td>
<td>50.73</td>
</tr>
<tr>
<td>Uncodable</td>
<td>1.33</td>
<td>1.4</td>
<td>0.93</td>
</tr>
</tbody>
</table>

| TOTAL                           | 541.47 | 557.73| 526.8 | 524.73| 100  | 100  | 100  | 100  |

Table 4.4: Total Frequency, R.P.M., and Percentage of Behaviours for all Coaches Over the Four Observation Points
The players’ perceptions were assessed over time. The players were grouped together as a collective sample for the purposes of this analysis, as their perceptions of the coaching sessions were monitored over time. Therefore, as a result of the issue described within the methods section, the players’ data present an indication of the perceptions of those players who participated in each of the observed practice sessions, which was not necessarily the same players sampled over four time points. Consequently, the findings reported are descriptive figures and not statistical.

The data reveal that the players’ perceptions of interest, enjoyment, pressure, and learning during the coaching sessions in which they participated were quite stable.
throughout the mid-late season phase when data was collected. The steadiness observed in the players' perceptions is shown in figure 2.

<table>
<thead>
<tr>
<th></th>
<th>Time Point 1</th>
<th>Time Point 2</th>
<th>Time Point 3</th>
<th>Time Point 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean  S.D.</td>
<td>Mean  S.D.</td>
<td>Mean  S.D.</td>
<td>Mean  S.D.</td>
</tr>
<tr>
<td>Interest/Enjoyment</td>
<td>4.79 .78</td>
<td>5.01 .7</td>
<td>4.97 .74</td>
<td>4.89 .66</td>
</tr>
<tr>
<td>Effort/Importance</td>
<td>5.36 .59</td>
<td>5.33 .63</td>
<td>5.23 .59</td>
<td>5.17 .59</td>
</tr>
<tr>
<td>Pressure/Tension</td>
<td>2.61 .81</td>
<td>2.32 .62</td>
<td>2.52 .18</td>
<td>2.53 .39</td>
</tr>
<tr>
<td>Learning</td>
<td>4.46 .82</td>
<td>4.67 .76</td>
<td>4.5 .72</td>
<td>4.42 .73</td>
</tr>
</tbody>
</table>

Table 4.6: Players' Averaged Perceptions Over the Four Data Points

Figure 4.2: Players' Perceptions Over the Four Time Points

Coach Behaviours Observed Across Age Groups

The behaviours exhibited by the coaches were grouped together based on the respective age groups for this analysis. Thus, the focus of this part of the investigation was to identify the coaching behaviours demonstrated by the different age group coaches. To consider the data in this way, the total behavioural observations for each age group were averaged. That is, the behaviours recorded during the four observed sessions for each of the five coaches within the respective age groups were totalled and averaged to present average findings for the three age groups. These results are displayed in table 4.7.
<table>
<thead>
<tr>
<th></th>
<th>Average Frequency</th>
<th>Average Percentage (%)</th>
<th>Average R.P.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U12</td>
<td>U15</td>
<td>U19</td>
</tr>
<tr>
<td>Pre-Instruction</td>
<td>47.05</td>
<td>53.45</td>
<td>59.65</td>
</tr>
<tr>
<td>Concurrent Instruction</td>
<td>79.5</td>
<td>82.2</td>
<td>124.85</td>
</tr>
<tr>
<td>Post-play Correction</td>
<td>23.9</td>
<td>34.8</td>
<td>33.15</td>
</tr>
<tr>
<td>Positive Demonstration</td>
<td>14.1</td>
<td>13.75</td>
<td>11.55</td>
</tr>
<tr>
<td>Negative Demonstration</td>
<td>4.1</td>
<td>2.8</td>
<td>1.6</td>
</tr>
<tr>
<td>Concurrent Positive Feedback</td>
<td>13.9</td>
<td>15.2</td>
<td>19.4</td>
</tr>
<tr>
<td>Concurrent Negative Feedback</td>
<td>3.3</td>
<td>4.4</td>
<td>9.4</td>
</tr>
<tr>
<td>Concurrent Praise</td>
<td>55.85</td>
<td>44.15</td>
<td>58.8</td>
</tr>
<tr>
<td>Concurrent Scold</td>
<td>1.6</td>
<td>1.85</td>
<td>2.55</td>
</tr>
<tr>
<td>Post-play Positive Feedback</td>
<td>8.6</td>
<td>12.15</td>
<td>8.75</td>
</tr>
<tr>
<td>Post-play Negative Feedback</td>
<td>11.05</td>
<td>11.55</td>
<td>11.75</td>
</tr>
<tr>
<td>Praise at Skill Attempt</td>
<td>12.75</td>
<td>16.15</td>
<td>15.25</td>
</tr>
<tr>
<td>Scold (Skill)</td>
<td>3.5</td>
<td>1.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Scold (General)</td>
<td>1</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>Scold (General)</td>
<td>1.55</td>
<td>0.85</td>
<td>0.35</td>
</tr>
<tr>
<td>Procedural Questioning</td>
<td>17.95</td>
<td>15.95</td>
<td>7.3</td>
</tr>
<tr>
<td>Open Questioning</td>
<td>12.25</td>
<td>10.7</td>
<td>5.3</td>
</tr>
<tr>
<td>Closed Questioning</td>
<td>7.7</td>
<td>4.7</td>
<td>1.45</td>
</tr>
<tr>
<td>Humour 'At' Players</td>
<td>2.1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Humour 'With' Players</td>
<td>2.9</td>
<td>3.1</td>
<td>4.65</td>
</tr>
<tr>
<td>Hustle</td>
<td>7.85</td>
<td>5.85</td>
<td>9.25</td>
</tr>
<tr>
<td>Confer with Staff</td>
<td>5.55</td>
<td>5.75</td>
<td>5.45</td>
</tr>
<tr>
<td>Management</td>
<td>137.6</td>
<td>126.15</td>
<td>115.45</td>
</tr>
<tr>
<td>Technical/Tactical Explanation</td>
<td>3</td>
<td>5.1</td>
<td>3.7</td>
</tr>
<tr>
<td>Observation</td>
<td>38.85</td>
<td>52.8</td>
<td>50.75</td>
</tr>
<tr>
<td>Uncodable</td>
<td>0.9</td>
<td>0.9</td>
<td>1.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>518.4</td>
<td>529.1</td>
<td>565.55</td>
</tr>
</tbody>
</table>

Table 4.7: Total Frequency, R.P.M., and Percentage of Behaviours for Coaches Across Age Groups

Management and concurrent instruction were found to be the two most frequently observed behaviours by each of the 3 age groups, with management dominant with the U12 and U15 groups, and concurrent instruction prevalent with the U19 coaches. Pre-instruction, concurrent praise, and observation, were observed as the next most frequently used behaviours by the coaches, but in different orders of frequency for each age group. A combination of the individual instructional behaviours to create one ‘instruction’ category revealed this to be the single–most observed behaviour by each of the age group coaches. However, the U19 coaches demonstrated these behaviours most frequently, with a R.P.M. of 8.31 (51.38% of total observed behaviours). The U15 coaches provided the next highest frequency of instruction, supplying some form of information to their players at a rate of just over seven times per minute (47.39%). The U12 coaches provided instruction least frequently, with a R.P.M. of 6.53 (44.08%). More detailed analyses of the coaches’ use of instruction,
feedback, and management are presented below, providing further insight into the behavioural observations across age groups.

**Total Instruction**

Table 4.8 and figure 4.3 portray a breakdown of the total instructional behaviours recorded across the three age groups. Whilst recognising specific feedback to be a form of instructional behaviour, the data on this behaviour are not considered in the remainder of the evaluation presented in this section, as specific feedback is reviewed in a separate section on 'total feedback'. Thus the U19 coaches demonstrated the most instructional behaviours of the three age groups, providing an average of 6.9 instances of instruction (i.e. pre-/concurrent instruction, post-play correction, positive/negative demonstration, open/closed questioning, or technical/tactical explanation) every minute. The U15 coaches had a R.P.M. of 5.93 for total instruction, with an average of 5.47 instructional moments recorded for the U12 coaches. The U19 coaches, however, provided the least frequency of demonstrative (0.38 R.P.M.) and questioning (0.19 R.P.M.) behaviours, with the U12 coaches supplying the highest frequencies of each of these behaviours (0.52 and 0.57 R.P.M., respectively).
<table>
<thead>
<tr>
<th>Total Instruction</th>
<th>Average Frequency</th>
<th>Average Frequency</th>
<th>Average Frequency</th>
<th>Average Percentage Split (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U12</td>
<td>U15</td>
<td>U19</td>
<td>U12</td>
</tr>
<tr>
<td>Total Instruction</td>
<td>228.45</td>
<td>250.8</td>
<td>290.55</td>
<td>44.08</td>
</tr>
<tr>
<td>Instruction (Pre- &amp; Concurrent)</td>
<td>126.55</td>
<td>135.65</td>
<td>184.5</td>
<td>24.42</td>
</tr>
<tr>
<td>Demonstration</td>
<td>18.2</td>
<td>16.55</td>
<td>13.15</td>
<td>3.51</td>
</tr>
<tr>
<td>Correction</td>
<td>23.9</td>
<td>34.8</td>
<td>33.15</td>
<td>4.61</td>
</tr>
<tr>
<td>Questioning</td>
<td>19.95</td>
<td>15.4</td>
<td>6.75</td>
<td>3.85</td>
</tr>
<tr>
<td>Technical/Tactical Explanation</td>
<td>3</td>
<td>5.1</td>
<td>3.7</td>
<td>0.58</td>
</tr>
<tr>
<td>Specific Feedback</td>
<td>36.85</td>
<td>43.3</td>
<td>49.3</td>
<td>7.11</td>
</tr>
</tbody>
</table>

Table 4.8: Total Frequency, R.P.M., and Percentage of Coaches' Total Instruction Provision Across Age Groups
Further evaluations are made of the component parts of instruction. The sections presented below consider the verbal instruction provided to the three age groups, as well as the use of demonstration and questioning.

**Verbal Instruction.** For the purposes of comparison, the three behaviours in which verbal commands were directed at players have been grouped together under the name of 'verbal instruction'. These behaviours comprise pre- and concurrent instruction, and post-play correction. The U19 coaches were found to provide both the most pre- (1.7 R.P.M.) and concurrent (3.57 R.P.M.) instruction, while post-play correction (0.99 R.P.M.) was observed to be most frequently supplied by the U15 coaches. Concurrent instruction was found to be the type of verbal instruction utilised most often by each of the age groups, accounting for approximately half of the total verbal instruction provided by each coaching age group.
<table>
<thead>
<tr>
<th>Instruction/Correction</th>
<th>Average Frequency</th>
<th>Average Percentage (%)</th>
<th>Average R.P.M.</th>
<th>Average Percentage Split (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U12</td>
<td>U15</td>
<td>U19</td>
<td>U12</td>
</tr>
<tr>
<td>Pre-Instruction</td>
<td>150.45</td>
<td>170.45</td>
<td>217.65</td>
<td>29.03</td>
</tr>
<tr>
<td>Concurrent Instruction</td>
<td>47.05</td>
<td>53.45</td>
<td>59.65</td>
<td>9.08</td>
</tr>
<tr>
<td>Post-play Correction</td>
<td>79.5</td>
<td>82.2</td>
<td>124.85</td>
<td>15.34</td>
</tr>
<tr>
<td></td>
<td>23.9</td>
<td>34.8</td>
<td>33.15</td>
<td>4.61</td>
</tr>
</tbody>
</table>

Table 4.9: Total Frequency, R.P.M., and Percentage of Coaches' Verbal Instruction Usage Across Age Groups.
Use of Verbal Instruction Behaviours Across Age Groups

Figure 4.4: Use of Verbal Instruction Behaviours Across Age Groups

Demonstration. The U12 coaches were observed to provide the highest number of demonstrations from the three groups, providing more positive (0.4 R.P.M.) and negative (0.12 R.P.M.) demonstrations than the other two coaching groups. These data are shown in table 4.10 and figure 4.4. The U15 group, however, provided only slightly less frequent positive demonstrations (0.39 R.P.M.). Looking at the coaches' use of positive and negative demonstrations as a percentage of overall demonstrations provided, it is apparent that the U19 group provided a greater percentage of positive demonstrations than the other groups of coaches (86.84%). The U12 group of coaches provided the highest percentage of negative demonstrations according to these calculations (23.08%).
<table>
<thead>
<tr>
<th></th>
<th>Average Frequency</th>
<th>Average Percentage (%)</th>
<th>Average R.P.M.</th>
<th>Average Percentage Split (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U12</td>
<td>U15</td>
<td>U19</td>
<td>U12</td>
</tr>
<tr>
<td>Demonstration</td>
<td>18.2</td>
<td>16.55</td>
<td>13.15</td>
<td>3.51</td>
</tr>
<tr>
<td>Positive Demonstration</td>
<td>14.1</td>
<td>13.75</td>
<td>11.55</td>
<td>2.72</td>
</tr>
<tr>
<td>Negative Demonstration</td>
<td>4.1</td>
<td>2.8</td>
<td>1.6</td>
<td>0.79</td>
</tr>
</tbody>
</table>

Table 4.10: Total Frequency, R.P.M., and Percentage of Coaches' Total Demonstration Provision Across Age Groups
Learning-focused Questioning. The data in table 4.11 provides a breakdown of the coaches' use of questioning behaviours across age groups. The U12 coaches were observed to ask the most number of open and closed questions from the three age groups. The data indicates that the U12 coaches asked approximately one open question every 3 minutes, whilst the U19 coaches did so every 7 minutes (approximately). The coaches of each of the age groups asked more open than closed questions, with the U19 coaches asking the least number of each type of question from the 3 observed groups. Looking at the percentage splits, it is apparent that, while the U12 coaches asked the most open and closed questions, their frequent use of closed questioning meant that they had the lowest percentage split for open questioning. Conversely, the U19 coaches had the highest.
<table>
<thead>
<tr>
<th></th>
<th>Average Frequency</th>
<th>Average Percentage (%)</th>
<th>Average R.P.M.</th>
<th>Average Percentage Split (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning-focused Questioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U12</td>
<td>19.95</td>
<td>15.4</td>
<td>6.75</td>
<td>3.85</td>
</tr>
<tr>
<td>U15</td>
<td>2.91</td>
<td>1.2</td>
<td>0.57</td>
<td>0.44</td>
</tr>
<tr>
<td>U19</td>
<td>1.2</td>
<td>0.44</td>
<td>0.19</td>
<td>N/A</td>
</tr>
<tr>
<td>Open Questioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U12</td>
<td>12.25</td>
<td>10.7</td>
<td>5.3</td>
<td>2.36</td>
</tr>
<tr>
<td>U15</td>
<td>2.02</td>
<td>0.94</td>
<td>0.35</td>
<td>0.31</td>
</tr>
<tr>
<td>U19</td>
<td>0.94</td>
<td>0.31</td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>Closed Questioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U12</td>
<td>7.7</td>
<td>4.7</td>
<td>1.45</td>
<td>1.49</td>
</tr>
<tr>
<td>U15</td>
<td>0.89</td>
<td>0.26</td>
<td>0.22</td>
<td>0.13</td>
</tr>
<tr>
<td>U19</td>
<td>0.26</td>
<td>0.13</td>
<td>0.04</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Table 4.11: Total Frequency, R.P.M., and Percentage of Coaches' Total Learning-focused Questioning Provision Across Age Groups
Total Feedback

Table 4.12 displays the data for the coaches’ use of feedback behaviours across the three age groups. The U19 age group coaches provided feedback to their players most frequently, at a rate of 3.64 feedback instances per minute. The U12 coaches were the group to demonstrate the next highest frequency of feedback behaviours (3.17 R.P.M.), with the U15 coaches providing the least (3.06 R.P.M.). The content of the coaches’ feedback was analysed according to its positive-negative and general-specific orientations. Furthermore, data representing the coaches’ use of feedback during (concurrent) and after performance (post-play) were calculated.

Looking initially at the coaches’ use of positive and negative feedback, it is apparent that the U19 coaches provide the highest frequencies of both positive (2.92 R.P.M.) and negative (0.72 R.P.M.) feedback. The U12 coaches were the group providing the next highest frequency of positive feedback (2.61 R.P.M.), while the U12 and U15 coaches provided an equal amount of negative feedback (0.56 R.P.M.). However, it is important to note that looking at these figures alone does not truly reflect the nature of the environment created by each of the coaching groups. For instance, while the U19 coaches supplied the most number of encouraging instances in their feedback, this
does not immediately suggest that they were the coaching group that created the most supportive learning environment, as they also provided the most number of critical feedback moments. To further our understanding of each of the environments, it is helpful to calculate the positive and negative feedback instances as a total percentage of feedback provided for each of the age groups. Looking at the results from these calculations in figures 4.6 and 4.7, it is possible to see that the environments created by each of the coaching groups are very similar when considered in this way. Moreover, although the differences between the groups are only very slight, the data reveal that the U19 coaching group – whilst providing the most frequent instances of positive feedback – was the least positive group (80.22%). The U12 coaches delivered the highest percentage of positive feedback instances (82.33%).
<table>
<thead>
<tr>
<th>Feedback</th>
<th>Average Frequency</th>
<th>Average Percentage (%)</th>
<th>Average R.P.M.</th>
<th>Average Percentage Split (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U12</td>
<td>U15</td>
<td>U19</td>
<td>U12</td>
</tr>
<tr>
<td>Positive Feedback</td>
<td>91.2</td>
<td>87.65</td>
<td>102.2</td>
<td>17.57</td>
</tr>
<tr>
<td>Negative Feedback</td>
<td>19.45</td>
<td>19.5</td>
<td>25.1</td>
<td>3.76</td>
</tr>
<tr>
<td>Specific Feedback</td>
<td>36.85</td>
<td>43.3</td>
<td>49.3</td>
<td>7.11</td>
</tr>
<tr>
<td>General Feedback</td>
<td>73.8</td>
<td>63.85</td>
<td>78</td>
<td>14.22</td>
</tr>
<tr>
<td>Concurrent Feedback</td>
<td>74.75</td>
<td>65.6</td>
<td>90.15</td>
<td>14.4</td>
</tr>
<tr>
<td>Post-play Feedback</td>
<td>35.9</td>
<td>41.55</td>
<td>37.15</td>
<td>6.93</td>
</tr>
</tbody>
</table>

Table 4.12: Total Frequency, R.P.M., and Percentage of Coaches' Total Feedback Provision Across Age Groups
The data in Table 4.12, represented in Figures 4.8 and 4.9, indicate that the U12 coaches provided the lowest frequency of specific feedback (1.06 R.P.M.). When the data were converted to convey the percentage breakdown of the coaches' overall general-specific feedback usage, the U12 group was again found to provide the least information-based feedback of the three coaching groups (33.44%). Similar to the positive-negative feedback trend, U19 coaches supplied the most specific feedback instances per minute (1.41 R.P.M.), but did not have the highest percentage (38.74%) of specific feedback when the behaviours were presented as a sum of the total feedback. The U15 coaches provided the highest percentage of specific feedback (40.52%). These findings essentially mean that each of the coaching groups provided more non-specific Negative feedback to their players than feedback that contained an informational element. For the U12 group, these data equate to their coaches having provided approximately two instances of general feedback to every specific feedback moment.
The data presented in table 4.12 and figures 4.10 and 4.11 illustrate that the coaches from each of the three age groups more frequently provided feedback to their players concurrent to performance than when play had come to a stop. The U19 coaches provided the most instances of concurrent feedback (2.57 R.P.M.; 70.6%), with the U12 group providing the next highest frequency (2.14 R.P.M.; 67.51%). While the U15 coaches provided the least overall volume of feedback, this group did supply the most post-play feedback of the three groups (1.19 R.P.M.; 38.89%).
Feedback Profiles. Presented below is a breakdown of the averaged feedback deployment observed for the coaches of each age group. Their feedback usage has been displayed to illustrate the behaviours according to the orientations specified by the EYFCOI (i.e. concurrent/post-play, specific/general, and positive/negative aspects). This section will evaluate the nature of the feedback provision recorded for each of the groups by looking at the data across the three categorised dimensions.

An initial finding from the data displayed within figures 4.12-4.14 is that the coaches’ concurrent feedback usage was essentially positive in nature, as ‘concurrent praise’ and ‘concurrent positive feedback’ were found to be the most frequently observed feedback types recorded simultaneous to performance for each group of coaches. General negative feedback instances (i.e. ‘concurrent scold’) were rarely observed concurrent to players’ activity, although specific negative feedback (i.e. ‘concurrent negative feedback) moments were supplied more often. Indeed, use of this latter behaviour was found to be increasingly used with older players.

The most notable finding from the profiles is that post-play specific feedback was observed to be negative more often than it was positive with both the U12 and U19 groups, while the U15 coaches’ usage was only slightly more positive than negative. Like the feedback observed concurrent to performance, general negative feedback (i.e. ‘post-play scold’) was used relatively infrequently. Furthermore, although on a much smaller scale, general positive feedback (i.e. ‘post-play praise’) was the feedback type observed most often post-play.
Figure 4.12: Feedback Profile: U12 Coaches' Use of Feedback

Figure 4.13: Feedback Profile: U15 Coaches' Use of Feedback

Figure 4.14: Feedback Profile: U19 Coaches' Use of Feedback
Group Management

Table 4.13 illustrates the use of categories from the EYFCOI which, for the purposes of this analysis of results, were regarded as group management behaviours. The combined data indicate that the U12 coaches were most frequently involved in the use of group management behaviours (4.67 R.P.M.), The U15 coaches provided the next highest number of group management moments (4.27 R.P.M.), with the U19 coaches demonstrating the least (3.7 R.P.M.). Within this group of behaviours, the management category was the dominantly observed behaviour for each of the coaching groups, with the coaches' use of procedural questioning the next most frequently recorded behaviour. According to the R.P.M. data, each of the coaches was observed to confer with members staff at an identical rate (0.16 R.P.M.). The coaches' use of general praise and scold behaviours were very rare. The average frequency data for these behaviours indicate that the coaches provided general praise and scold 0-2 times in an average 35 minute session.

<table>
<thead>
<tr>
<th></th>
<th>Average Frequency</th>
<th>Average Percentage (%)</th>
<th>Average R.P.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U12</td>
<td>U15</td>
<td>U19</td>
</tr>
<tr>
<td>Praise (General)</td>
<td>163.65</td>
<td>149.7</td>
<td>129.15</td>
</tr>
<tr>
<td>Scold (General)</td>
<td>1</td>
<td>1.05</td>
<td>0.5</td>
</tr>
<tr>
<td>Procedural Questioning</td>
<td>17.95</td>
<td>15.95</td>
<td>7.3</td>
</tr>
<tr>
<td>Confer with Staff</td>
<td>5.55</td>
<td>5.75</td>
<td>5.45</td>
</tr>
<tr>
<td>Management</td>
<td>137.6</td>
<td>126.15</td>
<td>115.45</td>
</tr>
</tbody>
</table>

Table 4.13: Total Frequency, R.P.M., and Percentage of Coaches' Total Group Management Across Age Groups

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Figure 4.15: Use of Management Behaviours Across Age Groups

Players' Perceptions Across Age Groups

For the purposes of this analysis, questionnaire responses from the participating players within the four observed sessions for each of the five coaches in the respective age groups were averaged. Therefore, the players were grouped together according to their respective age groups, as their perceptions of the coaching sessions were monitored between age groups. Table 4.14 and figures 4.16 portray the players' data on their perceptions of interest/enjoyment, effort/importance, pressure/tension, and learning.

<table>
<thead>
<tr>
<th></th>
<th>Under 12</th>
<th>Under 15</th>
<th>Under 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Interest/Enjoyment</td>
<td>5.6</td>
<td>.23</td>
<td>4.9</td>
</tr>
<tr>
<td>Effort/Importance</td>
<td>5.82</td>
<td>.2</td>
<td>5.24</td>
</tr>
<tr>
<td>Pressure/Tension</td>
<td>2.25</td>
<td>.25</td>
<td>2.73</td>
</tr>
<tr>
<td>Learning</td>
<td>5.08</td>
<td>.36</td>
<td>4.57</td>
</tr>
</tbody>
</table>

Table 4.14: Players’ Averaged Perceptions Across Age Groups

Cronbach's Alpha was calculated for each of the four subscales and all were found to be satisfactory (>0.70), except for pressure/tension (0.51), which was subsequently deleted from further statistical analysis. A significant multivariate effect was found for age (F
(6,264) = 11.575, p<0.001). Univariate and Post Hoc Scheffe tests revealed a consistent pattern of differences with regard to the age groups, with the youngest players reporting significantly higher levels of perceived interest/enjoyment, effort/importance, and learning than the older players (p<0.05).

A significant effect for interest/enjoyment was found between age groups (F 2,12 = 0.000, p<0.05). A post hoc Scheffe test revealed significant differences between the U12 and U15 (p<0.019), U12 and U19 (p<0.000), and U15 and U19 (p<0.028) players' perceptions of interest/enjoyment.

A significant effect for effort/importance was found between age groups (F 2,12 = 0.001, p<0.05). A post hoc Scheffe test revealed a significant difference between the U12 and U19 (p<0.001) players' perceptions of effort.

A significant effect for perceived learning was found between age groups (F 2,12 = 0.005, p<.05). A post hoc Scheffe test revealed a significant difference between U12 and U19 (.005) players' perceptions of learning.

Figure 4.16: Players' Perceptions of Interest/Enjoyment, Effort/Importance, and Learning Across Age Groups
DISCUSSION

A general aim of this study was to establish findings that would provide an insight into elite youth coaching practice, and the behaviours of English elite youth football coaches in particular. The research sought to elaborate on the generic coach behaviour data by revealing how these practice behaviours vary as a function of player age, and to investigate the stability of coaches' practice behaviours over time. A final aim was to gain an understanding of players' perceptions of enjoyment, effort, pressure, and learning during practice sessions.

Considering the findings for the collective group of coaches, it is poignant to draw applicable comparisons with the data generated by Cushion and Jones' (2001) investigation of English youth football coaches. An initial finding of note is the consistency observed across the respective samples' use of instructional behaviours. The present study found total instructional behaviours to occur at a rate of 7.34 instances per minute whilst the corresponding result within Cushion and Jones' study was 7.73. In both investigations the use of instructional behaviours was found to be the dominant behaviour, a finding also revealed by many other studies of youth sport coaches (e.g. Lacy & Goldston, 1990, Miller, 1992, Segrave & Ciancio, 1990). However, as Cushion and Jones indicated in their study, the volume of instruction now observed in two investigations of elite youth English football coaches is greater than has previously been reported in youth sport research. This increased occurrence of instructional behaviours has been suggested to relate to the developmental objectives of coaching within elite level youth football, with a higher level of performance associated with a greater demand for development-oriented information (Cushion & Jones, 2001).

The component behaviours within the grouped instruction category were not identical for Cushion and Jones' (2001) research and the present study. Having modified the ASUOI (Lacy & Darst, 1984) to create the EYFCOI, the present study retained the ASUOI categories of pre-, concurrent, and post-instruction (now post-play correction), and positive and negative modelling (demonstration), eliminated physical assistance, and
developed the category of questioning to incorporate procedural, open, and closed questioning. Furthermore, in identifying instances within practice sessions wherein coaches provide information to their players, additional categories incorporated into the EYFCOI's instructional group of behaviours include technical/tactical explanation and concurrent and post-play positive and negative feedback. Therefore, the present study has made a methodological contribution to the coach behaviour literature by providing further details of methods used by coaches to supply football players with information.

Indeed, considering the delivery of coaches' feedback, regarded by many as a crucial aspect of effective coaching (e.g. Carreira Da Costa & Pieron, 1992; Horn, 1984, 1992; Solomon et al., 1996), it is somewhat surprising that, up until this point, systematic coach behaviour research has failed to discriminate between feedback containing information and feedback of a more motivational orientation (Wittrock, 1978). Having made this distinction in the instrument used to collect data in the present study, it is therefore difficult to make comparisons between the observed feedback behaviours within the present study and those reported in previous research. It appears that feedback behaviours recorded in investigations that have used the ASUOI (Lacy & Darst, 1984) have been categorised as one of three behaviours: post-instruction, praise, or scold. The post-instruction category relates to “correction, re-explanation, or instructional feedback” (Lacy & Darst, 1984; p. 63) and therefore encompasses any specific feedback behaviours. However, as these behaviours are also included within the same category as re-explanation and correctional behaviours, the explicit use of specific feedback cannot be identified. Indeed, this failure to explicitly detail the nature of feedback provision has been most recently apparent within two studies conducted by Cushion and colleagues (Cushion & Jones, 2001; Smith & Cushion, 2006). Whilst making discussion points regarding the participating coaches' feedback usage in each of these studies, no prior indication has been presented within the behavioural data to indicate the coaches' exact use of the behaviour. Praise and scold categories incorporate instances of non-informational positive and negative feedback. However, as this category does not seem to be exclusive to athletes' performance behaviours, it is possible that these categories also include general behaviours that evoke "displeasure" or "acceptance" (Lacy & Darst,
1984; p. 63) from coaches. Thus, it is not possible to make truly accurate comparisons between the present data set and those from previous research.

Notwithstanding these comments, it is still worthwhile to consider the findings from other youth sport studies wherein positive feedback has been categorised as 'praise' (e.g. Cushion & Jones, 2001; Lacy & Darst, 1985; Miller, 1996). The positive feedback levels demonstrated in the present study are greater than those previously reported (17.4% of total behaviours; 2.68 R.P.M). It is interesting to note that the nature of the recorded feedback was more frequently general (2.05 R.P.M) than specific (1.24 R.P.M). Further details of the specific behaviours observed within the present study will be elaborated upon in the subsequent sections of this discussion.

**Coaches' Behaviours and Players' Perceptions Over Time**

The behaviours demonstrated by the group of coaches during their four observed sessions over a four month period in mid-late season did not produce any substantial variations. Therefore, a conclusion from this study is that the participants demonstrated stable coaching behaviours over the mid-late season period. Previous studies have revealed mixed findings when investigating coaches' behaviours over specified periods. While Lacy and Darst (1985) identified a significant decline in high school American football coaches' use of instruction, positive modelling, praise and scold between pre-season and early and late season, other investigations (Lacy & Goldston, 1990; Seagrave & Ciancio, 1990) did not discover any significant behavioural differences. Non-significant behaviour changes however, were observed in a Pop Warner American football coaches' use of instruction, positive modelling, coach interaction, and questioning (Seagrave & Ciancio, 1990), while Miller (1992) also detected a non-significant shift in co-education football coaches' use of questioning and post-instruction. The elite level FA Academy and Centre of Excellence coaches involved in the present study, however, displayed a high level of consistency in each of their behaviours across the total observation period. The only behaviour category to suggest alteration over time was the coaches' use of positive
demonstration. The shift in the coaches' positive demonstrations, however, was moderate and represented just a 0.07 R.P.M and 0.3% decline between sessions 2 and 4.

The findings from previous research that have demonstrated both significant and non-significant behavioural shifts have been observed with sub-elite coaches within amateur settings. The 15 participants observed in the present study were all qualified coaches who had been employed by their respective professional football clubs to contribute to developmental programmes that are focused on producing professional athletes. Thus, a more stable environment might be expected. Furthermore, other researchers have suggested that the observed decrease in coaches' use of instructional behaviours in their respective studies might be attributable to an increased focus on preparation for important end of season games (e.g. Lacy & Darst, 1985; Segrave & Ciancio, 1990). However, such disruptions to the elite youth football coaches' practice behaviours will not have been so relevant in the present study as only the U19 group were involved in a games programme that involved a league system. No public record is made of the U12 and U15 groups' games, as the philosophy of the FA Academies/Centres of Excellence is centred on individual player development, an ethos that is also applicable to the U19 players. Thus, rather than planning practice sessions to help players achieve success in forthcoming fixtures, the U12 and U15 coaches, in particular, will have devised their coaching sessions in accordance with their respective Clubs' player-development syllabus. Hence, coaching behaviours are more likely to remain consistent.

This observed behavioural stability in practice sessions is also mirrored by the players' questionnaire responses from the same observation period, as the findings from the players' data were also found to be steady over the four observation points. Relatively low levels of pressure/tension were perceived, while the players seemed to exert high levels of effort, while also enjoying the coaching sessions. A trend from the data suggests that the players levels of effort/importance appear to decrease as the end of the season approached. Whilst this reduction is only slight, it is feasible to consider that players' levels of exertion might drop off as the end of another 9/10 month season approached.
This investigation initially sought to track individual players’ perceptions of the coaching sessions over the four recorded time points. The attainment of such data would have enabled repeated measures analysis of players’ perceptions over time. However, referring back to the issues mentioned in the methodology section, it was not possible to gather such data on a consistent basis. Thus, the displayed data represent the combined questionnaire responses from those players participating in each observed practice. A recommendation for future research, if the listed limitations can be overcome, is to monitor individual players across repeated measures.

**Coaches’ Behaviours and Players’ Perceptions Across Age Groups**

Whilst significant differences were observed between the perceptions of players’ of different ages, the comparison of coaches’ behaviours between the three age groups did not yield any statistically significant findings. Unfortunately, the relatively low number of participants meant that, from a statistical perspective, the data had insufficient power to detect significant findings. Therefore, an initial recommendation for future research seeking to conduct inferential statistical analyses is to calculate power analyses by considering, if such investigations are available, the effect sizes listed in previous studies. These data can then be used to establish the required sample size needed for a given level of power.

Considering the present investigation, however, it would not have been logistically feasible to observe the number of coaches required to conduct inferential statistical analyses. The financial and time demands necessary to carry out the collection of such a sizable observational data set are not realistic to the capabilities of one PhD student. Accepting these acknowledged limitations, though, it is still apparent from the respective age groups’ data that some interesting non-significant findings were observed in this investigation.

When the coaches and players’ data were separated according to the three participating age groups, noteworthy trends emerged on the coaches’ use of instruction/correction,
demonstration, questioning, and feedback behaviours, as well as the players' perceptions of effort/importance, enjoyment/interest, learning, and pressure/tension. These findings shall now be discussed.

**Coach Behaviour: Total Instruction**

The high level of instructional behaviours identified within this study can be mostly attributed to the participating U19 coaches. Indeed, an initial age-related discussion point concerns the increased use of instructional behaviours with players from older age groups. Moreover, this was especially found to be the case with instructional behaviours that involved direct informational statements regarding performance (i.e. pre and concurrent instruction, correction, and specific feedback). Thus, the U19 coaches involved in this study demonstrated the highest frequencies of information-providing statements prior to, during, and after segments of play throughout their practice sessions, while the U12 coaches utilised these behaviours least often.

The age-related instructional trend emerging from the present study can also be viewed from a comparison of findings from studies that have investigated coaches of youth male performers that have supplied R.P.M data. Thus, as few studies have specifically investigated coaches' behaviours in relation to athletes of different age groups, consideration of the results from a collection of studies which have each studied athletes of different ages is merited. Similar to the findings from the present study, an incremental rise in the reported frequencies of instructional usage can be observed from these collated investigations. For instance, the coaches from the youngest age group, a Pop Warner (athletes aged 12 – 14 years) American football coach (Seagrave & Ciancio, 1990), demonstrated instructional behaviours 0.87 times per minute, while coaches of high school (14 – 18 years old) American football players (Lacy and Darst, 1985) utilised these behaviours at a R.P.M. of 1.55. Finally, data reported on a senior level English professional football coach (Potrac et al., 2002) illustrated instructions to be provided on 5.99 occasions per minute. While Cushion and Jones (2001) also reported R.P.M. values
in their study of English professional youth football players, the age groups involved in the study were not reported, and therefore cannot be compared to the other studies.

The senior level English professional football coach participating in Potrac et al.'s (2002) study indicated that the high levels of instructional behaviours observed in his sessions could relate to the pressures associated with achieving a specified objective: coaching a group of players to win games. The coach reasoned that his desire to be in control of this aim - by preparing the players on team strategy and tactics during practice sessions - could explain the high rate of observed instruction (63.8% of total recorded behaviours). Furthermore, Kidman (2001) has suggested that expectations regarding the performance objectives of many coaches - especially those within professional sport - are associated with a demanding style of coaching. Relating this finding to the present study, it is apparent that such links can be made. The coaches of the U19 groups are in charge of the oldest group of players within English professional youth football. Therefore, at the end of each season, the U19 coach is responsible for producing players capable of progressing from youth football into the professional game. Whilst the U19 coach is not solely accountable for this, the U19 coaches do represent the most senior element of the Academy/Centre of Excellence coaching system. As such, and with such annual demands to develop high quality players, it might be suggested that U19 coaches exhibit high frequencies of instructional behaviours to exercise their desire to be in control of their players' development.

The coach studied by Potrac et al. (2002) also suggested that elite level athletes yearn for coaches that provide detailed instructions. This proposal is supported by the notion of task dependency (Terry, 1984), which purports that elite athletes in interdependent sports prefer high levels of instructional direction. Indeed, Carron and Chelladurai (1983) found a linear increase in youth basketball players' (early high school to university age) preference for an autocratic coaching style. Thus, it might be suggested that the coaches' increased instructional behaviour usage was merely a response to their players' demands. To conclude this finding related to the age group coaches use of direct verbal instruction, it might be proposed that the escalating use of instructional behaviours that actively supply verbal information to players as they progress through the age groups of English
elite youth football is attributable to the coaches' expectation-imposed desire to exert their control over the learning environment they create. Alternatively, it could be suggested that the increased instructional activity of the coaches of older age groups is a response to the athletes' preferences. Perhaps, though, the instructional observations from this investigation are related to a combination of these suggestions.

A reversal of the trend discovered with the coaches' use of verbal instruction was found for demonstrations and questioning provision, as the U12 coaches were found to supply each of these behaviours most frequently. The increased use of demonstrations with younger players is supported by the finding that demonstrations are most effective in the initial stages of athletes' learning, when new movement patterns are being developed (Magill & Schoenfelder-Zohdi, 1996). Furthermore, it has been suggested that demonstrations are no more effective than verbal instructions during the refinement of movement patterns in later phases of learning (Williams et al., 2003).

While the developmental implications of using questioning behaviours has not been investigated within sport, it would appear from the results of the present study, and those of previous coach observation studies (e.g. Claxton, 1988; Cushion & Jones, 2001; Potrac et al., 2002), that the behaviour is utilised most often with younger athletes. Indeed, the coach studied by Potrac et al. (2002) indicated his belief that the use of questioning during practice sessions might result in him being regarded by his players as an "indecisive" coach "lacking in knowledge" (p. 193). However, Potrac et al. failed to define the nature of the questioning referred to in this instance. In declining to do so, Potrac et al. could be accused of undermining the pedagogical skill of questioning, enabling the participant within their study to dismiss the behaviour, and passing up the opportunity to explore the utility of questioning within a learning environment. Accepting the comments made by the participant in Potrac et al.'s study, however, and the implication that the use of questioning by coaches encourages athletes to become active in the learning process (e.g. Hunkins, 1995), it might be assumed that questioning behaviours are likely to be observed most frequently within democratic coaching environments. As such, the present findings on the use of questioning seem appropriate. The type of questioning used, however, indicates that while the U12 coaches were found
to ask the most questions, a relatively high percentage of the questions they asked were 'closed' (38.6%). While the other coaches asked fewer total questions, the U15 (70.45%) and U19 (78.95%) coaches did ask a higher percentage of 'open' questions. While no identified research has been conducted into the use of questioning in sport, it has been suggested that open-ended questions are most effective for player learning (Kidman, 2001; Whitmore, 2003).

Coach Behaviour: Total Feedback

Considering feedback provision from coaches across age groups, the U19 group was again observed to demonstrate this behaviour most frequently, while the U12 group provided slightly more instances of feedback than the U15 coaches. While the U19 coaches exhibited the most instances of feedback, it was found that their feedback contained more positive, reinforcing behaviours, but also more negative, critical behaviours than the other two groups.

The positive feedback trends demonstrated by the U19 coaches in the present study were found to be higher in frequency, percentage, and R.P.M. to the use of praise by coaches in previous studies of elite level football in England (e.g. Cushion & Jones, 2001; Potrac et al., 2002). However, a comparison of the praise to scold ratio observed for the U19 coaches in the present study (1:4) and those recorded by Cushion and Jones (2001; 1:9) and Potrac et al. (2002; 1:33) shows the present ratio to be lower. Indeed, comparing the positive-to-negative feedback ratios for the three age groups in the present study reveals that the observed ratios are almost identical at approximately 1:4. However, echoing the point made at the start of this discussion, the recording of specific negative (and indeed positive) feedback instances by previous studies has been masked due to the combination of these behaviours with other instructional/correctional behaviours in the ASUOI (Lacy & Darst, 1984). Thus, as specific negative feedback instances accounted for 0.61 R.P.M. of the U19 coaches' total 0.72 R.P.M. negative feedback – leaving just 0.11 R.P.M. general negative feedback – it is possible that the praise to scold data reported in previous studies may have been somewhat misrepresented. The results of the present study suggest that coaches within elite youth sport very rarely provide negative feedback to players that
does not have an informational content. Therefore, to provide a true reflection of the praise-scold ratio, it is necessary to include specific feedback instances combined with general feedback.

To fully appreciate the nature of the environment created by coaches' positive and negative feedback, it is crucial to explore the general-specific nature of these behaviours. The findings from the present study revealed that the U19 coaches supplied their athletes with specific, informational feedback most frequently, with the U12 coaches doing so least often. Indeed, the U12 coaches were found to provide the lowest percentage of specific feedback (33.44%) moments when the total feedback levels were split for each group. This discovery is consistent with the previously reported result that U19 coaches exhibited most verbal instruction behaviours, as such information-based feedback is often used to provide details of observed performance; reinforcing approved aspects of the performance, and acknowledging aspects of performance that require modification (Schmidt, 1988). Thus, the lesser use of this behaviour by the U12 coaches once more supports the trend identified that coaches of older age groups dispense information to their athletes on a more frequent basis.

The U19 coaches, however, also demonstrated the highest frequencies of general feedback. Once more, it is important to emphasise that the vast majority of this non-specific feedback was represented by positive, encouraging gestures by each of the age groups. The deployment of such behaviours has been related to higher levels of self-esteem, confidence, and increased enthusiasm (Horn, 1992; Smith et al., 1983; Wrisberg & Schmidt, 2000). The overtly positive implications of utilising this behaviour might suggest that one would expect to find the coaches of the youngest players displaying general positive feedback most often, in their attempts to create a warm, comforting, supportive environment. Indeed, as the U12 coaches were found to be the group that demonstrated this behaviour second most often, it is still logical to make the assumption that positive, general feedback is a desirable behaviour for young players. However, in attempting to understand the U19 coaches' high frequencies of positive general feedback usage, an important issue to consider might be the increased volume of time the U19 coaches spend coaching their group in comparison to the U12 and U15 coaches. The U19
coaches are typically required to motivate their players to train and perform at an elite level 5-6 days per week. Referring to the literature available on athlete burnout (e.g. Henschen, 2001), it has been found that athletes' decreased motivation levels due to the repetitive nature of elite level sport is consistently cited as a leading source of athlete dropout. Therefore, coaches of full-time elite sports people are consistently challenged to create an energised atmosphere that triggers motivated and productive athletes. Indeed, this very issue was acknowledged by the coach investigated by Potrac et al. (2002).

A final but crucial aspect of discussing the coaches' feedback use relates to the motivating and learning implications of the behaviour. Whilst several researchers have acknowledged the diluted effectiveness caused by the overuse of non-specific feedback (e.g. Cushion & Jones, 2001; Schmidt, 1991; Wittrock, 1990), the issue has remained dormant within applied coach behaviour research. Indeed, given that none of the systematic observation instruments commonly used within this body of research have actually attempted to consider the differences between the content of feedback provided, it is hardly surprising that this has remained so. However, although it is beyond the remit of this thesis, it is important to at least consider the issue in the analysis of the gathered data. The feedback profiles for each coaching group presented in the results section provide a detailed summary of the respective groups' deployment of the various feedback types. Generally speaking, the feedback profiles for each of the age group coaches are quite similar.

Looking firstly at the concurrent feedback provision, it is noticeable that the coaches provided both general and specific negative feedback in low frequencies, resulting in the players' experiencing high volumes of positive, encouraging feedback while they played. The post-play feedback, however, is much less positive, as both the U12 and U19 coaches, for example, were found to provide more instances of specific negative feedback when play had been brought to a stop than specific positive feedback. The general positive feedback provision at this time was much less frequent than was witnessed concurrent to performance, and only slightly more frequent than the specific negative feedback behaviour usage. Once more, while the aim of this analysis of feedback content
is not to make any definitive statements regarding the most effective use of feedback, some observations can be made that may be considered by future research.

From a learning perspective, and to combat any risk of diluting the motivating effects of positive feedback, it might be suggested that the coaches’ high concurrent praise frequencies are reduced at the expense of providing more instances of concurrent positive feedback. Furthermore, as it has been stated within the motor learning literature that the provision of feedback for learning purposes is most beneficial following a delayed period (e.g. Rose, 1997; Schmidt, 1988), it might also be proposed that lower frequencies of post-play praise are provided and replaced with increased post-play positive feedback. These suggestions, though, are purely speculative, with much greater attention of this area merited.

Players’ Responses
Unlike the coach behaviour findings, significant differences were observed between the three age groups’ players’ responses. However, once more, some interesting observations can be made. An inverse negative relationship was found between the players’ age group and their perceptions of effort/importance, enjoyment/interest, and learning during the observed coaching sessions. Thus, generally speaking, the older a player’s age, the lower their perceptions of effort, enjoyment and learning. Perceptions of pressure/tension, however, were found to be highest with the U15 players, with the U12 group experiencing the lowest levels.

Considering the coach behaviour data, some suggestions can be made regarding these findings. The U19 coaches’ use of directive behaviours has been alluded to by their increased use of verbal instruction, and their lesser use of questioning. Moreover, the opposite findings were recorded for the coaches of the youngest players. Thus, the behaviours observed for the U19 coaches might be suggested to resonate with Chelladurai’s (1980) autocratic coaching style or the behaviours alluded to by Deci and Ryan’s (1985) controlling interpersonal style. With these suggestions in mind, it is
interesting to review applicable research into learners’ (students, athletes) perceptions of experiencing such styles.

Intrinsic motivation levels have been found to increase when athletes have perceived their coach to demonstrate low levels of autocratic behaviours (Amorose & Horn, 2001), with athletes reporting higher levels of enjoyment in response to a perceived democratic, decision-making style (Price & Weiss, 2000). Research has identified controlling teachers to supply their students with more solutions to problems faced, to listen less, and to provide students less time for independent work than autonomy-supportive teachers. Research that has investigated the impact of controlling coach behaviours on athletes has found the athletes to exhibit lower levels of intrinsic motivation (Blanchard & Vallerand, 1996; Pelletier et al., 1995; 1998). Therefore, the lower levels of perceived effort and enjoyment experienced by the players from the older age groups in the present study — whilst being careful not to infer a causal relationship has been identified in the present study — a suggested link between controlling/autocratic behaviours and players’ decreased intrinsic motivation levels can be offered. Furthermore, the discovery of increased intrinsic motivation levels and perceptions of learning with the U12 age group relate to the research of Gottfried (1985, 1990) and Pintrich and Schunk (2002) that have found intrinsic motivation to positively relate to perceptions of learning.

For many of the U12 players, the experience of playing football for a professional Club’s Academy/Centre of Excellence is likely to be a relatively new experience. Arguably, this recent opportunity offered to these young boys to play football at this level evokes feelings of excitement and happiness at a level that older, more experienced players may no longer feel. Indeed, some of these players may instead regard the experience as a job. Hence, younger players’ enjoyment and effort levels might be expected to be higher on this basis. In addition, those playing at the U12 level are more likely to participate in coaching sessions in which a new aspect of football is introduced to them than U15 and U19 players. Therefore, as players develop and progress through the youth programme, learning opportunities become fewer. Instead, these players are more likely to participate in repetitive practice sessions as they seek to refine their skills and understanding of the
game. Such repetitive practice is also likely to further reduce players' feelings of enjoyment.

Finally, it is difficult to suggest any definite explanation for the pressure/tension findings. The U12 players were perhaps most likely to experience the lowest levels of pressure out of the three groups. This suggestion is based on the fact that this group practised within an environment in which the lowest frequencies of evaluative feedback and correction were exhibited - behaviours which reflect the coaches' demands. However, as this group are the youngest, it might also be anticipated that the coaches' communication styles were most relaxed, resulting in a less tense atmosphere. However, this assumption is unfounded. A matter of fact is the feature of the Academy/Centre of Excellence programme that involves the offer of scholarships to 16 year old boys deemed to be worthy enough to invest Club's resources in. Beyond this aspect of the system is the post-scholarship potential to gain a professional contract. In light of these significant contextual issues, it is probable that the levels of pressure/tension displayed for the U15 and U19 age groups were directly, or indirectly (through coach pressure to achieve improvements), related to these issues. The U19 age groups at the participating clubs consisted of players who were either in their first, second, or third year of the scholarship programme. Therefore, it is possible that those in the first and second years of the programme were feeling much less tense than those in the third year.

**Summary and Methodological Reflections**

Following an intensive observation and data gathering period, the findings from the present study indicate that elite youth football coaches' behaviours, and the perceptions of their players, were found to be consistent over time. Furthermore, whilst not statistically significant, some clear age-related trends are apparent within the practice behaviours of elite youth football coaches. In addition, significant differences were identified from the perceptions of players of different ages. The key conclusions to be drawn from the data include the following:
• Instruction was the most frequently demonstrated coaching behaviour. Total instruction provision was recorded to be used at a level that, along with the finding from Cushion and Jones (2002), is greater than the frequencies observed in previous youth sport investigations.

• Positive feedback usage was also observed to be provided more frequently in the present study than has previously been reported.

• Coaches demonstrated stable behaviours throughout the duration of the 4 sessions in mid-late season during which data was collected.

• With the exception of a slight decrease in perceived effort, players' perceptions were also found to stay relatively constant throughout the data collection period.

• Verbal instruction behaviours were increasingly used by coaches of older players.

• Conversely, coaches of older players provide fewer demonstrations and ask fewer questions than coaches of younger players.

• The U19 coaches supplied feedback most frequently, with U15 coaches doing so least often. A consistent positive-to-negative feedback ratio of 4:1 was observed across the coaches of each of the age groups, while the content of each group of coaches' feedback was dominated by general comments.

• Finally, an inverse relationship was found between players' age and their perceived enjoyment/interest, effort/importance, and learning.

Overall a successful research outcome was attained as, through the systematic observation of a relatively large sample of coaches within Academies and Centres of Excellence, a much greater understanding of the practice behaviours within English elite youth football has been acquired. Furthermore, following the development of the EYFCOI in Study 1a, the behaviours recorded within the present study supply a level of detail into coaches' practice behaviours that has thus been absent.

A limitation from this research, as has been noted, is the lack of statistically significant findings identified. However, it is felt that the wealth of rich data that has been gathered more than compensates for this. The issue regarding the assessment of players learning remains. Referring back to the applicable section within Chapter 2, though, it is suggested
that this will continue to be so. However, it is proposed that researchers continue to consider methods to probe this area, as it is undoubtedly worthy of greater insight.

**Links to the next study**

Building upon this comprehensive investigation of coaches’ behaviours, and specifically following up on the coaches’ varied use of learning-focused behaviours (i.e. instruction, demonstration, questioning, and feedback; Douge & Hastie, 1993; Schempp, 2002; Williams & Hodges, 2005), the next chapter will seek to establish a group of coaches’ rationale for their use of these behaviours, whilst also investigating the coaches’ general coaching beliefs, their perceptions of the role they perform, and the sources most influential in their development. In addition, an investigation will be conducted concurrently that will study elite youth players’ preferences for coaching behaviours. The researcher believes that such a triangulated approach (when considered in conjunction with the findings from the present study) will provide a great insight into coaches’ learning-focused practice behaviours – the behaviours coaches are observed to demonstrate, their rationale for utilising these behaviours, and players’ preferences for coaches’ use of these behaviours.
INTRODUCTION AND REVIEW OF RELEVANT LITERATURE

Whilst much knowledge has been generated regarding coaches' practice behaviours through the use of systematic observation, less research has been conducted to enhance current understanding of the issues impacting on coaches' actions. This issue is central to this study. Furthermore, in considering athletes' preferences for their coaches' behaviours, it has been noted that this area is greatly under-researched. Thus, this aspect also features prominently within the present investigation, and therefore to the following review of relevant literature. Once again, due to the literature already reviewed within Chapter 2, this current review will be brief. However, drawing upon the literature reviewed within Chapter 2, the following section will reconsider literature on coaches' beliefs about the role they perform, the factors that contribute to their development, and coaches' rationale for their use of selected coaching behaviours. Furthermore, whilst again acknowledging the paucity of qualitative research within the area, a reminder of the literature presented within Chapter 2 on athletes' preferences for coaching behaviours will also be offered.

Coaches' Beliefs and Rationale for Behaviour Usage

Although much of the learning that occurs within every coaching practice environment is inevitably dependent on the coach and the environment this individual constructs
Pratt and Eitzen (1989) have stated there is variation amongst coaches in their beliefs, coaching procedures, and overall philosophy of coaching. Consequently, this variability makes for an interesting research setting. In order to conduct such investigations, it has been suggested that research should address individual coaches' interpretations of their experiences and the processes by which meanings and knowledge are used to guide actions, as such investigation could contribute towards the generation of theory that is faithful to the complex realities of sports coaching (Cote et al., 1995).

It has been suggested (Jones et al., 1997; Potrac et al. 2002; van der Mars, 1989) that to understand fully the processes ongoing within coaching, it is necessary for direct observation techniques to be supplemented with methods for exploring the thought processes of coaches, with such a mode of enquiry reasoned to supply an insight into the social, psychological, and contextual factors that underlie and impinge upon coach behaviour (e.g. Cote et al., 1995; Kahan, 1999; Potrac et al., 2000). Some of the research to have attempted this have investigated coaches' perceptions regarding the objectives relating to the role coaches seek to fulfil, with the majority of findings conveying coaches' internal conflict. Although winning is seldom discussed as the only component of a coach's role frame, youth sport coaches typically place winning at or near the centre of their approach to coaching (Gilbert et al. 1999 Gilbert & Trudel, 1999; McCallister et al., 2000; Strong, 1992). However, the coaches within these studies also expressed a focus on their athlete(s) personal and sport specific development, including an emphasis on fun.

Potrac et al. (2002) and Smith and Cushion (2006) have both utilised a mixed-method approach to delve further into coaches' cognitions by trying to identify and understand the pedagogical behaviours used by professional English football coaches. Essentially, the findings indicated that the coaches' practice behaviours were most influenced by the overall role objectives, with the senior level professional coach (Potrac et al., 2002) driven by a desire to achieve team success with his players, the youth coaches involved in the study by Smith and Cushion (2006) conveying a greater emphasis on the
developmental role they were ultimately governed by. Indeed, these perceptions were also reflected within the important conclusions made by each study, as the coach's high rate of observed instruction provision by the coach in Potrac et al's (2002) study associated with making players fully aware of their role within the team. On the other hand, Smith and Cushion (2006) drew attention coaches' use of silence cited as a deliberate coaching strategy to facilitate an independent learning approach.

Underpinning these investigated behaviours, however, in addition to coaches' perceptions of their role, is the knowledge sources from which coaches' actions are formulated. Prominent within previous research into this aspect has been coaches' experience and observation of other coaches (Goncalves, 1996; Smoll & Smith, 1981), with the proposition made that effective coaches transform experience into knowledge through a process of reflection (Martens, 1997; Schon, 1983). Furthermore, the importance of having access to knowledgeable and respected coaching peers has been stated to be fundamental to facilitating the reflective process (Gilbert & Trudel, 2001) with Wenger (1998) indicating that this encourages a community of practice approach to learning.

Players' Preferences for Coaches' Behaviours

There is a lack of interview-based research to review within this section. Thus, the literature considered has been drawn from questionnaire-based studies of athletes' coaching style preferences. Due to the components of the research instrument utilised within these investigations (i.e. LSS; Chelladurai & Saleh, 1980) quite broad 'behaviours' have been referred to. However, inferences can still be made that relate to the present study.

Research into this area has focused on analysing participants' preferences for coaching behaviours according to athletes' age and/or athletic maturity, and whether they participate in team or individual sports. This concern with players' age, in contrast to the emphasis within the coaching enquiries to be undertaken in this investigation, is not considered in the players' interviews. However, it is interesting to note that an apparent
desire for coaches to demonstrate high levels of socially supportive behaviour and an autocratic leadership style increased across the four age ranges (from early high school to university age) studied by Chelladurai and Carron (1983), with the authors suggesting that athletes remaining within the sport system may become “socialised” into preferring less personal responsibility, and therefore allocating more coach-led control. Considering the observed differences observed between Terry and Howe's (1984) and Terry’s (1984) research of individual/team athletes’ preferences, it may be relevant to note that athletes participating in team sports, when compared to individual athletes, showed greater preference for an autocratic coaching style and less preference for a democratic style, whilst also indicating a desire for high frequencies of training and instruction and rewarding behaviour from their coach.

RESEARCH RATIONALE AND RESEARCH AIMS

This chapter shall build on the data identified within Study 1b, and satisfy a further area gap within existing literature, by probing further into the coaching behaviours demonstrated by elite level youth football coaches across the three age groups investigated. Study 1b generated a sizable database on the practice behaviours exhibited by elite youth football coaches' of different age groups. However, to gain further understanding of these behavioural findings, a qualitative investigation will be undertaken within the present study that will seek to prompt coaches to articulate the reasons underpinning their use of instruction/correction, demonstration, questioning, and feedback behaviours. Such knowledge may then be used to draw some conclusions on elite youth football coaches’ practice behaviours in general, while further between-age group analysis will attempt to reveal more subtle variations in coaches’ behaviours.

Furthermore, players' preferences for coaching behaviours will also be of concern within this study, as such interview-based investigation of this area has not only never been
undertaken with elite level youth football, but it appears as though no such published research on athletes’ coach behaviour preferences exists. The rationale for investigating players’ preferences is primarily for exploratory purposes – to ascertain the participants’ desires related to the behaviours their coaches demonstrate. However, whilst being careful not to suggest that athletes’ coach behaviour preferences should be met by their coaches, the researcher feels that knowledge of such preferences is certainly worth considering and, from a research perspective, raising awareness of.

Thus, the aims of this study are essentially to gain an insight into some of the practice behaviours frequently (i.e. instruction/correction, demonstration, questioning, and feedback) exhibited by coaches, to ascertain the coaches’ rationale for their usage, and the players’ preferences regarding their coaches’ provision. Furthermore, and specific to coaches, further knowledge relating to coaches’ perceptions of their role is sought, in addition to the developmental factors that have shaped coaches’ education.

METHOD

Participants

Coaches. Participants in this study were 7 elite youth football coaches employed to work within the Academies/Centres of Excellence of English professional football clubs. The coaches had all participated within Study 1b. This was considered to be an asset in the collection of qualitative data, as trust and rapport had previously been established with each of the individuals. All participants were aged between 31 and 46 years old (Mean = 38.6; S.D. = 7.5), and they had an average of 12.4 years (S.D. =3.6 ) youth football coaching experience. The coaches had just completed a season working with the Under 12 (N = 2), Under 15 (N = 2), and Under 19 (N = 3) age groups. Six of the coaches were qualified to UEFA ‘A’ level, with the seventh a UEFA ‘B’ Licence coach. Four of the
coaches had played football to a professional level, whilst three had played semi-professional football during their playing careers.

*Players.* Participants for the present study were selected from an Academy at which the researcher had previously provided psychological support to coaching staff. The players were all familiar with the researcher, which was again perceived by the researcher to be a strength of the study. Each participant, along with their parents/guardians, was contacted by letter to ask for their agreement to participate in the study. Also contained within this letter was a short explanation of the research purpose, along with an explanation of how their input was important. Once the players had consented to take part, they were each then contacted by telephone in order to arrange a location, time, and date for their focus group session. Three focus groups were completed, with the groups arranged according to the playing age group the participants' played. Thus, separate focus groups were organised to include players from each of the U12, U14, and U15 playing groups. A total of 12 participants took part, with an age range of 11-15, a mean age of 13.08, and a standard deviation of 1.16 years.

*Procedure*

*Pilot.* A pilot study was carried out prior to the collection of data with both groups of participants. The focus of the piloting process was to refine one-to-one and focus group interviewing skills, as well as to test other steps and procedures involved in the study with subjects who were not part of the main sample. Thus the coach interview method was piloted with a Centre of Excellence coach, while the player focus group was piloted with a group of U13 Centre of Excellence players. The pilot interview with the coach indicated that the interview guide and protocol was satisfactory. The focus group interview, however, suggested that some modifications were required. Specifically, it was felt that further probes were necessary in order to further elicit valuable data from the young players. The pilot interview guide contained probes that were intended to be used as a means of directing the interviewer, when any further elaboration or details were
desired. Therefore, if a participant(s) mentioned a specific topic of interest as part of his response, the researcher was to probe to reveal more details about that topic. However, in reflecting on the pilot focus group experience, it was felt that additional probes were necessary as, unlike the pilot coach interview, the players were inclined to be brief with their statements.

*Coaches.* The coaches were individually interviewed at the end of the football season, following an observation period during which their coaching behaviours were coded over four 35 minute sessions. The interviews were conducted at a venue that was convenient to each individual participant, for some this was their respective Football Club's training facility, whilst for others it was their home. Interviews were tape-recorded and lasted 57 minutes and 40 seconds on average (S.D. = 6 minutes 12 seconds). Each interview was conducted using an in-depth, open-ended, and semi-structured approach (Patton, 1987). Hence, this method would enable a detailed collection of information (Patton, 1990). In attempting to ascertain the factors underpinning the participants' learning-focused behaviours, interpretive interviews were utilised, providing an insight into the attitudes, opinions, beliefs, and values that impacted on the coaches' methods (Potrac et al., 2002). It is suggested that such an interpretive approach will allow a richer understanding of the intricate exchanges associated within such a dynamic process (Strean, 1998).

A list of interview topics was prepared by the researcher to explore various aspects of the coaching experience of elite youth football coaches. These topics were focused on two general areas: (1) the coaching beliefs of elite youth football coaches, and (2) the coaching techniques employed by elite youth football coaches to develop player learning during on-pitch coaching sessions. The interview guide (see Appendix E) was designed to reveal the experiential, contextual, and situational factors (Potrac et al., 2002) that the participants perceived to influence and impinge upon their 'learning'-focused coaching behaviours during practice sessions. These behaviours included the coaches' use of instruction, demonstration, correction of mistakes, questioning, and feedback; behaviours identified as being significant to player learning and development (Douge & Hastie, 1993; Schempp, 2002; Williams & Hodges, 2005). Questions related to the coaches'
beliefs centred on the participants' major roles, their general beliefs on coaching, the implications of their beliefs for their players, the methods used to implement their beliefs, significant factors in the formulation of these beliefs, and the relative stability of the coaches' beliefs in relation to working with younger/older players. Relative to questions on the coaches' learning-focused behaviours, specific items asked about the coaches' reasons for employing specific coaching behaviours, the significance of the timing of employing such behaviours, and the features of these behaviours that were influential on player learning. Interview topics were based on information drawn from: (a) the research questions for this study, and (b) the literature review conducted for this study.

Based on Spradley's (1979) suggestions, broad and general questions were asked at the beginning of the interviews to give the participants an opportunity to get acquainted with the interview process and to speak in a relaxed atmosphere. As the interviews evolved and salient information emerged, probes or direct cues were used to follow up encouraging leads or to return to earlier points that required further development. The interviews were transcribed verbatim in order to ensure a complete and accurate record of the data obtained. Following meticulous analysis of the data by the researcher, the interview transcripts were checked by the respective coaches. All participants were sent a copy of the interview transcript and a brief summary of the interviewer's key interpretations. This process was conducted to obtain a confirmation of accuracy, not only from the viewpoint of words spoken, but more importantly to elicit the meaning of what was expressed (Stake, 1995)

Players. Following the recommendation of Morgan (1993), players were interviewed in focus groups consisting of four participants. The interview methods adopted by the researcher were consistent with those used when interviewing the coaches, in that they too were in-depth, open-ended, and semi-structured. Furthermore, similar to the aim of the coaches' interviews, the focus groups were created to identify the players' perspectives of the coaching process, and the practical coaching context. Whilst individual interviews could have been used to this end, O'Brien (1993) contends that within a sensitive environment, such as dealing with youth players, the adoption of group
interviews can have more success in encouraging participants to talk openly. The focus group interview is a data-gathering technique that relies upon the simultaneous and systematic questioning of several individuals (Fontana & Frey, 2000). Furthermore, it has been suggested that focus groups are not only useful in investigating what participants do, but at revealing why participants think as they do (Johnson, 1996). Stewart and Shamdasani (1990) summarise the utility of focus groups thus:

"The spontaneous interaction of focus group members often produces insights that are not obtained readily, if ever, in individual surveys or experiments. Focus groups are designed to help understand how individuals contextualise, and categorise phenomena" (p. 141).

Each of the three focus groups took place in a meeting room at the Football Club’s Academy facility. This location was chosen as it was quiet, comfortable, and most importantly, it was convenient for the participants to attend, ahead of their regular coaching session. Therefore, each focus group was held prior to one of the respective group’s scheduled coaching sessions, with the participants’ parents/guardians expressing a willingness to travel to the Academy 1.5 hours earlier than they otherwise would have. The focus groups were thus all scheduled in the evening time between 5pm and 7pm to facilitate attendance. Each focus group followed a standard protocol. Participants were initially reassured that the information they gave during the group would be used solely for the purposes of the research study being undertaken, and that their comments would not be attributed to them by name, nor would they be identifiable by their responses. Each of the three focus groups lasted 87 minutes and 16 seconds on average (S.D. = 13 minutes 43 seconds).

The players’ focus group interviews were concerned with one area in particular; their perceptions of the learning-focused coaching techniques employed by their coaches during on-pitch practice sessions. Thus, the participants were asked about their perceptions of their current and recent coaches’ use of the specified behaviours, as well as their preferences. This line of questioning entailed further probing, when necessary, to
seek the basis of the players’ coach behaviour choices to elicit the specific reasons for the participants’ views. Like the interview guide used with the coaches, topics were based on the research questions for the study, and a review of relevant literature (see Appendix F for interview guide).

A moderator facilitated each focus group. The moderator was the main researcher (author). The tasks of the moderator included obtaining refreshments for each of the participants, and making sure that the room and technical equipment (i.e. tape recorder and video-camera) were set up correctly prior to the arrival of the participants. Once the participants began to arrive, the moderator welcomed them, helped them to relax, and gave them refreshments. In addition, the moderator controlled the recording equipment, starting this as the participants arrived, and stopping it again as they left. An assistant moderator (a male PhD student with training in focus group methods) observed the first two video-recorded focus group sessions, providing the moderator with feedback on the effectiveness of the moderator’s style and suggestions of ways to modify the moderating technique to facilitate the better running of future groups. The assistant moderator also aided the process by discussing with the moderator the content of each of the focus groups. These discussions culminated in the production of a summary report that reflected the perceived content of each focus group. These summaries were then presented to each of the participants, who were asked to confirm or reject the accuracy of the report as a fair representation of what had been discussed during the interview. Each of the participants agreed that the summary they were presented with reflected their focus group discussion.

Data Analysis

The analysis of both sets of interview transcripts was conducted by the researcher using both inductive and deductive reasoning. The process was identical for both sets of data. The investigator and a PhD student trained in qualitative research methods initiated the process with both data sets by reviewing each interview transcript to ensure that the
information was clear and correctly printed (Gould, Tuffey, Udry, & Loehr, 1996; Tesch, 1990). The primary researcher then conducted an inductive interpretational analysis in order to identify meaning units and core categories that emerged from the data (Cote, Salmela, Baria, & Russell, 1993). The open-ended responses elicited from the participants were systematically (i.e. line-by-line analysis) examined and individual meaning units were tagged by manual methods consistent with the procedures described by Cote et al. (1993) and Tesch (1990). Subsequent meetings were held with the assisting PhD student to discuss the appropriateness of the tags that had been allocated to respective transcript sections (Cote et al., 1993). These meetings concluded when agreement had been reached. The tagged meaning units were grouped into thematic categories by comparing tags with similar meaning units and applied labels were agreed upon for each category on the basis that the labels reflected the content of the meaning units (Cote et al., 1993). As a final means of establishing reliability with the data analysis process, the meaning units and thematic categories were presented to, and discussed with, an experienced researcher. These meetings with the experienced researcher resulted in no changes.

The broader general dimensions (e.g. coach development, rationale for use of instruction, perceptions of coaches’ use of instruction) were deductively created based on the explicit aims of the study, while the sub-categories (i.e. raw data themes, 1st order themes, 2nd order themes) were inductively created based on the emerging data. The analytical process was flexible and, based on discussions with both a fellow-PhD student and an experienced researcher, developed until a satisfactory list was established and exhausted from all of the available data (Tesch, 1990). It is important to note that conceptual saturation was not reached, nor did the study attempt to do so. As the study, from the coaches’ perspective, was explicitly concerned with interviewing the participants from Study 1b (and due to the lack of availability of 8 of these coaches), saturation of data was not realistic. Similarly, the sampling of 3 focus groups also resulted in a limited amount of data to prevent saturation from being reached. However, it is recommended that future studies attempt to reach this point to generate an holistic understanding of the setting under investigation (Cote et al., 1995).
Consistent with the recommendations of Sparkes (1998), exemplar quotations from the coaches and players are presented to elucidate the themes that emerged and to allow the reader to judge the accuracy of the researcher’s conclusions for themselves.

RESULTS

This section will present the combined findings from the coach and player interviews. Initially, this will begin with the coaches’ results in isolation. Thereafter, the themes for which data were generated by both the coaches and the players shall follow. However, consistent with the analysis procedures, the findings for each group of participants shall be presented separately. Some introductory details of the emergent data are detailed below.
A total of 144 raw data themes were generated from the coach interviews. These were contained within eight distinct general dimensions that provide an overview of the factors underpinning Academy coaches' practice behaviours: Major Roles of the Academy Coach, Coach Development, Beliefs on Coaching, Rationale for use of Instruction, Rationale for use of Demonstration, Rationale for use of Correction, Rationale for use of Questioning, and Rationale for use of Feedback. The eight general dimensions were abstracted from 19 second order, and these from 41 first order sub-themes.

Essentially, the coach interviews were intended as an examination of the factors described by participants as affecting their in-practice behaviours (either positively or negatively), along with their rationale for using these behaviours. The findings are reported using a combination of hierarchical content trees and direct quotes. The trees in themselves provide a full description of the levels of abstraction identified by the interviews. The focus beyond the hierarchical content trees is given to the direct quotations which enable the reader to empathise more fully with the data as presented by the participants, and thereby attain a deeper appreciation of the issues being investigated.

Due to the overtly stated focus on the players' perceptions of, and preferences for, specific coaching behaviours, the data generated were not found to lend itself to the process of data presentation method utilised with the coaches' data. That is, it was identified through analysis of the data that the identified raw data themes were inconsistently found to relate to the players' preferences as well as their reasons for their preferences. Hence, data presentation could not be repeated. Thus, the data are presented below in the most appropriate method, within the themes of: Instructional Preferences; Demonstrational Preferences; Correctional Preferences; Questioning Preferences; and, Feedback Preferences.

Whilst the focus group interviews with players concentrated on their perceptions of specific behaviours used by coaches whom they had been exposed to, this was regarded as means of elucidating the players' preferences for certain behaviour usage – the ultimate aim of the study. As previously mentioned, probes were used throughout the
interview process to encourage players to expand upon the preferences they declared. Thus, the data are shown within tables that depict the link between the players’ preferences and the factors underpinning their decisions. A variety of responses were offered on some of the coach behaviours, reflecting preferences that were acknowledged to be flexible. Rather than consistently repeat the need to interpret data themes, these preferences have been casually stated. In keeping with the central theme within the coaches’ data, players’ behavioural preferences were frequently related to their learning and development as players. In certain instances, perhaps due to the age of the participants, this produced occasional repetition. Hence, this may be apparent in the results displayed within this section.

Key to figures

Raw data themes preceded by a “+” or “-” were, respectively, regarded as positive or negative factors within the participants’ reported data.

Major roles of the Academy coach: As figure 5.1 illustrates, this dimension incorporated 9 raw data themes, which abstracted into two 1st order themes: Support player development, and Actively influence player development. The most frequently cited theme within this dimension was the role of technical/tactical teacher, a role cited by each of the participating coaches. Providing a developmental function throughout the Academy system was central to the work of the coaching staff. The following quote illustrates the perceived nature of this role:

“My job is to teach and develop the children...teach them everything there is about the game...through a syllabus of teaching them dribbling, passing, tricks...[to] later on, tactical issues involved in football. And then, obviously, bringing them into the youth programme [U17-U19], you’re probably talking more about the winning mentality stuff. But basically, you’re a teacher, teaching them how to play.”
Whilst there was resolute agreement on this teaching capacity, the nature of the teaching process prompted different participants to outline this role with contrasting emphases. Some coaches believed it to be their responsibility to actively educate their players:

"I see my biggest role as being the person who teaches the players the name of the game... teaching them little ideas which are gonna get them through to make a pro."

An opposing vision of the Academy coaches' duties concerned the occupancy of a more passive, assisting position:

"A guide, a mentor, a carer, a facilitator of information – as and when required. Basically, my role is to guide players, to extract the information from them, rather than actually imparting information... to extract from them the genius that they have within each and every one of them. If I can help to get that out of each player, for them to become the best that they can become, then I believe I've actually done my job."

Coach education and development: Participants detailed a range of factors that contributed to their own personal education and development as coaches. These can be viewed in figure 5.2. A total of 31 raw data themes made up this dimension, comprising four 2nd order themes: 'Impact of significant others', 'Experiential learning', 'Football-
specific coach education courses', and 'Other sources of education'. The 2nd order theme of 'impact of significant others' was generated from the 1st order themes, 'former coaches from playing career', 'Family', and 'Coaching peers'. 'Experiential learning' was created from the 1st order themes, 'Coaching experiences' and 'Life experiences'. 'Football-specific coach education courses' was developed from the 1st order themes 'Positive learning experiences from football coach education courses' and 'Criticisms of football coach education courses'. The fourth 2nd order theme, 'Other sources of education' was created from additional educational experiences the participants cited as having contributed to their development as coaches. These included 'Physical education teaching degree', 'Sport psychology courses', 'Generic coaching courses', and 'NLP courses'. This dimension is comprehensive in outlining, and elaborating upon, the numerous educational resources at the disposal of developing coaching practitioners. There is some repetition in the raw data themes regarding features of the participants' development that were applicable to more than one educational source. For instance, the participants' use of certain coaching techniques and styles of communication were
<table>
<thead>
<tr>
<th>Raw Data Themes</th>
<th>1st Order Theme</th>
<th>2nd Order Theme</th>
<th>General Dimension</th>
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<tbody>
<tr>
<td>+ Developed game understanding</td>
<td>Former coaches from playing career</td>
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<td>+ Instilled work ethic</td>
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<td>+ Communication styles</td>
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<tr>
<td>- Lessons learned on how not to communicate</td>
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<tr>
<td>Moral development</td>
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<tr>
<td>Caring for others</td>
<td>Family</td>
<td>Impact of significant others</td>
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<tr>
<td>Attention to detail</td>
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<td>Preparation and organisation</td>
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<tr>
<td>Attention to detail</td>
<td>Coaches</td>
<td>Experiential learning</td>
<td>Coach Education and Development</td>
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<td>Tactical concepts</td>
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<td>Coaching styles</td>
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<td>Communication methods</td>
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<td>Trial and error of coaching methods</td>
<td>Coaching experiences</td>
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<td>Developing personal philosophy on coaching</td>
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<tr>
<td>Remaining positive in difficult times</td>
<td>Life experiences</td>
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<td>Communication styles</td>
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<td>Developed organisational skills for delivering practices</td>
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<td>Exposure to varied coaching styles</td>
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<td>Provides ideas to create personalised coaching style</td>
<td>Positive learning experiences from football coach education</td>
<td>Football-specific coach education courses</td>
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<td>Developed game understanding</td>
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<td>Challenges individual coaching philosophy</td>
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<td>Opportunity to reflect on coaching methods</td>
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<td>Educated on individual learning styles</td>
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<td>Coaching methods taught too rigid</td>
<td>Criticisms of football coach education processes</td>
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<tr>
<td>Unrealistic/false practice methods</td>
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<tr>
<td>Insufficient preparation for common issues experienced</td>
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<tr>
<td>Practical classroom/field experiences</td>
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<tr>
<td>Management of people</td>
<td>Physical Education teaching degree</td>
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<tr>
<td>Planning/organisation of lessons</td>
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<td>Studying the concept of learning</td>
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<tr>
<td>Appreciation of players’ developmental and behavioural needs</td>
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<td>Other sources of education</td>
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Figure 5.2: Coach Education and Development
noted as having been developed through observations of significant others, through personal coaching and life experiences, and while attending various educational courses. It was also observed that the participants cited both positive and negative experiences which they felt effected their development as coaches. A selection of quotations outlining details of the coaches’ development are provided below:

**Impact of significant others:**

These initial quotations relate to the participants’ former coaches from their playing careers:

> "Everybody I’ve played under, certainly my old - the guy who got me into coaching - my old coach, Manager 1, who’s at Rovers...I mean, I went to him as a young boy really, raw, and he helped me to understand the game, he gave me tactical knowledge... understanding when to go and tackle, where to tackle, when not to, when to stand on your feet, all those bits and pieces - and he really helped me."

> "I think coaching has improved so much since when I was playing football, when it was very much old style...a lot of swear words, running up and down banks...so there wasn’t a great deal of coaching that went on."

The next two statements concern coaches whom the participants have worked alongside, while the final comment refers to the impact of the participant’s parents:

> "I've worked with many good role models as coaches. At the first club I was at the Academy Director there was a huge influence on my coaching. He used to set his sessions up in a way that really clicked with me - getting the boys playing straight away, allowing them to have a go at things before you start feeding them with information that they're maybe not ready for, or that they maybe already know. And that's how I tend to coach now."
"The lad I used to coach with, some of his mannerisms were very good – the way that he spoke to people and the way that he listened to people too. People notice things like that, and are probably more honest as a result."

"I guess that goes back down to my roots, and that’s my dad, and the way that I was brought up. Attention to detail, the caring, being around key role models that I feel have been instrumental for me now in my role as a coach and also a father."

Experiential learning

"...mannerisms are learnt through experience, you try some things – ‘cause you’ve got a feeling that it might be the best thing to do – and if it works you’ll repeat it when you’re next in that situation. If it doesn’t work, well then you’ll just try something else."

"I also think you work some things out for yourself. You know, it gets you thinking. I didn’t necessarily come into my role thinking, ‘right, I’m gonna do it this way, ‘cause I believe that that is the way it should be done’. I didn’t have a philosophy of my own. That’s changed, though, as you experience different things in the job, you start to develop opinions and beliefs about how certain things should be done."

"I think that I’m developing every day. You know, just communicating with people, everyday people, it gets you thinking. As a player, I didn’t really pay any attention to this type of stuff, but as this is now my job, and I wanna be the best I can be, I spend a bit more time thinking about it. And I’ve realised that, as we’re communicating all the time, there’s stuff you can reflect on all the time too."

"And obviously my experiences in life have been such where I do not particularly care too much for the negative aspects. I do not spend too much time in that realm. I like thinking positively, thinking productively, especially in testing times."
And so hopefully it rubs off onto other people around me – players, family, friends, etc.

Football-specific coach education courses
The following selection of quotations reflect the participants' positive perceptions of football-specific coach education courses:

"...you just learn so much from the people there, you know, from very experienced people who’ve been in the game a long time. On these courses I’d say it was mainly things such as styles of delivery that I learnt about – how to present information to the kids in different ways to achieve different types of results."

"...the FA Youth Coaches Course that I went on last year, was a huge eye-opener to me in terms of sessions being player-led. That was definitely new to me, and made me think about things in a different way. You know, I went away from that course and tried things that I’d just never thought of doing before. Things that are part and parcel of how I coach week-to-week now."

"I think the FA’s Level 1 and 2 courses now are terrific, ‘cause they go through learning styles, and they go through how some kids are visual learners, other kinaesthetic, and all the rest of it – which is good, ‘cause I think people do need to understand that some kid might not appear to be listening, when it might just be that he’s also doing something else, multi-tasking or whatever."

The next three quotations portray the criticisms made by the participants regarding football-specific coach education courses:

"They want you to do everything by the book. You know, like your driving test, you have to hold your hands at ten to two and all this! And it’s exactly the same with the badge - they want you to do it this way, this way, this way. And really, at times, I do not agree with it, you know, 'cause everyone has their own style of coaching."
"...there are many constraints that are not realistic when you're doing courses – the main bit is that you only do 20 minute sessions – so in 20 minutes you've got to get across to us your knowledge of the game and what you do in your topic. So there's no point in going in for 20 minutes and asking them questions. But there's a lot about the coach ed stuff that's a bit false."

"...it's ok going on a UEFA 'B' course and learning how to coach, but it doesn't teach you how to speak to people, or teach you how to cope when things go wrong – when children cry, or when children misbehave. So mannerisms are learnt through experience, you can't learn that on a course."

Other sources of education

"I think that the major thing that you get from the teaching development side of things is organisation. Your organisation just comes from planning lessons for, and looking after, 30 kids - some of whom do not wanna be there. Whereas at the Club they all wanna be there and they're all ready to go. Also, when you're working with kids all day every day in a learning environment, I just think you pick up so many experiences relating to looking after a group of learners, accommodating for the whole group, you know, just experiences that stand you in such good stead at the Academy here.

"Obviously the educational background I've had [as a qualified NLP Practitioner] has played a very important role as well. I've been on a lot of peak performance coach type seminars, sport psychology courses which have helped to fill in gaps here and there – understanding, as a lay man, the key elements that can contribute to the players development and behaviour. It's been a very interesting time for me...understanding what peoples' needs are, finding these out through questions."
Beliefs on coaching: The participants' beliefs on coaching were closely linked to their perception of the coaches' major responsibilities. A total of 18 raw data themes were contained within this elaborative dimension, combining to create two 2nd order themes: 'External influences', and 'Creating a learning environment'. 'External influences' was generated from the 1st order themes, 'Impact of Academy system' and 'Club philosophy'. 'Creating a learning environment' developed from the 1st order themes 'Awareness of individual differences', 'Most effective coaching methods', and 'Specific philosophies of player development'. Essentially, this dimension appears to represent some thoughtful views on coaching approaches to maximise player development. For example, 'most effective coaching methods' contains a plethora of teaching strategies that have all been expressed by members of the sample due to the perceived strengths purported in adopting each respective approach. 'Specific philosophies of player development' is loosely associated with 'most effective coaching methods' as it depicts an aspect of the participants' beliefs on how coaches' should behave during practice sessions. However, rather than specifying particular behaviours, this 1st order theme seems to represent the various ethoi of the coaches. The 'external influences' on the coaches' beliefs on coaching include system- and institution-imposed rules or guidelines that govern the participants' functioning. A selection of quotations explaining the coaches' beliefs are provided below:

**External influences**

"It's difficult, 'cause we're working with the boys at our Under 15 age group, and they've just had maybe 4 or 5 years of coaches telling them that results do not matter, to ignore the scoreline, and how they only need to concern themselves with their own development. Then, all of a sudden, they're finding themselves in a situation where the result from a game they've just played in is being broadcast on the national telly during Football Focus! And now they're in a league! It's difficult for us [coaches], never mind the players!"

"You wanna persist with some of these kids, and you wanna give 'em time to develop, and learn from their mistakes, but you can only have so many boys on
your books at any one time, and if we’ve got to make a choice on someone that’s doing the business here and now, and someone who we think might have something in them, well then it’s the boy who’s struggling at the moment that’s gonna be shown the door.”

“I do like the Academy’s philosophy that results, allegedly, do not matter. I think results do matter, unfortunately...[the Club’s Academy Manager] wants you to get across to them that things like that [defeats] do not matter, they’re gonna make mistakes, they’re only young, and it’s trying to make as few mistakes as possible. But I think they’ve gotta learn how to win as well. And from a young age.”

Creating a learning environment

The first quotation relates to the coaches’ awareness of individual differences:

“So if you’re talking about, ‘what’s the best way?’ then I think it depends on what you’re working with. You know, you might put four people in front of me, and he might be best just being shown, he might be best with a foot up his backside, always on his back, really getting him going ‘cause that’s how he works, he might be best just being left alone, and the other one might be best being coached through all the time.”

The following statements relate to the participants’ views on effective coaching methods:

“I tend to set up a session, give them a little bit of information about what I want, not everything, and let them have a go. I then watch the session, and pick out the bits that you need to coach, and then stop it sporadically: ‘ok, stop, stand still...’. Then work on another little bit, and just give them a little bit of information each time until all of the information is in there, and then can you get it going and get all that you want out of the session.”
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<th>Raw Data Themes</th>
<th>1st Order Theme</th>
<th>2nd Order Theme</th>
<th>General Dimension</th>
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<tbody>
<tr>
<td>Emphasis on player development/results</td>
<td>Impact of Academy system</td>
<td>External influences</td>
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<tr>
<td>Slow learners removed from the system</td>
<td>Club philosophy</td>
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<tr>
<td>Emphasis on player development/results</td>
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<td>Focus on whole playing group/elite within group</td>
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<td>Individual learning styles</td>
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<tr>
<td>Acknowledging players’ varied learning rates</td>
<td>Awareness of individual differences</td>
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<td>Beliefs on Coaching</td>
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<tr>
<td>Preferences for different coaching styles</td>
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<td>Understanding of players’ capabilities</td>
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<tr>
<td>‘Drip-feed’ learners</td>
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<tr>
<td>Repetition of the ‘coaching formula’</td>
<td>Most effective coaching methods</td>
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<td>Creating a learning environment</td>
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<tr>
<td>Use of command style</td>
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<tr>
<td>Guided discovery/problem-solving</td>
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<td>Sensory stimulation</td>
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<td>Diversity in methods used – respond to players’ needs</td>
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<td>Promote enjoyment</td>
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<td>Freedom of expression</td>
<td>Specific philosophies of player development</td>
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<tr>
<td>Challenge players to better themselves</td>
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<td>Pressure players – create pressure situations</td>
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Figure 5.3: Beliefs on Coaching

"...just basically using the ‘coaching formula’. It’s ‘stop, stand still’ and then just getting in and correcting it. You identify the mistake, you give him the solution, you demo it, let them have a go at it, and then ‘play’ again. It’s something that I stick to ‘cause, for me, it works.”

"...on most occasions coaches will have their best coaching session when they’ve basically gone off the cuff – covering a lot of topics, and catering for the individuals’ requirements. You’ve got a small-sided game going on and your emphasis is on passing, and one of your defenders isn’t defending correctly. Well I think that’s probably an appropriate moment to just mention that to that one player. ‘cause he might pick up on that then, ‘cause you’re responding to his need, there and then, and not thinking, ‘oh, we’re not doing defending for another two weeks or a month’. We need to adjust, we need to be reactive, and we also need to be proactive.”
"And what I tend to do is, rather than keep telling children 'this is wrong', I just 'stop, stand still' and go in and coach or ask a question, 'do you think that could be any better? And if so, how?' And then they're coaching themselves, and they feel good 'cause they know the answer, rather than you going in and telling them all the time. Guided discovery we call it."

The remaining comments in this general dimension refer to the philosophies espoused by the participants' on player development:

"You've first of all got to create the environment...to randomly use whatever they've got within their own technical abilities, giving them licence to go out and explore. Going out and enjoying that little bit of genius they've had as a youngster."

"What we wanna do is challenge them to do better, to take them out of their boundaries, out of their comfort zones, and to start thinking more laterally about themselves."

"I also need to know how they're gonna react to having a bollocking. So they must've witnessed everything. You know, I need to know how they react to being given massive praise just in case they do get that. You know, I need to know if they go like that (points his hand to the sky), or if they stop achieving. I need to know what they're like if they get their backsides felt. I need to know what they're like when they get left out. You know, I need to know what they're like when they get ignored. Because they're all things that first team managers do. You know, when we're talking about Academies and first teams, and that's what we're trying to do, we're trying to bring players from Academies into first teams, that's the whole thing that we talk about."

Coaches' Rationale for use of Instruction (and Correction): A key focus of the series of interviews was to establish the participants' rationale for their use of certain coaching
behaviours. Participants discussed specific issues that impacted upon their instructional behaviours, which generated 21 raw data themes. These raw data themes combined to create two 2nd order themes: 'Components of 'effective' instruction/correction' and 'Timing of instruction/correction'. 'Components of 'effective' instruction/correction' was generated from the 1st order themes, 'Core requirements', 'Age-specific requirements', 'Situational conditions' and 'Coaches' philosophy on correction'. 'Timing of instruction/correction' developed from the 1st order themes, 'Pre-instruction', 'Concurrent instruction', and 'Post-play correction'. This general dimension provided some insights into the participants' views on the issues to be considered when providing instruction to athletes, highlighting the complexities associated with effectively conveying information to a group of learners. Several quotations have been listed below to provide an indication of the participants' thoughts:

**Components of 'effective' instruction/correction**

"Keep it [instruction] clear... If it's not clear it can be misunderstood and then they'll not do what you've asked."

"First of all [effective instruction requires] a building up of rapport, that's vital. 'Cause you could be the best communicator in the world, but the information might not necessarily sit comfortably or sink in with anybody if you can't build a relationship with them first. So it's most important that you build a strong relationship with your players first, after which you can deliver anything you like, they'll follow you to the ends of the earth."

The next three quotations concern to the coaches' instruction usage relative to age-specific requirements, while the three that follow refer to situational conditions impacting on the participants' view of effective instruction:

"...relative to whatever age group you're working with – sometimes you've gotta talk like a child when you're working with a child. Especially when trying to explain something to them that you want them to remember."
<table>
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<th>Raw Data Themes</th>
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<th>2nd Order Themes</th>
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<tbody>
<tr>
<td>Precise/clear</td>
<td>Core requirements</td>
<td>Components of 'effective'</td>
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<tr>
<td>Concise/short</td>
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<td>instruction/correction</td>
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<td>Based on prior-developed rapport</td>
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<td>Appropriate language</td>
<td>Age-specific requirements</td>
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<tr>
<td>Convey relevant information</td>
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<tr>
<td>Presented as fun/a demand</td>
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<td>Awareness of individual preferences</td>
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<td>Situational conditions</td>
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<tr>
<td>Awareness of contextual issues</td>
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<tr>
<td>Self-correction</td>
<td>Coaches' philosophy on correction</td>
<td></td>
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<tr>
<td>Coach-led</td>
<td>Pre-instruction</td>
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<tr>
<td>Establish clarity</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Opportunity for advanced thinking</td>
<td></td>
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<td></td>
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<tr>
<td>+ Reminder of coaching points</td>
<td></td>
<td></td>
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<tr>
<td>+ Generate enthusiasm/high tempo</td>
<td></td>
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<tr>
<td>+ Develops players' communication skills</td>
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<td></td>
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<tr>
<td>- Perceived as commentating/ background noise</td>
<td></td>
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<tr>
<td>- Obstacle to self-learning/freedom of expression</td>
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<tr>
<td>- Can deny coaches' understanding of players' natural performance</td>
<td></td>
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<tr>
<td>+ Opportunity to reflect</td>
<td>Concurrent instruction</td>
<td></td>
<td>Rationale for use of Instruction (&amp; Correction)</td>
</tr>
<tr>
<td>+ Information to the whole group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Issues with player forgetfulness/ denials</td>
<td>Post-play correction</td>
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</table>

Figure 5.4: Rationale for use of Instruction (& Correction)

"...make it [instruction] fun. Four simple things. If you do not keep it short they'll switch off. If it's not clear it can be misunderstood and then they'll not do what you've asked. If you keep things fun kids'll do anything for you."

"Perhaps when you're working with the older, maybe the 19s players, instruction would mean, 'this is what I want, and if you do not do it you're out of a job in six month's time', so there would be more authority behind it."
"It depends which player it is, what type of person he is. Because if he's thick skinned you need to ball at him a bit, shout at him. If he's a quiet lad, you have to go a bit steadier with him. Because if you do shout at him, next time, he'll be scared he's having it, and then he will definitely make another mistake. But sometimes even the quiet ones need...if you've gone quiet with 'im, if you've tried to praise him... and it's not worked, in the end, you know, that's what they might have to get — is a telling off."

"...it depends on the person that you're dealing with. If you keep stopping him and stopping him it might knock his confidence, he might get affected by that. Sometimes people just wanna be left alone, they know they've made a mistake."

"...I think that you correct a mistake depending on what is entailed, and what is happening in the environment, and the atmosphere that you're in... Depends what the mistake is, what's gone on before it, or what they've been told."

The final two comments within this second-order theme convey the two opposing philosophies on mistake correction expressed by the sample:

"Ideally, you'd want the player to correct it himself, 'cause you think that he's learning then."

"I think you've gotta stop it, tell 'em, and then go through it with 'em, and explain yourself to 'em. 'Cause that's your job after all, to correct their mistakes, and make 'em into better players."

**Timing of instruction/correction**

This first quotation refers to coaches' use of pre-instruction:

"I try to give my information out before I start my session, because I think... once they know what they're going in to, then they can start thinking about what they're gonna need to be doing, you know, getting their minds on the job."
Participants’ rationale for providing concurrent instruction is depicted in the following comments:

“...concurrent instruction, during the session, what I would say is just reminders all the time...so I would be continually saying, ‘I want you to do this, I want you to do that, where did I ask you to go?’ – those type of things. And I think that I do it because I don’t wanna stop the session. I prefer to let it flow, and speak through it.”

“You know, rather than, ‘this is what you’re gonna do, and away you go’...and then there’s nothing, you just watch ‘em do it. I think you’ve gotta generate some kind of...I think you can generate a tempo with that. You know, it’s like ‘one touch, good touch, come on’ (clicking his fingers while providing his example), you know, and you get a good tempo going with it.”

“...you’re providing the information to them in the way that you’d want them to be doing for each other in games. In every game. So, you know, while I’m doing this, I’m hoping that they’re picking up on it, and that they start doing it. That’s what I tell them. Because, if you’re playing out there in front of 3, 4, you know, 5 thousand people, they’re not gonna hear you are they? And so they do need a person closer to them telling them – ‘Hey, man on! Turn!’ And just little instructions like that...you’re hoping that it passes on, it rubs off on them.”

The interviewed coaches’ also expressed some concerns regarding the use of concurrent instruction. These are detailed below:

“...it’s like when your constantly telling the boys what to do as the play is ongoing – you’re just like a puppet master, dictating the play...you’d just be a commentator.”

“Sometimes providing instruction during play can help. But sometimes, with the coaching from the sideline, what you’re trying to achieve and what you’re
instructing the players to do actually happens, but you do not know whether it's happened because you've told the kid to do it, or whether they were gonna do it anyway themselves. So you're kinda preventing yourself from knowing what the boys were naturally gonna do, and denying the boys the chance to make decisions for themselves."

The issues conveyed in relation to post-play correction are apparent in the following quotations:

"...what I try to do, depending on time, is that I can either speak to them via telephone, or catch them at a more appropriate moment, when they're on their own or when they're around their parents. And this time between the incident I want to speak about and when we next speak will allow the player some time to think about things for himself."

"If it's something that you really feel is important, then it's important to stop it there and then so that everyone else sees the point, not just him. You know, everyone else goes, 'yeah, that's right, he's made that mistake, and that's how we're rectifying it'."

"There's no good in making a point, if it's a powerful point, five minutes after it's happened...saying, 'you know ten minutes ago? You made that mistake?' — and everyone's going (puzzled expression), 'well what happened?' A lot happens in ten minutes. Then, of course, you get the one, where you try to speak to them about something that's happened, and they give it the 'no boss, I wasn't there, I was over there'. And you can't prove anything, so it's lost."

Players' Instructional/Correctional Preferences: To satisfy the distinction made between instruction provided following a mistake, and instruction supplied at any other time, this general dimension will initially reflect the players' preferences for instruction per se. Additional statements regarding coaches' instruction usage following player
mistakes (i.e. ‘correction’) will then be presented. The data themes generated reveal a strong desire for coaches’ instructional usage to be conducted in a manner that was most facilitative to the players’ improvement. Raw data themes were primarily identified to focus on the content of coaches’ instruction, as well as the mode of information delivery. A strong emphasis was placed on the desire for detailed information to be supplied during instructional moments, while there was also some opposing views on being explicitly directed to perform in a prescribed manner, which contrasted with an aspiration to have some freedom in the implementation of instructions. This disparity in preferences for instruction that is entirely directed by the coach, and the opportunity for players’ involvement in the process, was more significantly emphasised in the players’ remarks on mistake correction. The players’ preferences for generic instructional delivery are reflected in the quotations below:

"He'd try to explain whatever it is we're working on in a little more detail, or say it in a different way to help you understand it. If it's shooting, he might talk about different parts of the strike he wants from you. And when he does this it just helps you to understand things that bit clearer." (Player 5, age 13)

"They also bring it down to our level. They make it very understandable, so that we can also see things from their point of view. 'Cause they've, well, a lot of them have probably experienced it all. So they know how we feel. And they do put their message across in a very understanding way, that's easy for us to take in." (Player 10, age 15)

"'Cause you do stuff in training sometimes – like a passing drill – and it might not feel like you're learning much about the game of football but when it happens in a match, you learn why you do it in the passing drills in training, and just learn it better. I wish they would do more of that in sessions, so we know why we're doing the stuff we do." (Player 9, age 14)
<table>
<thead>
<tr>
<th>Theme</th>
<th>Preferences</th>
<th>Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instructional Preferences</strong></td>
<td>Clear</td>
<td>Increased understanding</td>
</tr>
<tr>
<td></td>
<td>Appropriate language</td>
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<td></td>
<td>Detailed explanations</td>
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<tr>
<td></td>
<td>Game-related information</td>
<td>Enhanced relevance of practice</td>
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<td></td>
<td>Awareness of individual differences</td>
<td>Appreciation of learning rates/styles</td>
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<td></td>
<td>Empathy</td>
<td>Supportive reassurance</td>
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<tr>
<td></td>
<td>Consistent &amp; repetitive information provision</td>
<td>Aids retention</td>
</tr>
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<td></td>
<td>Information presented with a choice</td>
<td>Increases confidence</td>
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<tr>
<td></td>
<td>Encouragement to initiate information in own way</td>
<td>Decision-making practice</td>
</tr>
<tr>
<td><strong>Correctional Preferences</strong></td>
<td>Sensitivity</td>
<td>Emotional support</td>
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<tr>
<td></td>
<td>Provide opportunity for self-correction</td>
<td>Develops confidence</td>
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<tr>
<td></td>
<td>Coach-initiated correction</td>
<td>Encourages problem-solving</td>
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<tr>
<td></td>
<td>Provide opportunity for self-correction</td>
<td>Provide assistance when needed</td>
</tr>
</tbody>
</table>

Figure 5.5: Players’ Instructional/Correctional Preferences

"Well sometimes I find that I'm not picking the stuff up as quickly as the other boys. But I feel like I'm gonna be left behind. But Coach 1's really good with that stuff, 'cause he'll talk to me and tell reassure me that I'll catch them up soon."

(Player 3, age 11)

The following comments reflect the conflicting interests expressed regarding the players' preferences to be given direct instructions by their coach, or their wish to be supplied with information in a way that also allows them to have an input:

"I think that the way he emphasises repetition is a big thing. Like, say he says on a Monday, 'right, this week we'll be focusing on doing this...’ say, playing out from the back, and just focusing on that for the rest of the week. That gets stuff into your head for the match on the Saturday, and you're confident that you can do that stuff well then. And sometimes, when you're doing the actual drill, it really helps when he talks you through it as you're doing it, to keep reminding you of things, like, to check away, and things like that. It just builds your confidence up. And when it comes next time, you then think to yourself, 'right,
check away'. So, just them talking you through things like that seems to help.” (Player 9, age 14)

“Say sometimes when coaches have told you to ‘do this’ and ‘do that’, you might already be good at that thing, and sort of like, think ‘that’s a bit boring’. But if you’ve got your own freedom, you can do different types of passing in a passing drill. Like, you can start passing different types of technique, like working on passing with your laces, or the outside of your boot or whatever. So that’s when it’s good for you to be able to do stuff by yourself.” (Player 10, age 15)

“I like, with our coaches, like once we’ve finished a drill, the coaches will say, ‘right, we’ve given you three things to do – you can use any of them that you want’. I find that good, ‘cause if something goes wrong while you’re trying to do the one you decide on first, then you can just think about which one to choose instead, and do something different by yourself.” (Player 2, age 12)

“Yeah, like sometimes you’re doing drills and they say, ‘be inventive, and do some of your own stuff’ – which gives you like the freedom to show what you can really do.” (Player 1, age 12)

This division between the players’ preferences for coach-directed correction, or to be provided an opportunity for self-initiated correction, is also contained within these final quotations. Initially, though, reflecting the key difference between providing instruction in normal circumstances and doing so following a player’s mistake, the first statement concerns the emotional consequences to be considered:

“I’d like him just to have a quick word with me at the end and say, ‘you know what you did wrong? You didn’t get back into your shape quick enough’, or something, rather, than stopping the session in front of everybody else. ‘Cause sometimes I’m just kinda embarrassed about being told what I’ve done wrong in front of the other lads.” (Player 2, age 12)
"I think if you can correct it yourself then it's probably better, 'cause it can really help your confidence. 'Cause once you're out there on the pitch during matches, like, your coach can't be there to tell you how to correct every mistake you make. So you gotta start doing the correcting for yourself somewhere, and that's probably one of the things training's for." (Player 10, age 15)

"But if you do not know what it is that you've done wrong, then sometimes it probably helps to have the coach tell you what it is that you've done wrong, and how you can do it better." (Player 6, age 13)

Coaches' Rationale for use of Demonstration:

This general dimension emerged from 16 raw data themes all referring to the use of demonstration as a coaching behaviour to develop players' learning. These raw data themes coalesced to form three 2nd order themes: 'Components of 'effective' demonstrations', 'Demonstration provider', and 'Consideration of demonstration type'. 'Components of 'effective' demonstrations' emerged from the 1st order themes, 'Core components' and 'Speed of demonstration'. 'Demonstration provider' emerged from the 1st order themes, 'Coach-led demonstrations' and 'Player-led demonstrations'. The final 2nd order theme, 'Considerations of demonstration type', emerged from the 1st order themes, 'Advantages to providing positive demonstrations' and 'Issues regarding the use of negative demonstrations'. Consequently, this general dimension consisted of a range of issues deemed to be significant in the provision of demonstrations to learners, with many complimentary, and some cautionary, features associated with this coaching behaviour portrayed. A selection of quotations from the transcripts are provided to give examples of these issues:

Components of 'effective' demonstrations

"The features of a good demonstration are...it has to be in real time, and it has to be of the quality that you're striving your players to get to. If you want your players to be 1st Division players, or if you want them to be, at least, work from a
"15s to a 16s, or a 19s to a Reserve team level, you must be able to demonstrate what would happen at that level."

<table>
<thead>
<tr>
<th>Raw Data Themes</th>
<th>1st Order Themes</th>
<th>2nd Order Themes</th>
<th>General Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate/clear</td>
<td>Core components</td>
<td></td>
<td>Components of 'effective' demonstrations</td>
</tr>
<tr>
<td>Realistic to players' abilities</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Match tempo</td>
<td>Speed of demonstration</td>
<td></td>
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<tr>
<td>Fast-slow-fast</td>
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<tr>
<td>Develops respect</td>
<td>Coach-led demonstrations</td>
<td></td>
<td>Demonstration provider</td>
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<tr>
<td>Quicker</td>
<td></td>
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<tr>
<td>Realistic/generates confidence</td>
<td>Player-led demonstrations</td>
<td></td>
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<tr>
<td>Provides a point of comparison</td>
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<tr>
<td>Easier to understand than verbal instruction</td>
<td>Advantages to providing positive demonstrations</td>
<td></td>
<td>Rationale for use of Demonstration</td>
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<tr>
<td>Explicit information for 'visual learners'</td>
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<tr>
<td>Efficient information delivery method</td>
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<td></td>
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<tr>
<td>+ Feedback on errors to individuals (and whole group)</td>
<td></td>
<td></td>
<td>Considerations of demonstration type</td>
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<tr>
<td>+ Provides opportunity for players to think as coaches</td>
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<tr>
<td>+ Reinforcement of standards to be met</td>
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<td></td>
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<tr>
<td>- Damage confidence</td>
<td></td>
<td></td>
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<tr>
<td>- Can cause subconscious repetition of 'poor' performance</td>
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Figure 5.6: Rationale for use of Demonstration

"Try and do it at match pace at first, and then just walk through it... If they can walk through it at slow pace, can they quicken the pace up and get it up to match pace with you."

Demonstration provider

"...for me, I do like to use demonstrations massively 'cause I think it gives me an edge on everybody before we even start — because I can do it. You know, I'm not trying to be clever, I just think that it's a powerful tool to use...that I have."
"...sometimes it’s best and most effective for players to get another player to do their demonstration, where they can associate better with one of their own peers."

Consideration of demonstration type

The following quotations refer to coaches’ use of positive demonstrations:

"...the demonstration should provide the players with a visual idea of how to perform, whatever it is you’re showing them, correctly. So they should have a visual image of that in their mind and hopefully think about that when they’re performing."

"Demonstrations are more simple for people to understand than verbal information because words can be misconstrued, misunderstood, too long. If you demo it’s dead simple, ‘you’ve just gotta copy that’, and anybody can understand that."

"[demonstrations are effective]...for visual learners...the demonstration should provide the players with a visual idea of how to perform, whatever it is you’re showing them, correctly."

The remaining comments from this general dimension reflect the positive and negative issues expressed in relation to the provision of negative demonstrations. The first two statements support the use of the behaviours:

"I pick on a lack of effective play to highlight to an individual that ‘this needs to be improved’, whatever this may be. And also, it can trigger off other players – they can learn also that, ‘maybe the next time it could’ve been me that was making this error’." 

"...if you go and show them [a negative demonstration], they’re watching you, they’re coaching you – they’re giving you the information on what you’re doing wrong, and telling you how to correct it."
"...having done various courses this year on imagery, a very interesting point was made to me that if you ever demonstrate something badly then that image is in their mind and they may perform that subconsciously, without thinking about it. So I try not to do that so much anymore."

"...to be honest with you, I do not spend a lot of time on that sort of thing [providing negative demonstrations]...I think it would be negative for the individual if he's made a mistake, 'cause the other kids pick up on him having made a mistake. It can affect their confidence."

Players' Demonstration Preferences: The players' had few preferences for their coaches' use of demonstration. This was reflected in the low number of raw data themes generated from the data. The comments below summarise the participants' preferences for demonstration provision:

"I think when he demonstrates stuff, I find that really useful. I find that I learn stuff quite well when Coach 2 demonstrates things, 'cause his technique's so spot on with everything. It's so full of energy too, and you're just blown away by some of the things he shows you sometimes, you know. I just try to do exactly like he's just shown me." (Player 12, age 14)

"I like the coach to run through it at the speed we need to use it at in the games. You know, there's just no point in him watering it down for us, 'cause it'll be no use to us when it comes to us using it in a game. If that's what we need to do, then that's what we need to start practicing." (Player 10, age 15)

"Sometimes, like, once or twice, when I've not understood it, I've just asked the coach, and then he'll maybe walk through it so that I've understood it fully." (Player 1, age 12)
Coaches' Rationale for the use of Questioning: This general dimension developed from 23 raw data themes reporting the coaches' opinions on the use of questioning within practice sessions as a coach behaviour. There were three 2nd order themes: 'Components of 'effective' questioning', 'Issues regarding type of question asked', and 'Benefits of asking questions'. 'Components of 'effective' questioning' was generated from two 1st order themes, 'Core components' and 'Subjective preferences of coaches'. 'Issues regarding type of question asked' was created from the 1st order themes, 'Closed questions' and 'Open questions'. 'Benefits of asking questions' developed from the themes, 'Advantages for coaches' and 'Advantages for players'. The raw data themes from this general dimension included many supportive statements for the use of questioning as a coaching behaviour to develop players' learning. While some negative comments were made, it appears as though these statements related to detrimental aspects associated with deficient use of the behaviour. A selection of quotations depicting the opinions relating to this general dimension are offered below:
### Raw Data Themes

<table>
<thead>
<tr>
<th>Clear/understood</th>
<th>Concise</th>
<th>Based on prior-developed rapport</th>
<th>Questions directed to whole group</th>
<th>Should be leading</th>
<th>Should provoke wide-ranging thoughts</th>
<th>+ Easy for coach to devise</th>
<th>+ High likelihood of getting a “correct” response</th>
<th>- Can be guessed</th>
<th>- Susceptible to unintentional coach ‘leading’</th>
<th>+ Forces players to think</th>
<th>+ Encourages a deeper level of cognitive processing</th>
<th>- Can be confusing for players</th>
<th>- Difficult for coach to devise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core components</td>
<td>Subjective preferences of coaches</td>
<td>Closed questions</td>
<td>Issues regarding type of question asked</td>
<td>Rationale for use of Questioning</td>
<td>Open questions</td>
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</table>

### Components of effective questioning

The initial quotations presented concern the participants’ views on the core components of effective questioning:

"...if you do get to know your players...this can open up many channels so that they feel more at ease to answer any question that you pose to them because, basically, through the building up of rapport, they feel free and they feel at ease."

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![Figure 5.8: Rationale for use of Questioning](image)

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"I do not pick on individuals enough in terms of question and answer. I think if I ask a question in front of a group the same faces will always come up with an answer, And I think sometimes it needs for me to pick on specific players."

The following two comments reflect the varied intentions expressed by the participants regarding the effective use of questioning:

"...when I ask them a question, I'd want them to feel like they had an option, but I know that they really don't. So they feel like they're getting a choice, but I know they have no choice. 'Cause I know that what I'm directing them to is the right answer. You know, if I'm talking to a young lad, and I know that the best ball is either a short ball into feet or one in behind for someone to chase after, there's no two ways about it...that's what I know is right. So I'll give him the two options in my question, 'cause I don't want him to come back and say that he might hit it out over to the left or right or whatever, 'cause I know that's not the right ball at all. No matter what he says, I know it's wrong."

"...the question you ask should have the group really thinking, working really hard to come up with an answer, or a solution, more like, it's a solution to a problem I'm after. And, if the question's a good enough one from me, and I've got everyone on my level, clued up to what I'm talking about, then it should have my group of players coming up with lots of different opinions."

Issues regarding type of question asked
The quotations below depict the issues expressed regarding the type of questions coaches ask. These comments reflect some positive and negative features associated with asking closed and open questions:

" I think closed questions definitely have a place, 'cause they do have certain advantages. If it's to help a player recognise that he understands something, then giving him two options will, or should, ensure he gets the right answer."
“You'll find that sometimes you'll ask a closed question where, perhaps, only one word is sufficient and...it could be a 'yes' or a 'no', or a 'right' or a 'left', or a 'short' or a 'long', and sometimes that doesn't give you the answer of whether they know the answer, 'cause they'll guess. And perhaps you've even guided them one way anyway.”

“...a really good question is something that they have to think about, and not just have a 50-50 guess at. It's something that encourages them to actually engage their brain and think about what the best idea is for them to work the ball from A to B, for instance. You know, it really gets them thinking about the different things they've got to consider.”

“...if the situation is one where the kid's got a few different people that he can pass it to, and I say to him, you know, 'you can go there, or there, or there, which one are you gonna pick?' — to a 9/10/11 year old boy, it can be confusing for him. Too many options can be confusing.”

**Benefits of asking questions**

Several advantages were conveyed in relation to the use of questioning. The first collection of comments, below, refer to the perceived benefits for coaches:

“...it's [questioning is] a method of understanding what peoples' needs are, you know, finding these out through questions.”

“I like to do question and answers with them a lot at the end, 'cause a question and answer session tells you a lot about whether they've been listening.”

“I mainly ask questions to players to find out if they know why I want them to do things as I do. Or why something has happened during play.”

“...it helps me 'cause you can learn a lot from kids. Somebody can ask a question and you might not know the answer, so you go and find out the answer. You might
make a comment and some kid'll go, 'well no, I disagree, I think it might be this' and there's times when you look back and you go, 'that's right, spot on'."

The remaining quotations within this general dimension convey the perceived advantages for players from asking questions:

"You're also getting them to talk and communicate, so he [the player] feels more comfortable in a group and feels more comfortable with you."

"...[questioning] it reinforces that they know, that they've learnt a process that you [the coaches], perhaps, taught 'em over the past, or at another level."

"I think it [the use of questioning] breeds a type of inner coach in them, they're asking themselves questions, they're becoming more, sort of, I like to think it could lead to a point where it's leading the kids to think like coaches, because then they can teach themselves. They're asking the questions then that they're used to you asking them. Or maybe even asking questions that you might not've thought of. You know, just questioning 'why?''"

"...it develops their understanding of whatever it is you're doing."

"[The use of questioning]...helps him to educate himself, to coach himself about things that happen on the field. You, as a coach, are teaching him the shape of the game – 'this is the predictable thing that happens' – but that doesn't always happen. So you're helping the kid to think on his feet, 'I know what to do if this happens, I know what to do if that happens' 'cause you've gone through it with the kid and he understands it. So by asking him different questions about the principals of the game, the things that do not change, regardless of the position on the pitch, you're hopefully helping him to make decisions for himself on the pitch. All the coaching in the world doesn't apply once they cross that white line, because it's then up to the players themselves. So when you're working with the boys on a Wednesday and a Friday, and asking them the questions about the
"various things that you’re working on, you’re hopefully encouraging them to ask the same questions for themselves when they’re out on the pitch on a Sunday. I think asking the boys questions is the best way to help them do that thinking for themselves, when they’ve not got you to do their thinking for them."

Players’ Questioning Preferences: This general dimension generated several raw data themes that largely welcomed the use of questioning during coaching practices. Although there were some reservations acknowledged, the findings from this section suggest that players’ consider coaches’ use of questioning to be beneficial to their development. Indeed, the participants were quite specific in detailing the impact of different types of coach questioning methods, identifying weaknesses in some of these, but endorsing others. A selection of quotations from the transcripts are provided to give examples of the players’ views:

<table>
<thead>
<tr>
<th>Theme</th>
<th>Preferences</th>
<th>Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask for players' opinions</td>
<td>Establish players' desires/needs</td>
<td></td>
</tr>
<tr>
<td>Ask questions to all team members</td>
<td>Generates team cohesion</td>
<td></td>
</tr>
<tr>
<td>Do not ask questions to test players</td>
<td>Creates a negative association with questioning</td>
<td></td>
</tr>
<tr>
<td>Do not ask questions (generally)</td>
<td>Incorrect answer can damage confidence</td>
<td></td>
</tr>
<tr>
<td>Do ask questions (generally)</td>
<td>Check players' understanding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increases confidence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coaches understand players' thought processes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reminds players of coaching points</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encourages player reflection</td>
<td></td>
</tr>
<tr>
<td>Do not ask closed questions</td>
<td>Serve little/no learning purpose</td>
<td></td>
</tr>
<tr>
<td>Do ask open questions</td>
<td>Encourages deeper level of thinking</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encourages autonomous learning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encourages critical thinking</td>
<td></td>
</tr>
</tbody>
</table>

Figure: 5.9: Players’ Questioning Preferences

"Coach 3 does actually say, it’s important to hear the players’ opinions. He says, as a coach, there's no point in just teaching your players a load of things, and all the players do not like what it is that's being taught, or how he's teaching
'Cause you are a player and you're the one who's actually doing the thing that's been taught... It allows you to say whatever it is you want to say, it allows you to get your opinions out there. Instead of just closing it up when you do not like or agree with something, it allows you say so." (Player 7, age 14)

"He'd be open with everyone else as well. He went round the team asking them how they felt they did as well, getting everyone to contribute a bit... so it sort of brings the team together, with you and all your teammates pitching in." (Player 9, age 14)

The next two quotations depict the players' concerns regarding their coaches' use of questioning:

"Sometimes, with the way he'd ask them, you'd feel a bit worried about getting it right, 'cause if you said the wrong answer then he might think that you're not paying attention to the session. And you'd tend to not want him to ask you a question, just in case that was what he was up to. So you did worry about whether you were gonna get it right or not. Even if you are trying and you are focusing, if you didn't know the answer you'd worry, 'cause you'd think that they might not think that." (Player 10, age 15)

"You worry a bit, 'cause sometimes you do not know what the right answer is. So, if you get it wrong, you feel a bit dumb, really. So I do not really like questions being asked in case I do not know the answer." (Player 3, age 11)

The following comments reflect some of the benefits the participating players associate with the generic use of questioning:

"[it makes you]... more confident, 'cause if you know it, then you know that you've understood fully what it is that he's asked of you." (Player 5, age 13)

"... sometimes you'll have done something, like last Tuesday, I had a bad touch and I didn't make a pass properly. And Coach 2 asked me, 'why didn't you turn
out?' and I said that I thought that someone was behind me stopping me from turning out. He kinda understood why I'd turned in then, and that I'd not just turned in without thinking about it. Even though there wasn't someone outside me, at least he knew that I had thought about it, and made a decision – even if it was a wrong one. But he was then able to coach me about looking over my shoulder, which wouldn't've happened if he hadn't asked me 'why?'" (Player 11, age 14)

"It might just re-emphasise something that you've done in the session. It might be something that you've maybe forgotten about, and a question can just bring it back into your memory, and just makes you think about the little details, sometimes." (Player 9, age 14)

The remaining quotations relate to the players' views on the use of open and closed questions during practice sessions:

"Sometimes they just ask questions, and there's just no point in asking them. You know, you're all just stood there knowing exactly what he's gonna say, and you can get a bit frustrated sometimes, 'cause it's just a waste of time. Like, 'and do I want him to go long, or to go short?' And we'll all know the answer before he even gets the question out fully...it's just obvious what he's asking." (Player 10, age 15)

"It makes you have to think even harder, and give a better answer. Instead of it just being, like, a 'yes/no' answer, there's a bit more detail needed, so you're having to think a bit more about the answer." (Player 1, age 12)

"It really gets you thinking, and I think it's better to think about things for yourself, than to be told what to do by your coach. You know, you can sort little problems out for yourself then instead of having to depend on your coach." (Player 2, age 12)
"When they ask me one [a question] that has wide-ranging answers, I tend to go through the options and think, 'what would I do in that situation?' And you go through the stuff you've been taught and just work out which decision's best." (Player 1, age 12)

Coaches’ Rationale for the use of feedback: This general dimension was created from 26 raw data themes. These raw data themes combined to form three 2nd order themes: 'Components of 'effective' feedback', 'Features of different types of feedback', and 'Timing of feedback provision'. The 2nd order theme, 'Components of 'effective' feedback' was developed from the 1st order themes, 'Core components' and 'Situational considerations'. 'Features of different types of feedback' was generated from 12 raw data themes based on the participants' opinions on the implications of using feedback types categorised as 'positive/negative' and 'general/specific'. There were many instances of overlap within the coaches' discussions of these feedback types, with several features mentioned by the sample applying to more than one of the feedback categories. 'Timing of feedback provision' was developed from the two 1st order themes, 'Concurrent feedback' and 'Post-play feedback'. Like some of the previous general dimensions that have been concerned with specific coaching behaviours, this general dimension produced great insight into the issues coaches consider when utilising an often-demonstrated coach behaviour. The opposing spectrums of the positive-negative and general-specific feedback types highlights the complexity inherent in providing feedback that is appropriate to players' developmental needs. A selection of quotations have been chosen from the interview transcripts to illustrate the feedback issues represented within this general dimension:

**Components of 'effective' feedback**

The first two quotations reflect the core components outlined by the participants:

"...good feedback should contain all the information that you've coached throughout that session."
"I believe that your tonality plays a massive part in the emphasis. If you're very shallow, very low volume with the topic of defending...you know it needs to be high volume, very direct, very responsive and a little bit of aggression in your tone backs it up as well... a variety of words used obviously adds spice, depending on how they're used, and also when they're used."

The situational conditions acknowledged to impact on effective feedback are apparent in the following comments:

"I think you have got to know your players...we've got 17 players, all individual, all can take different behaviours. You know, you can give a rocket up the ass to one of them, and another one would just be withdrawn for the next week or so. So I think the level of feedback, and the terminology that you've got has to be constructed very carefully."

"...it's seeing what's happening in the session, how the lads have been, taking in everything that's happened to them during the week - Are they struggling with confidence? Are they flying high? Are they flying high to the point where I have to knock 'em down a peg? Or is it that low that I've gotta lift 'em up?"
### Raw Data Themes

<table>
<thead>
<tr>
<th>Clear</th>
<th>Concise</th>
<th>Core components</th>
<th>Components of 'effective' feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contains relevant information</td>
<td>Appropriate language/tone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness of individual preferences/requirements</td>
<td>Awareness of contextual issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provides encouragement/motivation</td>
<td>Provides information on player development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increases/decreases confidence</td>
<td>Develops team spirit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourages/discourages repetition of desired/undesired performance behaviours</td>
<td>Reinforce the session's coaching points</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highlights areas for improvement</td>
<td>Demonstrates coach interest in player</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirms mastery</td>
<td>Develops player anxiety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enables player-involvement in learning process</td>
<td>* Keeps coach involved in the session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Provides immediate comment on a quickly-changing environment</td>
<td>+ Prevents issues with player forgetfulness/denials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Attentionally demanding</td>
<td>+ Allows time for player reflection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Provides a confidence boost (in front of others)</td>
<td>+ Increases likelihood of player concentration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ Allows time for coach reflection</td>
<td>- Requires an interruption to the session</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>General Dimension</th>
<th>Features of different types of feedback</th>
<th>Rationale for use of Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>* Positive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Specific</td>
<td>Features of different types of feedback</td>
</tr>
<tr>
<td></td>
<td>- General</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Concurrent feedback</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Timing of feedback provision</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Post-play feedback</td>
<td></td>
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</tbody>
</table>

Figure 5.10: Rationale for use of Feedback

### Features of different types of feedback

The first group of quotations within this section relate to the issues mentioned in regard to providing positive and negative feedback. These quotations, however, are not exclusively linked to these types of feedback, as some of the issues involved also concern the use specific and general feedback:

"When I provide negative feedback I would hope that that would go alongside something positive, so it might be, 'you've had a great first touch, but your pass was poor' - so the negative wouldn't be in isolation. And then next time hopefully..."
they'll be concentrating on the pass 'cause they know they've had a nice first touch, they know they can do that bit."

"...it generates masses of confidence, it generates a good atmosphere, it can generate a good team spirit – just by giving a team good feedback: 'hey, you lot were excellent today, different class. How you trained this week was absolutely unbelievable, and you've got your rewards on the Saturday. Let's do that next week.' That can set up the whole week. And, you know, on the flip side of that, if you go, 'oi, you were poor this week, you were sloppy in training, you were poor in the game, and next week we're gonna get it spot on.' That also can generate good. You know, it can be positive. Or, on the other side of that, it can have a negative effect – some people can just get upset by the criticisms you make."

"I do not like to think that any coach would turn round to a goalkeeper and say 'that's rubbish' or whatever...All you're gonna do then is get the keeper worried about the next time the ball comes in to him, and he's liable to make a bigger mistake."

"I think with negative feedback, you do for...I think some kids do not think they're doing bad, and I think that sometimes they need a reality check. 'It's not ok to keep making those mistakes, or making those bad runs, or missing those chances' – I think you've gotta give 'em some negative feedback to give 'em a wake-up call."

The remaining quotations in this section are concerned with the provision of specific and general feedback. However, like the quotations already listed within this 2nd order theme review, some of the quotations are also applicable to positive/negative feedback issues:

"From a learning perspective I think specific feedback's a lot better...Because if you say 'well done' to somebody, you know, is it 'well done' because I scored a goal? 'Well done' 'cause I made that right run?...'Well done', specifically, 'because that was a great pass. You've listened, you've learned, you've got that
right'. Sometimes you'll say to somebody, negatively, 'that's crap'- their confidence is low. But 'that's crap because of this, this, and this' gives them constructive, negative feedback, and you've given 'em a reason why you've done it. I think it's easy to say 'well done', it's easy to say 'that's crap' – I think kids would learn more by telling them the 'what', where', 'when' and 'why'."

"The point of feedback, I think, is to compliment everything that they've improved on, to give them information on how they're doing in the session."

"By actually specifically saying what they've done well, it's showing them that you care, showing them that you're actually taking an interest in what they're actually doing. And you're actually rewarding that individual for a specific skill that they've done."

"...it's positive reinforcement of what they're doing. So they know what they're doing right, and they know when they're doing it right."

"The praise should tell him that what he has done is right and he should try to reproduce what he's just done."

"...if they've been coached from a young age then they've got the education, they've got the experience. They should understand what it is you're referring to and be able to use the information you're giving them for themselves."

"...sometimes I think there's no point in just hammering away – if a boy's over-hit a pass, and he knows he's over hit the pass, there's no point in telling him, specifically, 'you've over-hit that pass' – I think in certain cases, it's better just to say, 'unlucky' – 'cause it's more encouraging. And sometimes basic encouragement is the most important thing for them. I can see that he's trying, but what he's attempting is a difficult thing for him. But I can see he's working on it,
and that's how he'll get better at it, so just encouraging him to keep trying with a 'do not worry, that's unlucky' is appropriate."

"Sometimes I think that coaches give general praise — especially with the younger ones — they give it because they feel they need to give it. You know, it keeps them involved in the session, the coach. You know, sometimes you'll hear someone go, 'oh well done, awh, unlucky' — so they give the praise out before something's even happened. And it might be, 'oh well done' — and it's a poor pass! But then they're, 'oh, unlucky' — it's just sometimes they feel the need to say something, say anything, just to keep everything involved."

**Timing of feedback provision**

The following statements were made in reference to the provision of feedback concurrent to players' performance:

"Sometimes there's no need to stop a session, as long as they understand what they've done well. So instead of saying 'good', it would be 'good pass', and say their name so they can hear you. If you stop them every time something is good or bad I think it'll drive them insane. Sometimes you need to let it flow a bit."

"I think you've gotta hit 'em straight away with the information...Because if you leave it 2 or 3 minutes, 5 minutes, 10 minutes, they'd've forgot the situation. Or, they might be saying 'oh, I wasn't there'."

"...if you're giving feedback during a training session it's gotta be very simple, very precise, 'cause the player will still be processing what they've done, and still be in his own little world. He'll still, in his own head, be talking about what he's just done. So you may wanna speak to him afterwards, while he's still got that thought in his mind, after he's had some down time, some time to chill out and relax, and is in more of a reflective environment."
The remaining quotations within this general dimension relate to post-play feedback:

"I think it's better to stop whatever it is the kids are doing and then give them your feedback because it allows him to concentrate more on what you're saying rather than hearing something from the touchline while trying to concentrate on the task he's involved in as well. You know, so he's concentrating on two things at the same time. If you stop everything, the only thing he needs to concentrate on is you."

"...sometimes you can say the wrong thing, or you can get wrapped up in the game, or an atmosphere, or emotion, and you do not give the right feedback. So sometimes I try and take a step back from the environment and come back to the boys with my feedback when I've had a proper chance to think about things."

Players' Feedback Preferences: The generated findings reveal a firm desire for coaches' feedback provision to essentially be specific in terms of the detail provided, and it was commonly requested that feedback be delivered in an honest manner. The developed themes show the players' to be consistently narrow in their desires for coach feedback, with just three preferences made. However, the reasons for the preferences they cited provided a greater range of issues. Several quotations are presented below to illustrate the general dimension, with the first three comments referring to the players' desire for honesty:

"When he tells you about how you're doing, good or bad, at least you know where you stand in terms of how well you're progressing. So you can go off and think about what he said, and try to do any extra work if it's needed." (Player 12, age 14)

"...say if we had a bad team performance, they'd hit you hard and make sure you knew about it. And then you'd have a very serious session about what you did wrong, where you'd concentrate on those things. But that's exactly as I want it to
be in that situation. 'Cause if we've not been playing properly well then we need to be told, 'cause it can really get you going again." (Player 9, age 13)

"I think it's better when they're firm with you like that, 'cause you know that they care about you then, and you know that they know you can do better... 'cause if they don't say anything, you get the feeling sometimes that they're not really bothered." (Player 11, age 14)

<table>
<thead>
<tr>
<th>Theme</th>
<th>Preferences</th>
<th>Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be honest</td>
<td>Increased understanding of ability/development</td>
<td></td>
</tr>
<tr>
<td>Be specific</td>
<td>Encourages repetition</td>
<td></td>
</tr>
<tr>
<td>Use general feedback with caution</td>
<td>Increases motivation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not sure of who/what coach is referring to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can make false presumptions</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5.11: Players' Feedback Preferences

The players’ indicated a preference for feedback that was specific and informational. The reasons for this desire is detailed below:

"It can get your self-esteem right up. 'Cause when your manager's saying, 'right, this is what you're good at, and you're really good at that' it makes you think about it, and it makes you use it more after. Like when Coach 3 says to me that my strength is like knocking the ball and just sprinting past defenders (uses arm signal to show an explosive, direct movement forward) it makes me do it more because you know that that's a strength. And you play to your strengths, really, you play to what you're good at, to what ability you've got." (Player 8, age 14)
"Like, say if you're told that you're specifically holding someone off well, well then you'd probably use your body more. 'Cause you're thinking, well I've got confidence in using my body now, 'cause coach has told me that what I was doing was the right thing, that I can do it well. So if you come up against a physical player, you're not gonna be thinking, 'oh, he's gonna batter me, he's gone nudge me off the ball', you'll be concentrating on what you're gonna do with the ball, 'cause you know you can hold him off." (Player 11, age 14)

"'Cause when you've done a good pass, you'd like to hear the coach shouting, 'well done, Player 7, good pass!' 'cause it just makes you really confident, and you know that the next time that you're gonna be in a position to make a pass, you're just gonna do it with confidence. You just know that you're not gonna do it wrong." (Player 7, age 14)

The players did, however, recognise general feedback to be helpful to them. The following quotation reflects this, although the two statements that follow suggest that the lack of detail contained within general feedback can negate any intended benefits:

"It's good to hear him praising you from the sidelines, 'cause it can just give you that bit of a lift. You know, when it's all positive stuff, like, 'well done, excellent, great stuff', it can just keep you pushing on." (Player 9, age 14)

"You might over-estimate how good you are. If he says, like that you've done well, after you've been doing a tricky technique with the ball, that involved you doing a lot of different little things well, you might think that you've got it all sorted perfectly, when you really haven't. But if he tells you specifically what you did well, then there's no mistaking it." (Player 10, age 15)

"Sometimes, when he's standing there and he's saying, like, 'well done, that's it, keep it going, nice play', you just do not know who it is he's speaking to, or what it is he's talking about. So you just do not really pay too much attention to what he's saying." (Player 5, age 13)
Impact of Players’ Age Group on Approach to Coaching: This general dimension was generated through a collation of the raw data themes identified within the preceding general dimensions. As such, the quotations identified in developing this general dimension will not be displayed, as doing so would involve a significant amount of repetition. These raw data themes, though, were specific to coaches’ comments on how players’ age influences their coaching. Inherent with the ages of Academy players is their stage of development. Thus, while the coaches referred to “older” and “younger” players, it is important to also consider the developmental issues associated with playing at the respective levels the coaches are alluding to: ‘younger’ players are relatively new to the Academy/Centre of Excellence programme, whilst ‘older’ players will be nearing the end of their youth development, approaching senior level football. The 2nd order themes developed from age-dependent raw data themes related to the following areas of coaching: ‘Learning environment’, ‘Communication’, ‘Coaching focus’, ‘Instruction’, ‘Demonstration’, ‘Correction’, ‘Questioning’, and ‘Feedback’. The raw data themes contained within each 2nd order theme have been categorised according to the participant from which the raw data theme emerged. Therefore, the data is presented to reflect the comments made by the respective age group coaches. Furthermore, the participants made several comments in reference to how their approach might be altered if they were to coach ‘younger’ or ‘older’ players, or to express their views on how coaches should, or actually do, approach working with players of other age groups. The general dimension thus contains several perspectives on each of the 2nd order themes.
<table>
<thead>
<tr>
<th>2nd order Themes</th>
<th>&quot;OLDER&quot; YOUTH PLAYERS</th>
<th>&quot;YOUNGER&quot; YOUTH PLAYERS</th>
<th>UNDER 12</th>
<th>UNDER 15</th>
<th>UNDER 19</th>
<th>Raw data themes emerging from any U15/U19 coaches' comments regarding &quot;younger&quot; players</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning environment</td>
<td>- Firm on discipline (II)</td>
<td>- Try to have fun with them</td>
<td>- Have more fun</td>
<td>- Firm on discipline (II)</td>
<td>- Firm on discipline (II)</td>
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</tr>
<tr>
<td></td>
<td>- Highly critical</td>
<td>- Reduce any sources of stress</td>
<td>- Softer approach</td>
<td>- Highly critical</td>
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<tr>
<td></td>
<td>- Emphasis on results</td>
<td>- Encourage self-paced development</td>
<td>- Encourage self learning (II)</td>
<td>- Emphasis on results</td>
<td>- Emphasis on results</td>
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<tr>
<td></td>
<td>- Demanding/impatient</td>
<td>- Develop technique</td>
<td>- Encourage self learning</td>
<td>- Demanding/impatient</td>
<td>- Demanding/impatient</td>
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<tr>
<td></td>
<td>- Emulate pro life</td>
<td>- Balance of structure &amp; freedom</td>
<td>- Develop problem solving</td>
<td>- Emulate pro life</td>
<td>- Emulate pro life</td>
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</tr>
<tr>
<td></td>
<td>- Position specific practice</td>
<td>- Team shape (less on technique)</td>
<td>- Encourage problem solving</td>
<td>- Position specific practice</td>
<td>- Position specific practice</td>
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</tr>
<tr>
<td></td>
<td>- Game understanding, bravery, develop winners (above??)</td>
<td></td>
<td>- Encourage problem solving</td>
<td>- Game understanding, bravery, develop winners (above??)</td>
<td>- Game understanding, bravery, develop winners (above??)</td>
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<td>Communication</td>
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<td>- Brief with verbal communication</td>
<td>- Simple/appropriate terminology</td>
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<td></td>
<td>- Speak to players as 'grown-ups'</td>
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<td>- More relaxed approach</td>
<td>- Speak to players as 'grown-ups'</td>
<td>- More relaxed approach</td>
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<td>Coaching focus</td>
<td>- Develop skills, techniques, not so much understanding (basic levels)</td>
<td>- Develop technique</td>
<td>- Develop skills, techniques, not so much understanding (basic levels)</td>
<td>- Develop technique</td>
<td>- Develop skills, techniques, not so much understanding (basic levels)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Encourage problem-solving</td>
<td>- Encourage player experimentation – development through trial and error</td>
<td>- Encourage problem-solving</td>
<td>- Encourage player experimentation – development through trial and error</td>
<td>- Encourage problem-solving</td>
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<tr>
<td>Instruction</td>
<td>- Should contain a fun element</td>
<td></td>
<td>- Should contain a fun element</td>
<td>- Use concurrent instruction to generate the high tempo required</td>
<td>- Use concurrent instruction to generate the high tempo required</td>
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<td></td>
<td></td>
<td>- Demonstrations to be done at match pace</td>
<td>- Demonstrations to be done at match pace</td>
<td>- Demonstrations to be done at match pace</td>
<td>- Demonstrations to be done at match pace</td>
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<tr>
<td>Demonstrations</td>
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<td></td>
<td>- Less demonstrations</td>
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<tr>
<td>Corrections</td>
<td>- Less coach led corrections (II)</td>
<td>- Discussion with player to ensure understanding of error</td>
<td>- More easily angered/annoyed/frustrated by mistakes</td>
<td>- More easily angered/annoyed/frustrated by mistakes</td>
<td>- More easily angered/annoyed/frustrated by mistakes</td>
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<tr>
<td></td>
<td>- Encourage self learning (II)</td>
<td>- Encourage self-correction through use of Q&amp;A</td>
<td>- More post-play correction to ensure remedy of mistakes</td>
<td>- More post-play correction to ensure remedy of mistakes</td>
<td>- More post-play correction to ensure remedy of mistakes</td>
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<tr>
<td></td>
<td>- Demonstrate patience with mistakes</td>
<td>- Encourage self learning (II)</td>
<td>- Less coach-led corrections (II)</td>
<td>- Demonstrate patience with mistakes</td>
<td>- Less coach-led corrections (II)</td>
<td></td>
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<tr>
<td></td>
<td>- Less frequent post-play correction – allow flow</td>
<td></td>
<td>- More easily angered/annoyed/frustrated by mistakes</td>
<td>- More easily angered/annoyed/frustrated by mistakes</td>
<td>- More easily angered/annoyed/frustrated by mistakes</td>
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<tr>
<td>Questioning</td>
<td>- Use Q's to help develop players' game understanding</td>
<td>- Used to develop communication skills &amp; confidence</td>
<td>- Use Q's to help develop players' game understanding</td>
<td>- Used to develop communication skills &amp; confidence</td>
<td>- Used to develop communication skills &amp; confidence</td>
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<tr>
<td></td>
<td>- Should ask players leading Q's (to ensure correct answer), or Q's with few possible answers</td>
<td>- Best way to deal with mistakes</td>
<td>- Should ask players leading Q's (to ensure correct answer), or Q's with few possible answers</td>
<td>- Best way to deal with mistakes</td>
<td>- Best way to deal with mistakes</td>
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<tr>
<td></td>
<td>- Q's can easily confuse young players</td>
<td>- Encourages decision making</td>
<td>- Q's can easily confuse young players</td>
<td>- Encourages decision making</td>
<td>- Encourages decision making</td>
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<tr>
<td></td>
<td>- Players often don't understand why they do things, so no point asking them about it</td>
<td></td>
<td>- Players often don't understand why they do things, so no point asking them about it</td>
<td>- Players often don't understand why they do things, so no point asking them about it</td>
<td>- Players often don't understand why they do things, so no point asking them about it</td>
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<tr>
<td>Feedback</td>
<td>- More encouraging</td>
<td>- Praise all successes</td>
<td>- More encouraging</td>
<td>- Praise all successes</td>
<td>- More encouraging</td>
<td></td>
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<td></td>
<td>- Should be provided with specific feedback so they learn about the game</td>
<td>- Important to provide feedback post-play as concentration skills not so good</td>
<td>- Should be provided with specific feedback so they learn about the game</td>
<td>- Important to provide feedback post-play as concentration skills not so good</td>
<td>- Important to provide feedback post-play as concentration skills not so good</td>
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<tr>
<td></td>
<td>- Coaches have tendency to provide irrelevant feedback [just to be involved in session]</td>
<td></td>
<td>- Coaches have tendency to provide irrelevant feedback [just to be involved in session]</td>
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<td>- Coaches have tendency to provide irrelevant feedback [just to be involved in session]</td>
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<td></td>
<td>- Can be used to create team cohesion</td>
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Figure 5.12: Impact of Players' Age Group on Approach to Coaching
DISCUSSION

The purpose of this chapter was to establish elite youth football coaches' rationale for utilising particular coaching behaviours during practice sessions, and to identify players' preferences for coaches' behaviour usage. A further aim was to gain a greater understanding of how the implementation of the discussed coaching behaviours varied as a function of players' age group. Considering the sample size of each of the interviewed groups, and the elite population from which the participants were drawn it is important to recognise at this stage that any inferences or conclusions made within the remainder of this section are specifically related to players and coaches within English elite youth football. Accepting this, the research objectives for this study were achieved through the use of interpretive (coaches) and focus group (players) interview techniques, as well as inductive and deductive content analysis procedures.

The study made a number of contributions to coach behaviour research by responding to requests to further the field's understanding of coaching practice. Previous investigations have called for researchers to not only study the pedagogical behaviours exhibited by coaches, but to also explore the thought processes and external factors underpinning behaviours (e.g. Arrighi & Young, 1987; Cote et al., 1995; Jones et al., 1997; Potrac et al., 2000, 2002), and to discuss the appropriateness of coaches' behaviours for the athletic group for which they are intended (Tinning, 1993). Therefore, the present study followed on from the work of Potrac et al. (2002), Jones et al. (2003) and Smith and Cushion (2006), in particular, by studying the thought processes of coaches from various age groups within English elite youth football. Whilst no such research has been recognised to have considered athletes' perspectives on, and explicitly, preferences for coaching behaviours, this investigation also sought to extend the questionnaire-based research associated with Chelladurai and colleagues (e.g. Chelladurai & Carron, 1982). The following discussion is structured in four sections: factors impinging on coaches' practice behaviours; coaches' rationale, and players' preferences, for the use of coaching behaviours; influence of players' age on coaches' practice behaviours (with references to Study 1b); and a summary of key findings.
Factors impinging on coaches’ practice behaviours

Jones et al. (2003) have suggested that coaches’ previous experiences as practitioners, their participation in coach education programmes, and their traditional beliefs about effective coaching behaviour are likely to influence their practice behaviours. This suggestion is consistent with three popular models of coaching effectiveness (Cote et al., 1995; Horn, 2002; Smoll & Smith, 1989) which indicate that coaches’ behaviours are mediated by issues such as their perceptions of their role, their expectations, beliefs/philosophies, and goals, and by athletes’ personal characteristics as well as contextual factors. Interviews with the participating coaches in this study provided many instances that suggest these factors are indeed applicable to the coaching behaviours of English elite youth football coaches. Several of these themes, along with some additional themes, emerged within three general dimensions relating to ‘major roles of an Academy/Centre of Excellence coach’, ‘coach education and development’, and ‘beliefs on coaching’.

Major roles of an Academy/Centre of Excellence coach
Martens (1997) has summarised the skills required for effective coaching to incorporate those used by teachers, psychologists, physiologists, and business executives. The first three of these professions were referred to by the participants in the present study, as the coaches outlined the multifaceted nature of their role to encompass aspects of counselling and mentoring, physical training, as well as to entail various methods of teaching. Consistent within the coaches’ description, though, was a strong emphasis on individual player development, with no references explicitly made to achieving competitive success. The following quotation was depicts the consensus of the group:

“My job is to teach and develop the children... teach them everything there is about the game... through a syllabus of teaching them dribbling, passing, tricks... [to] later on, tactical issues involved in football. And then, obviously, bringing them into the youth programme [U17-U19], you’re probably talking
more about the winning mentality stuff. But basically, you're a teacher, teaching them how to play."

This finding is supported by the recent work of Smith and Cushion (2006), but opposes some reports that have depicted conflict between youth coaches' objectives (Gilbert et al., 1999; McCallister et al., 2000; Wilcox & Trudel, 1998); a stated emphasis on development has been observed in conjunction with behaviours that have sought to win competitive situations. However, this finding in the present study is not so surprising as—like the coaches' within Smith and Cushion's study indicated—the Academy/Centre of Excellence programme has been structured to promote athlete development, and to de-emphasise the importance of winning.

The contrasting modes of teaching emphasised by the participants provided the first suggestion of internal variations in the way the group of coaches sought to fulfil their roles as elite youth coaches. These methods were essentially divisible into two opposing strategies. It might be suggested that the emergent approaches to player development were reflective of the range of associated behaviours shared by Deci and Ryan's (1985) controlling and autonomy-supportive interpersonal styles, or indeed those behaviour-types contained within the modified version of Mosston's (1972) spectrum of teaching styles (Kirk, Nauright, Hanrahan, Macdonald, & Jobling, 1996). Deci and Ryan have stated that controlling behaviours are represented by pressures to think, feel, or behave in specified ways, while autonomy-supportive behaviours place value on self-initiation, independent problem-solving, and participation in decision making. Kirk et al.'s (1996) modified spectrum incorporates 5 (as opposed to Mosston's 11) styles of teaching, ranging through direct, task, reciprocal, guided discovery, and problem-solving methods. Thus, at one end of the continuum, some of the participants portrayed their educational role as one of facilitation, supporting Chen's (2001) proposal that coaches seek to assist their athletes in developing the assets they already possess. The opposing type of approach, however, was more akin to the systematic, sequential process of fault identification and correction outlined by Fairs (1987). These styles shall be further elaborated on later in this section.
Coach education and development

Drawing comparisons with the educational support programmes in place for school teachers' career initiation and subsequent progression, Gilbert and Trudel (1999, 2004) have commented on the lack of structured guidance available to aid sports coaches' development. Indeed, while it has been suggested that coaching experience and observation of other peers are coaches' chief sources of knowledge (Goncalves, 1996; Smoll & Smith, 1981), we also know that coach education programmes make a significant contribution (Jones et al., 2002). However, as the development of coaches is commonly the responsibility of each sport's national governing body (Lyle, 2002), this remains an under-researched area, including English elite youth football coaches.

The data from the present study provided an insight into the coaches' developmental experiences, as the group discussed the sources that have influenced their growth as elite youth football coaches. Essentially, this development related to improvements in the coaches' football-specific game understanding, and in their generic coaching and sports science education. The educational sources referred to comprised of five key components that contributed to their educational development in different ways, and by different means. The sources included the coaches' peers, former coaches, educators, family, and the coaches' own personal experiences. The means by which their education was facilitated was primarily through direct teaching methods, experiential learning, and through observational learning and reflection. Many of these sources and methods have been cited in previous research (e.g. Gilbert & Trudel, 2001; Jones et al., 2003; Potrac et al., 2002).

The educational courses contributing to the coaches' development included education in such areas as sport psychology, as well as football courses that were, for example, specific to coaching youth players. Whilst acknowledging the merits of these educational experiences, the participants also voiced many criticisms, and specifically in relation to the football coach education courses. Essentially, the flaws identified related to the absence of helpful, functional information (e.g. dealing with crying children), as well as to the unrealistic nature of the practical coaching sessions that the coaches indicated they were encouraged to conduct. Indeed, these practice sessions were described by more than one participant as being "a bit false". The complaints aired within the present study back up previous criticisms that have been
made of the British football coach education systems (Jones et al., 2003). The English
senior level coach investigated in the study by Jones et al. bemoaned a perceived
narrow-mindedness within those responsible for the coach education content,
although it was implied that the situation had improved in recent times. The criticisms
made by the present sample suggests, however, that further improvements are still
desired by current elite youth coaches.

Several references were made, though, to elements of the coach education courses
that were regarded as having assisted the coaches’ development. These included
improvements in such areas as the coaches’ organisational behaviours (also supported
by the study of Jones et al.[2003]), and their awareness of players’ learning
requirements. Furthermore, while also gaining theoretical knowledge (e.g. ideas on
improving players’ techniques and systems of play), the coaches described the
experience of attending educational courses as being useful occasions to observe,
interact with, and learn from other coaches.

This interaction with peers during educational courses was one occasion in which this
form of development was found to occur, as each of the participants acknowledged
the impact of coach educators, and/or former coaches on their approach to coaching.
However, few recognised the impact of current peers. A number of researchers have
commented on the instrumental role that coaches’ observations of, and discussions
with, other coaches plays in the development of practitioners (e.g. Gilbert & Trudel,
2001; Lyle, 1999), and with elite English football coaches in particular (Jones et al.,
2003; Smith & Cushion, 2006). Furthermore, the notion of mentoring has previously
been suggested to be significant within coach development (e.g. Bloom et al., 1999;
Jones et al., 2003; Gould et al., 1990). However, neither of these themes were
explicitly apparent within the findings from the present data. A criticism of the data
reported within these cited studies, though, and one which would be interesting in
light of the findings from the present study, concerns the details of when and where
these observations, discussions, and mentoring instances took place. By failing to
report the specific aspects of the interactions reported within these previously
mentioned investigations, it is difficult to draw meaningful comparisons to the current
study. Therefore, one can only speculate on the occasions in which peer reflection
and mentoring might take place within such an environment, with opportunities for
discussions and observations ultimately likely to occur prior to, and post each coach's respective practice sessions. Relating this inference to the present environment, however, it might be concluded that as the vast majority of Academy/Centre of Excellence coaches perform their role on a part-time basis, it is probable that the opportunity to build relations with a would-be mentor is limited. Indeed, as the part-time nature of their role means that most coaches fulfil their coaching position in addition to another full-time job, there is little time available before and after practice sessions for any sort of reflective discussion with, or observation of, peers. Thus, while Schon (1983) has suggested that group reflection—a process that enables one to critically consider their experiences to formulate knowledge (Kolb, 1984; Schon, 1983)—is commonly found in complex, flexible, and subjective environments such as elite youth football Academies/Centres of Excellence, this was not found to be true of the elite youth coaches in the present study.

Whilst previous research on elite football coaches' influences has mentioned the impact of former coaches (Jones et al., 2003), the effect of particular coach educators, family members, and life experiences have not been explicitly referred to. The suggestion that coaching behaviours may be influenced by individuals' personal attitudes and beliefs has been alluded to by Jones et al., though, who cited the work of Ayers (1989) to support this claim. Of particular note from the present study was the intimation from certain coaches that their moral development had been inspired by family members, whilst various life experiences had contributed to a philosophy of positivity that was transferable to coaching practice.

Experiential learning during applied coaching experiences was also found to be a prominent developmental source for the sampled coaches. With ongoing reflection at the heart of the process, the impact of prior events and subsequent cognitions has been regularly reported to shape practice within coaching as well as other applied fields (e.g. Gould et al., 1990; Saury & Durand, 1998; Schempp, 1993). Essentially, the participants within the present study detailed their experiential learning to consist most often of a 'trial and error' approach to practice, as the coaches developed their coaching strategies in a simplistic manner that has previously been recognised within educational settings (Fenstermacher, 1978):
"you try some things - 'cause you've got a feeling that it might be the best thing to do - and if it works you'll repeat it when you're next in that situation. If it doesn't work, well then you'll just try something else."

Once again, the coaches' adoption of this method echoes the findings from the research of Jones et al. (2003), while again suggesting that reflective practice is often performed independently.

**Coaching Beliefs**

Tinning, Kirk, and Evans (1993) have suggested that coaches' views on the specific methods they utilise within practice sessions represent their set of coaching beliefs. Coaches' application of these beliefs and subsequent behaviours has been suggested to impact on their athletes' participatory experience (e.g. Cote et al., 1995; Horn, 2002; Steelman, 1995), including their motivational processes (Petchlikoff, 1993) and learning (McCallister, 2000). This general dimension portrays the coaching beliefs of the sampled participants, reflecting particular aspects of their coaching philosophies, and paving a way for the subsequent discussion of the coaches' use of specific coaching behaviours that follows this section.

The group of interviewed coaches' explicit coaching beliefs were reflected within two first order themes contained within the 2nd order theme, 'creating a learning environment'. These first order themes comprised interview citations relating the participants' specific coaching methods as well as references to overriding philosophies of coaching. However, as the work of Cote et al. (1995) and Horn (2002) have also suggested, the data generated from this study revealed that coaching methods were influenced by individual athletes' learning requirements and certain contextual factors, in addition to the coaches' intrinsic coaching beliefs.

As Cote et al. (1995) and Horn (2002) have indicated, certain contextual factors impact on the practice behaviours of coaches. Within the present study, these factors were most apparent through the influence of the Academy/Centre of Excellence systems. The FA Academy and Centre of Excellence programmes are based upon an ethos of individual player development, in which the incorporated games programme
is merely regarded as an extension of the coaching programme (www.thefa.com, 18/03/04). This emphasis on player development, and the subsequent reduced significance placed on games, is designed to ensure coaches focus on the technical, psychological, physical, and social components of players' development (Four Corners Model; Simmons, 2004). Several of the participants from the present study expressed their frustration at being governed by this direction from The FA, speaking in particular about the de-emphasised nature of the games programme. Essentially, the articulated viewpoint centred on coaches' conflicting beliefs on the importance of preparing youth players to win the games in which they play. Such a clash between the views of coaches and organisational demands has been commented on by Cassidy et al. (2004). Whilst it has been previously stated within this discussion section (Major roles of an Academy/Centre of Excellence coach) that the coaches were not concerned with achieving success, the coaches were keen to stress that their motives for opposing this rule related to their desire to educate players on how to win games, not on actually wanting to achieve success. While the elite youth sport environment is highly specialised, this finding has not been identified in previous youth sport research.

Cassidy et al. (2004) have discussed many of the issues relating to youth athletes' individual developmental differences and suggested some implications for coaches. Supporting this requirement for coaches to respect athletes' individual differences, the need to acknowledge varied learning styles and rates, leadership/coaching preferences, and athletes' mixed abilities emerged within the present study as factors impacting on the coaches' practice behaviours. As this issue was not of immediate concern to the aims of this research, the participants were not asked to elaborate on their beliefs regarding the most effective ways of accommodating these issues. However, in extending the work of the present study, it might be suggested that future investigations enquire about the specific strategies employed by coaches to differentiate for individual players' varied learning desires and needs.

Having outlined the contextual and player-related factors impinging on the participants' beliefs, an overview of the philosophies espoused by the coaching group shall now be presented. The philosophical approaches to coaching that were cited by the group once again reflected a broad range of approaches, as the coaches sought to
achieve varied outcomes from their roles. Essentially, the participants collectively indicated that they aimed to develop their players through the promotion of fun, by encouraging freedom of expression, challenging players to better themselves, and by forcing players to deal with pressure situations such as those regularly encountered within professional football. This apparent disparity in the coaches' beliefs has previously been commented on by Green (2002) who, referring to the array of outcomes that are sought within practice sessions, regarded pedagogical philosophies as something of a compromise. Within this particular context, however, the specific philosophies expressed were all grounded in a desire to develop professional football players, and were therefore applied in practice with a high degree of flexibility. It was the particular aspects of their development targeted that caused the apparent variation, as the relaxed methods adopted to encourage players' creativity (e.g. "giving them licence to go out and explore...enjoying that little bit of genius they've had as a youngster."), for example, were contrasted by the harsh approaches described to replicate the professional game (e.g. "I also need to know how they're gonna react to having a bollocking...I need to know what they're like when they get ignored.").

This central theme of player development was again key to the coaching methods that the participants' proposed to be most effective for player learning. Obvious links can be made to some of the philosophies previously cited, although the resounding desire to enhance players' learning through the medium of fun was not explicitly referred to by any of the participants. Instead, the coaching methods resembled and indeed made reference to certain approaches included in Mosston's spectrum of teaching styles (1976; Kirk et al., 1996), as well as Deci and Ryan's (1985) controlling and autonomy-supportive interpersonal styles. Cited references made by the coaches to the use of the 'command' and 'guided discovery' styles, two methods at opposing ends of Mosston's spectrum, provides an indication of the contrasting approaches utilised by members of the interviewed group, and are the most obvious links to the mentioned philosophies that respectively endorsed pressure and freedom of expression. Furthermore, the stated use of the command styles along with references made to repetitive use of 'the coaching formula' are most indicative of a perceived controlling style of coaching. At the opposite end of the continuum is the guided discovery and 'drip-feed' approach, which may be likened to Deci and Ryan's autonomy-supportive style. Indeed, the coaches citing these methods inferred a belief
that players are most effectively developed through the use of coaching methods that enables them the opportunity to express their own views on how development can be most effectively achieved, which was in direct contrast to the opposing approaches.

Summary
Thus, to summarise this section, it has been found that, whilst a consensus of opinion was identified on the developmental function the participants all served to provide, an apparent variety of beliefs regarding the means through which this was achieved with elite youth players was established. The beliefs ranged between the extremes of valuing intense, pressurising, and controlling methods wherein the coach might be anticipated to dominate every aspect of the performance setting, to a much more facilitative style. Within this type of approach, the coach was suggested to exist to exclusively serve the players' developmental needs, providing them with the freedom to shape their own learning environment. The coaches' own education and development was found to primarily share many commonalities. The essentially included a similar, critical view of the coach education system through which each participant was required to progress, while the most significant mode of learning that was suggested to be ongoing, as coaches' indicated that reflections on their own personal experiences provided the basis for much of their practice methods. An evident source of education that was infrequently referred to was development that is achieved through observations of, and discussions with, coaching peers. This latter point is perhaps the most interesting aspect of this initial section, presenting a finding within elite-level English youth football that is inconsistent with previously reported data (e.g. Potrac et al., 2002; Smith & Cushion, 2006).

Coaches' Rationale, and Players' Preferences, for the use of Coaching Behaviours

Following on from the general dimensions relating to the factors underpinning coaches' practice behaviours discussed so far, this section will consider each of the key coaching behaviours considered to be significant to player learning (Douge & Hastie, 1993; Schempp, 2002; Williams & Hodges, 2005). The necessity to understand the thought processes underpinning coaches' practice behaviours has been supported by many leading researchers within the field of sports coaching (e.g. Cote
et al., 1995; Potrac et al., 2002; van der Mars, 1989). However, whilst also regarded as an important feature within sports coaching (e.g. Chelladurai & Carron, 1982; 1983; Terry, 1984; Terry & Howe, 1984) qualitative research into athletes' coaching preferences has not been forthcoming. Data gathered from both groups of participants in relation to specified coaching behaviours shall now be discussed.

**Instruction/Correction**

The significance of instructional behaviours within the coaching process has been acknowledged by many researchers (e.g. Hodges & Franks, 2002; Jones, 1997; Williams et al., 2003), with Tinning (1982) regarding instruction as the most important feature of a good coach's role. Considering this importance, the emergent themes reflecting coaches' rationale for their methods of providing instruction, along with players' preferences for coaches' instructional usage, provide an interesting insight into the use of a crucial coaching behaviour within elite youth football.

The 'core requirements' of effective instruction revealed in the present study echo the findings made of another sample of English elite youth coaches (Smith & Cushion, 2006) and the recommendations of Williams et al. (2003), who indicated a preference for instructional moments to be kept brief and simple in order to assist players' learning of communicated information. A further core component mentioned by some of the coaches related to the significance of building a rapport with the players to enhance the effectiveness of the instruction's impact. Such a finding has not featured within sports coaching literature before now, perhaps due to the intangible nature of rapport. Essentially the coaches who remarked on this point suggested that a developed rapport between a coach and their players may encourage players to embrace the instructional interaction attentively and enthusiastically. However, coaches did not elaborate on the means through which rapport was developed, an aspect of coaches' instruction that might be considered by future research.

While the unexplained notion of 'fun' instruction (perhaps referring more to the type climate in which the behaviour is used, than to the mode of delivery) was mentioned during the interviews with coaches, an ultimately divergent form of instructional presentation related to the delivery of instruction as a demand. In this respect,
instructions were described by some of the coaches to be best issued in an almost threatening manner (e.g. "this is what I want, and if you don't do it you're out of a job in six month's time"). Once more, this finding has not been explicitly observed in any previous research. However, it is plausible to link this finding to the work of Potrac et al. (2002), who identified the pressures inherent with coaches' accountability and job security to be factors in explaining their use of instructional behaviours. Although age-related specifications (other than those related to coaches' use of language) did not emerge from the focus group interviews with players, a desire was expressed by the participants for coaches' to treat players as individuals, and to recognise their individual needs when delivering information.

An important example of this awareness concerns the mode of correction adopted by coaches. The data presented in the present study depicted two opposing approaches to aiding the correction of performance errors; a method that is dominated by the coach, and one that is independently managed by the athlete. While the coaches acknowledged a myriad of factors to contribute to their reactions to a player's mistake (such as the actual situation, particular person involved, their recent performance levels, their perceived confidence, etc.), it is plausible to assume that a coach's philosophy will govern them to favour one method of correction more than the other. Indeed, this contention was apparent in the conflicting comments made regarding the perceptions that self-corrected behaviours are most conducive to player learning, and the statement which emphasised mistake correction to be the prime role of the coach:

"Ideally, you'd want the player to correct it himself, 'cause you think that he's learning then."

"I think you've gotta stop it, tell 'em, and then go through it with 'em, and explain yourself to 'em. 'cause that's your job after all, to correct their mistakes, and make 'em into better players."

This prescriptive/guided discovery debate has been covered by Stratton, Reilly, Williams & Richardson (2004), who claim that recent emphases within coaching in the United Kingdom has been placed on more coach-led strategies. However, this claim appears to be without foundation, with no evidence of any survey of coaching
behaviours presented. Indeed, the findings from two of the most recent investigations within UK coaching (i.e. Study 1b from this thesis, and Smith & Cushion, 2006) suggest that practice methods employed are diverse. Indeed, the apparent split in coaches' opinions observed within the present investigation indicates that it is not possible to draw definitive conclusions from this study regarding English elite youth football coaches' methods. Indeed, opposing coaching styles were also identified within Smith and Cushion's (2006) investigation of a very similar sample of coaches to those involved in the present study. However, data presented on this issue by the players' in the present study seemed to indicate that they prefer to amend their own errors, essentially on the grounds that the demonstration of such independent problem-solving skills would be most beneficial to long-term performance.

The coaches conveyed some interesting propositions in relation to their use of concurrent instruction. While it has not featured within previous research on sports coaching, several coaches from the present study suggested they used concurrent instruction as a stimulant for high-tempo performance, encouraging players to play at a pace that was in keeping with the speed of the coach's comments. Furthermore, it was also claimed that the demonstration of consistent, information-supporting behaviours during play by the coach could lead to a repetition of this verbal behaviour by the players. In essence, it was asserted that the use of concurrent instruction by coaches may help to develop players' on-pitch communication behaviours. However, the coaches also indicated that the provision of concurrent instruction could be perceived by players as 'background noise'. This view is linked to a combination of the overuse of the behaviour, and to players' limited attentional capabilities (Schmidt, 1991). That is, it could be intimated that the players' concentration is focused on their own performance, and therefore unable, or perhaps unwilling, to attend to an external source.

A further negative theme related to concurrent instruction provision impeding the coaches' understanding of their players' abilities, whilst simultaneously interfering with players' independent decision-making opportunities. This finding has also been alluded to by Smith and Cushion (2006), who found that coaches preferred to remain silent during their investigation of coaches' behaviours during games on the basis that this demonstration of restraint enabled players the opportunity for independent
learning. Indeed, it is logical to comprehend how coaches’ use of concurrent instruction, just prior to a player’s opportunity to become involved in a situation, could be detrimental in the ways described. As the following quotation describes:

"...you don't know whether it's happened because you've told the kid to do it, or whether they were gonna do it anyway themselves. So you're kinda preventing yourself from knowing what the boys were naturally gonna do, and denying the boys the chance to make decisions for themselves."

However, a finding from the players’ interviews revealed that, while some players disliked such controlling coaching procedures, others indicated a preference for concurrent guidance. It was suggested by these players that consistently reminding them of the required coaching points was beneficial to performance. Williams and Hodges (2005), though, contend that overly prescriptive approaches may actually be detrimental to athletes’ retention of information, and can result in less reliable and efficient long-term performance. As an alternative, Williams and Hodges propose more “hands-off’ approaches – such as guided discovery (e.g. Araujo, Davids, Bennett, Button, & Chapman, 2004) – to facilitate the more active involvement sought by the majority of the other players interviewed. However, from a practical perspective, the disparity between the players’ preferences emphasises the need to at least recognise players’ developmental desires. It might be proposed that failure to respond to such preferences could have negative implications for players’ confidence and motivation, as a sought-after behaviour is withdrawn.

Finally, the coaches’ use of pre-instruction was described by two raw data themes. The first of these concerned the necessity to establish the players’ understanding of the task they are preparing to undertake, whilst the second recognises the potential for independent player cognitions regarding the task. Little consensus has been established on the role of pre-instruction in the learning process, with researchers urging further investigation of the area (Hodges & Franks, 2002; Schmidt & Lee, 1998). Newell, Carlton, and Antoniou (1990) have commented on the significance of clearly understanding the objectives set for a given task before participating in the activity, citing the negated impact of any subsequent feedback without such pre-instruction. The sampled players’ stated preferences did not reflect the timing of
instruction. Rather, the emergent findings from the focus groups merely indicated a desire for instruction to be clear, detailed, and to be delivered in a manner that was appropriate for the recipient players. Moreover, a request was also made for instructional behaviours to be presented in a way that linked practice activities to match situations. The players who commented on this preference proposed that such instructional behaviours would be more beneficial to their learning due to the increased understanding gained from linking practice behaviours to match situations:

"...you do stuff in training sometimes – like a passing drill – and it might not feel like you’re learning much about the game of football but when it happens in a match, you learn why you do it in the passing drills in training, and just learn it better. I wish they would do more of that in sessions, so we know why we’re doing the stuff we do." (Player 9, age 14)

Mageau and Vallerand (2003) have acknowledged this behaviour to be supportive of athletes’ autonomy, suggesting that coaches’ provision of a rationale for implementing practices encourages athletes to integrate and accept the challenges set within the task. However, further inquiry is warranted on this proposition within coaching contexts.

**Demonstration**

Magill (1989) remarked on the potential benefit of performing demonstrations to aid the learning process. Like many of the coaches and players from the present study, though, Magill also emphasised the necessity for demonstrations to be accurate. This finding was acknowledged during interviews with both groups. Like in the coaches’ general dimension concerned with instructional behaviours, the effective components of demonstrating behaviours also had some ‘core’ elements. The importance of demonstrating target behaviours accurately was one of these components, whilst the appropriateness of the demonstration to the observing players’ abilities was another. This issue has been acknowledged by Williams and Hodges (2005). The other first order theme within this second order theme related to the speed of the demonstration performed. With the coaches and players in the present study both split in their views
on demonstrations being provided at match-speed and those mixed with slower pace examples, Scully (1988) has indicated that both slow-motion and real time demonstrations are beneficial for learning.

A separate second order theme referred to the coaches' beliefs on the person responsible for providing the demonstration. Whilst some coaches indicated a willingness to encourage players to occasionally lead the demonstration, others insisted the function should be fulfilled by coaches. Support for player-led demonstrations was based on the grounds that it could encourage other players to feel as though they too could repeat the demonstrated action. Although a further reason also suggested by some of the coaches indicated that the players might be more capable than their coach of providing an idealistic representation of certain behaviours. This difference in opinion was most notable between coaches who had played football to a professional level during their careers and those who had not. Essentially, it was the former professional players that regarded their ability to accurately demonstrate aspects of play as a source of players' respect for them; a finding also reported by Potrac et al. (2002). Several researchers, however, have remarked that, providing the demonstration is accurate, it is not important from a learning perspective who demonstrates behaviours (e.g. McCullagh, 1987; Williams et al., 2003). The players data, though, included some comments regarding their preference for demonstrations to be provided with enthusiasm. Whilst this is something that any demonstrator is capable of achieving, those sampled in the present study exclusively cited examples of coach-led demonstrations when depicting this desirable quality.

Coaches remarked on their use of positive and negative demonstrations, making favourable comments regarding the use of both demonstration types, while some concerns were also raised about the use of negative demonstrations. The most commonly cited advantage associated with providing positive demonstrations was the belief that demonstrations of desired behaviours provided a source of comparison for learners. Previous research has also indicated this rationale to be the main reason for using demonstrations (Hodges & Franks, 2002; Swinnen, 1996). Several coaches also endorsed the use of positive demonstrations on the basis that positive demonstrations are an especially advantageous instructional strategy to use with learners. Although
many advocate the use of positive demonstrations to develop learning (e.g. Bandura, 1986; Scully & Newell, 1985; Williams et al., 2003), it has been stressed that in many instances a demonstration may be no more effective than verbal instruction (Hodges & Franks, 2002). However, it is beyond the aims of this study to discuss this further by detailing these circumstances.

The use of negative demonstrations has received little attention within both coach behaviour and skill acquisition research. For instance, recent comprehensive reviews of instructional behaviours (including demonstration) have made no reference to the use of negative demonstrations (e.g. Hodges & Franks, 2002; Williams & Hodges, 2005). Therefore, it is difficult to link the emergent findings from the present study to the outcomes from previous investigations. Nevertheless, the raw data themes within the negative demonstration first order theme did provide some interesting insights into the reasons for (and against) performing such behaviours during elite youth football coaching practices. One of the raw data themes related to negative demonstrations as a method of feedback, while another inferred the use of negative demonstrations coupled with positive demonstrations to reinforce desired performance standards. A viewpoint proposed that the behaviour can be utilised to encourage players to think critically about the action(s) they observe; enabling players to ‘think like coaches’:

"...if you go and show them, they’re watching you, they’re coaching you – they’re giving you the information on what you’re doing wrong, and telling you how to correct it."

This proposition might be related to the use of learning models advocated by some researchers (e.g. Lee & White, 1990; Lee et al., 1991; McCullagh & Caird, 1990), in which demonstrations are performed by learners, enabling other observers to critique the model they are presented with. Thus, as Williams and Hodges (2005) have suggested, learners are encouraged to partake in error detection and correction to assist their appreciation of the component features of the demonstrated behaviour.

Two critical points were made by the coaches in relation to the use of negative demonstrations. The first of these might be perceived to be logical as coaches indicated that players’ confidence levels can be negatively affected when they are
shown to have inadequately performed. The second factor related to the suggestion that, by viewing examples of ‘poor’ performance, players might subconsciously replicate the behaviour during future attempts. Once more, as the use of negative demonstrations has accrued little research attention within the coaching literature, it is difficult to comment further on this suggestion. However, this issue may be worthy of consideration in future research.

**Questioning**

While Gail (1984) found that more than half of school class time involved question and answer exchanges, Claxton (1988) has suggested that the value of questioning within sports coaching might not yet have been realised. Thus, there is little evidence of research that has investigated questioning within coach behaviour research. The coaches and players within the present study, however, perceived questioning to be a useful coaching technique, citing several positive reasons for valuing the use of the behaviour as well as making some cautionary points.

The ‘subjective preferences of coaches’ regarding the effective use of questioning revealed conflicting opinions, as some of the coaches indicated a belief in the use of ‘leading’ questions to promote player learning and development, while other coaches suggested that questions should prompt a broader range of thinking. The two lines of thought that emerged within this theme are somewhat indicative of coaching methods that embrace Mosston’s (1986) guided discovery and problem-solving teaching styles, respectively. Indeed, some of the associated features of these teaching styles appeared regularly during the coaches’ and players’ discussions on the use of open and closed questioning. The use of closed questions, however, a classification of questioning suggested to be a barrier to productive discourse (Dantonio & Beisenherz, 2001; Whitmore, 2003), embraced few of the characteristics associated with either of Mosston’s styles. Instead, the most positive attributes the coaches linked with the use of closed questioning were the relative ease with which coaches can create closed questions during practice, and the high probability of attaining a correct response. While an inference might be made to an increase in players’ confidence resulting from correctly answering a question (as was perceived by the researcher from the
coaches' responses), Dantonio and Beisenherz propose that the opposite can occur due to athletes' perceptions of being challenged on such a basic level. This precise finding was not apparent within the players' interview data. However, the players did express frustration at being asked closed questions, as they perceived them to be relatively meaningless in relation to their football development. The coaches appeared to agree with this devalued opinion of closed questioning as a means to enhance players' learning. The following quotation depicts the perceived futility conveyed in relation to the use of the behaviour:

"[a player's answer to a closed question]...could be a 'yes' or a 'no', or a 'right' or a 'left', or a 'short' or a 'long', and sometimes that doesn't give you the answer of whether they know the question 'cause they'll guess. And perhaps you've even guided them one way anyway."

Negative issues were also raised by the sample of coaches about the use of open questions. These concerns centred on the occasional difficulties encountered in attempting to devise open questions, and in the expressed belief that open questions can often confuse players. Explanations relating to both of these matters have been offered by Dantonio and Beisenheiz (2001) who suggest that a possible lack of exposure to open questions during their own learning experiences might explain the coaches' discomfort with utilising the coaching strategy within their current practices. Furthermore, Dantonio and Beisenherz assert that children are not uncomfortable with open questions per se, only poorly worded/structured open questions. Hence, it is suggested that the concerns raised by the coaches in the present study regarding the difficulties found in devising open questions are implicitly related to the perception held that open questions can confuse players. This can be reasoned by the proposition that a culture created by individuals who admit to struggling with the task of composing open questions will tend to avoid this behaviour, leading to the development of unskilled open question usage when the behaviour is actually attempted. Furthermore, it might be added that the coaches' reluctance to use open questions can also result in players being unsure of how to respond to skilful use of open questioning due to an unfamiliarity with this situation. Indeed, related to this, a
concern raised by the players reflected their unease about incorrectly answering a coach's question:

"You worry a bit, 'cause sometimes you do not know what the right answer is. So, if you get it wrong, you feel a bit dumb, really. So I do not really like questions being asked in case I do not know the answer." (Player 3, age 11)

However, it might be predicted that if questions were regularly asked within a supportive environment – just as technical mistakes are often made during players' performances – players would become more comfortable in dealing with this perceived failure.

In the event of cleverly posed open questions, though, both the coaches and the players welcomed the higher-level cognitive engagement implicated by use of the behaviour. While the coaches perceived players to benefit from coaches' use of questioning through improving their communication skills (i.e. through increased verbal interaction), both the coaches and the players agreed on the view that questioning develops players' learning of the sport. Specifically, the independent, critical thinking skills purported to be developed by coaches' use of questioning was a consistent theme to emerge within both groups' data. The following two comments, the second of which is from one of the players, certainly suggest that the use of open questioning encourages players' to become more involved in the learning process:

"I like to think it could lead to a point where it's leading the kids to think like coaches, because then they can teach themselves. They're asking the questions then that they're used to you asking them. Or maybe even asking questions that you might not've thought of. You know, just questioning 'why?'"

"When they ask me one [a question] that has wide-ranging answers, I tend to go through the options and think, 'what would I do in that situation?' And you go through the stuff you've been taught and just work out which decision's best." (Player 1, age 12)
This suggestion echoes Mosston's (1986) espoused implications for the collective use of guided discovery and problem-solving teaching styles, further supported by more recent research (Blitzer, 1995; Cleland & Pearse, 1995). Data that could be considered to be more indicative of a problem-solving strategy hinted at the promotion of autonomous learning caused by coaches' use of questioning:

"It [coach questioning] really gets you thinking, and I think it's better to think about things for yourself, than to be told what to do by your coach. You know, you can sort little problems out for yourself then, instead of having to depend on your coach." (Player 2, age 12)

Indeed, Williams and Hodges (2005) and Hunkins (1995) have supported this notion, citing self-initiated and flexible application of learned material as a key advantage to be realised from such behaviour. Just as it was previously suggested that a culture created by coaches unskilled in the strategies of asking effective questions might lead to players being unsure of how to respond to such behaviours, it also emerged that the coaches believed an inquisitive player culture could evolve from environments in which coaches' question usage were regarded as helpful to player learning. This was viewed by the coaches as another advantage for players, while the players welcomed the encouragement to self-reflect, which they suggested to be engendered by coaches' questioning.

The advantages perceived by coaches to emanate from their use of questioning revealed some findings that have previously been described in educational settings by Kissock and Iyortsuun (1982). Specifically, the participants indicated that their use of questioning behaviours can be utilised to establish players' learning needs, to clarify players' understanding of taught materials, and also be used to elicit information from players that enhances coaches' knowledge. One final advantage of the use of questioning perceived by the coaches – actually considered to be a detrimental use of questioning by the players – was the opportunity to test players' concentration levels. Referring to coaches' use of the behaviour in this way, some of the interviewed players intimated that it can cause players to feel defensive, even resulting in a negative association with coaches' general questioning usage. This suggestion
highlights a concern regarding coaches' use of a behaviour that, according to the findings from this study, is perhaps not fully understood.

Further disparity between the two interviewed groups was observed in the coaches' declaration of their use of questioning as a means to check players' understanding. Extending this, and perhaps elaborating on this functional use of the behaviour in a way that is under-performed by coaches, one of the players expressed a desire for coaches to use questioning in order to gain insights into their players' most intricate thought processes. Reflecting on a specific example, this player suggested that coaches might be prone to make inaccurate assumptions about the actions of their players. The player instead stated his preference for coaches to take the time to enquire about their players' intentions to more wholly understand their behaviours. Thus, whilst still a mode of checking, it might be inferred from the player that the manner (e.g., tone) in which the question is asked can govern the players' response to such a question, with a feeling of suspicion contrasted with a desire for open and fruitful interaction.

Feedback

The general dimension relating to the coaches' rationale for their use of feedback generated the most raw data themes (25) from the learning-focused behaviours discussed during their interviews, while the players' data on the same behaviour displayed the fewest specifications relating to their coach behavioural preferences (3). As a behaviour that has been suggested to be critical to coaching effectiveness (e.g. Horn, 1984, 1992), and to athletes' learning in particular (e.g. Schmidt, 1982), the coaches' high volume of raw data themes highlights the intricacies associated with feedback, while the players' expressed desires demonstrate their arguably simplistic preferences.

Reflecting on the effective use of feedback, the coaches repeated the belief that the behaviour should be succinctly employed, conveying information that is pertinent to the recipient athlete, through the use of appropriate language and tone. Varied situational conditions were also stated to impact on the effectiveness of feedback, as
the coaches stressed a need to consider athletes’ individual preferences and requirements, as well as certain contextual issues when providing feedback. Specifically, the participants consistently detailed the significance of appreciating specific players’ preferences/requirements for positive/negative and/or motivational/informational feedback. This flexible use of the behaviour was in contrast to the players’ clear preference for coaches to supply them with feedback that is honest:

“When he tells you about how you’re doing, good or bad, at least you know where you stand in terms of how well you’re progressing. So you can go off and think about what he said, and try to do any extra work if it’s needed.”

(Player 12, age 14)

The players’ desire for truthfulness is grounded in the assumption that honest assessments of their performance are always sought. However, as the contextual element reported was primarily related to coaches’ awareness of players’ moods and confidence levels, along with their players’ recent experiences of success/failure, it is apparent that the varied use of feedback emphasised by the coaches is appropriate. Furthermore, this initial discrepancy between the coaches’ and players’ views on the effective use of the behaviour highlights the complexities inherent in supplying performance feedback.

Regardless of the players’ ability to handle honest feedback, their desire for sincere and also specific feedback was underpinned by several reasons that were also cited within the coaches’ interviews. The feedback types mentioned by the coaches have been categorised as positive and negative, and general and specific feedback. In terms of the associated implications the coaches claimed to derive from the use of these behaviours, direct links were not always explicitly made between particular feedback types and the features stated. Therefore, many of the relationships between feedback types and detailed outcomes discussed in this section are inferred from the researcher’s interpretation of the coaches’ comments. Accepting this, it emerged that the coaches felt their use of positive/negative feedback had opposing impacts on players’ motivation, confidence, and team cohesion. Thus, the participants believed that positive feedback enhanced players’ motivation to persist and succeed, their
perceptions of confidence, and, when provided to a whole group, their levels of team cohesion. Excluding the implications for team cohesion, the players, whilst not specifically acknowledging the feedback they spoke of to be positive, also agreed with the welcomed outcomes listed by the coaches. Although the influence of positive feedback on players' feelings of cohesion is relatively unfounded within academic research, Westre and Weiss (1991) revealed that high school athletes who perceived their coaches to provide high levels of positive feedback were high in task cohesion. The link between coaches' positive feedback and athletes' motivation has been documented much more frequently. Indeed, many authors (e.g. Schempp, 2002; Schmidt & Wrisberg, 2000; Wittrock, 1978) have recognised feedback to serve a significant motivational purpose, with Schempp (2002) and Potrac et al. (2002) also commenting on the impact positive feedback can have on athletes' self-confidence.

From a negative perspective it was felt that coaches' use of critical feedback could, in addition to having the opposite effect of the outcomes listed for positive feedback, also heighten players' levels of anxiety. The anxiety-related implications from receiving negative feedback have been previously reported (for an example, see Alexander & Krane, 1996). However, the negative feedback referred to in the present study was critical feedback that did not contain any information. Thus, the perception espoused from the sampled coaches, like that recently acknowledged by Smith and Cushion (2006), was that such feedback provision was entirely inappropriate within elite youth football, and therefore very rarely utilised.

Both the interviewed coaches and players related the outcomes associated with coaches' use of specific and general feedback to players' motivation and competence. In considering the general to specific differences, however, unlike the associations between the provision of positive and negative feedback, the implications for supplying each feedback type are not in direct contrast to one another. Instead, the outcomes listed from using specific feedback were identified by the coaches as being desirable features that were largely unachievable through the use of general feedback. Hence, the emergent preference from the players' data for specific feedback provision coupled with a cautious integration of general feedback concurs with the coaches' data. In essence, the decisive difference between the two feedback types was the absence of any explicitly informational content within general feedback. As such,
while general feedback has been acknowledged (within the present study and previous research [e.g. Schmidt & Wrisberg, 2000]) to have a motivational purpose, both groups of participants revealed a preference for feedback that was specific. Selected quotations from both groups of participants reflects this, below, with the coach’s comment first:

"From a learning perspective I think specific feedback’s a lot better...Because if you say ‘well done’ to somebody, you know, is it ‘well done’ because I scored a goal? ‘Well done’ cos I made that right run?... ’Well done’, specifically, ‘because that was a great pass. You’ve listened, you’ve learned, you’ve got that right’.

"... when you’ve done a good pass, you’d like to hear the coach shouting, ‘well done, Player 7, good pass!’ ‘cause it just makes you really confident, and you know that the next time that you’re gonna be in a position to make a pass, you’re just gonna do it with confidence." (Player 7, age 14)

Extending this, however, motivational feedback that is informational, whilst also enhancing athletes’ effort and persistence to achieve, is suggested to encourage learners to replicate aspects of performance that are correct, or strive to improve any inadequate aspects of performance (Schmidt, 1988). Indeed, Stratton et al. (2004) have summarised that learners who receive information-based feedback are more interested in their task and put more effort into the learning process. Thus, the motivated behaviour is channelled towards a specified action. Subsequently, if the informational feedback players receive is positive, their perceptions of competence regarding that aspect of performance increases. Vallerand and Reid (1984) found this perception of enhanced competence to positively impact on individuals’ intrinsic motivation. Therefore, it can be seen that the outcomes referred to by the coaches and players are somewhat linked.

A further suggested implication – made by both players and coaches – to the provision of specific feedback was a belief that the informational content can enable players to independently utilise the confirming/correctional knowledge in future performances. Perhaps regarded as a form of player empowerment, the players
welcomed coaches' specific feedback on the basis of being able to implement the information for themselves in subsequent performances:

"... say if you're told that you're specifically holding someone off well, well then you'd probably use your body more. 'Cause you're thinking, 'well I've got confidence in using my body now, 'cause coach has told me that what I was doing was the right thing, that I can do it well'. So if you come up against a physical player, you're not gonna be thinking, 'oh, he's gonna batter me, he's gone nudge me off the ball', you'll be concentrating on what you're gonna do with the ball, 'cause you know you can hold him off." (Player 11, age 14)

Such autonomous player behaviour has been remarked upon (e.g. Chen, 2001; Horn 1987, 1992; Mageau & Vallerand, 2003), and is advocated by Deci & Ryan's (1985, 1991) self-determination theory.

The players did not decipher, during their interviews, between the various points during practice in which feedback can be provided. The coaches sampled, however, reflected on the issue of timing by primarily making comments on the practicalities of supplying feedback during or after performance. Repeating a concern also mentioned in relation to the provision of instruction and correction during players' performance activities, the coaches acknowledged the possibility that their feedback comments may not be cognitively attended to by players during practice. However, positive aspects emerged regarding coaches' concurrent feedback provision, as the participants supported the opportunity to provide instant comment on a constantly changing environment, without having to interrupt the practice. This intrusion emerged as a negative theme within the coaches' considerations of post-play feedback. However, the time afforded during the stoppage in play was recognised as an opportunity for both players and coaches to reflect on the preceding activities. The coaches also acknowledged the likelihood that players' concentration levels should increase during this period.
Summary

The divergence in coaches' opinions prevalent within the previous section was further evident within this section on the coaches' rationale for their use of behaviours. In discussing their rationale, it might be expected that the coaches' effectively communicated their preferences for the coaching behaviours they find to be most effective. This logic-based assumption lends itself well to the data supplied by the players on the same behaviours, allowing for a direct comparison to be made between the coaches' and players' preferences for coaching behaviours.

A key finding from the coaches' use of instructional and corrective behaviours was the division between the sampled participants' intentions for utilising the behaviour. Returning to the theme from the previous section, some of the coaches felt that the provision of information was ultimately the most important role performed by elite youth coaches, and should therefore be frequently used, with more than one of the coaches conveying a method of demanding instructions be carried out. This, once more, was in stark contrast to the player-led style espoused by other members of the coaching sample, a method favoured by the majority of the interviewed athletes. Although, interestingly, the players also expressed a desire for instructional moments to contain more information more often. This preference appeared to be based on a longing for increased specificity that would enable players to further their understanding of football.

This quest for increased knowledge was again apparent within the discussions on coaches' use of questioning as the players conveyed a unified preference for questions that provoke higher-level thinking. Indeed, this perceived advantage of questioning was commonly acknowledged by the group of coaches as well. However, there remained some scepticism about the behaviour as a whole, with frequent complaints aired about the potential to confuse players through the use of questioning. Players, however, made little reference to any feelings of confusion, rather, more to the intimation that coaches often ask questions to check on their players; a usage of the behaviour not favoured by the interviewed players. This seemingly inappropriate method of questioning, coupled with an acknowledgement made by several coaches that asking open-ended questions was perceived to be a challenging task, suggests that learning-focused questioning is an under-developed skill that is not very well
understood by the sampled elite youth coaches. However, due to the apparent agreement between players and coaches on the usefulness of the behaviour as an influence on player learning, a practical implication might be offered that this behaviour features more prominently within coach education courses than it currently does.

Concurrence was similarly reached on the coaches' and players' perceptions regarding the value of specific feedback as a coaching behaviour. Whilst also acknowledging general positive feedback to serve a motivational function, both sample groups conveyed a preference for feedback provision to be specific. This finding was largely due to the consistent proposition that specific feedback, in addition to having the potential to be motivational, was also helpful to players' development because of the informational component this type of feedback possesses. Thus, it was considered that the added advantage of channelling players' attention towards details relative to performance was desirable for players learning. Furthermore, a minor number of coaches and players also inferred that specific feedback usage can allow players to become active within the learning process, with the elicited information contained within the specific feedback providing a basis for players to formulate conceptions of their own.

*Influence of players' age on coaches' behaviours (with references to Study 1b)*

The previous sections within this discussion of findings have considered the coaches' data from the sampled group as a whole, highlighting details from the participants' interview transcripts that have been suggested to be indicative of the behaviours of English elite youth football coaches. However, whilst it is important to note the small sample from which data has been collected, it has been possible to identify points for a comparative discussion of the participants' views on coaching players of different ages. This section will draw comparisons between the age group data generated by the sample of interviewed coaches, but will also seek to make relevant links to the findings established in Study 1b.
There is limited literature available that specifically guides the practice behaviours of coaches according to athletes’ playing age. Indeed, while the work of Cote (1999) and Bloom (1985), for example, have proposed categorised stages of talent development within sport, the concepts contained within such approaches are certainly not governed by athletes’ ages. Instead, these approaches reinforced the need to be flexible within education settings, but listed certain characteristics associated with progression throughout the developmental stages. In essence, this is most similar to the emergent data from the present study, as participants conveyed their beliefs on effectively coaching players within their respective U12, U15, and U19 age groups, while also offering more general thoughts on how their practice might be altered to meet the developmental requirements of “older” and/or “younger” players. These opinions were included within the general dimension, ‘impact of players’ age group on approach to coaching’, which included lower order themes related to the practice setting created by coaches, with further references to the specific coaching behaviours discussed within the previous section. It is crucial to state at this point that, while the coaches occasionally spoke about specific age groups and even age ranges, each participant emphasised that their opinions were not generalisations that they strictly conformed to. Instead, the coaches stressed the need to appreciate each individual player as a unique case.

The lower order theme reflecting the learning environment comprised the participants’ comments that generally depict their practice behaviours. That is, the theme is based on statements that did not detail explicit coaching behaviours, rather, comments that provided a broader insight into the practice climate created by the coaches. The raw data themes that emerged from the lower-order theme ‘coaching focus’ are also somewhat linked to the learning environment in that they too detail generic features of the coaches’ approach. The coaching focus, however, is concerned with the particular aspects of the players’ development that the coaches indicated to be the objectives of their coaching practice.

Looking firstly at the data that reflected the means of communication utilised by the coaches, it is possible to notice some general trends within the results. Essentially, a comparison of the interview findings suggests that the learning environment becomes increasingly structured, meaningful, and controlled as athletes progress through the
age groups contained within the Academy/Centre of Excellence programme. A stated emphasis on fun and learning through trial and error at the U12 level was contrasted by a concern with results by the U19 groups, while the coaches of the latter age group portrayed a demanding, pressurising and highly critical approach that was opposed to the more relaxed and patient style conveyed by the U12 coaches. The reported communication methods demonstrated a similar difference in intensity, with the relaxed, comforting style suggested at the U12 age group in stark contrast to the occasionally crude approach depicted by the U19 coaches. Whilst the EYFCOI failed to detail the content and tone of the coaches' comments in Study 1b, it was suggested from the increased use of verbal instruction provided with the coaches of older players that an progressively more intense coaching style was utilised as players' progressed through the system. Hence, this proposition appears to concur with the qualitative data from the present study.

Reflecting the transitory phase between the two extreme groups of participants, the U15 coaches described how they still encouraged players' creativity, but within a more structured environment. The "older"/"younger" raw data themes within the learning environment lower order theme generally supported the shift in approach portrayed by this discussion of the findings. However, an U12 and an U15 coach both claimed that the formation of an enjoyable learning environment was important for "older" as well as the "younger" players; a point not made by the U19 coaches. These comparative results resonate with the work of Bloom (1985), whose three stages of talent development were postulated as "signposts along a long and continuous learning process" (p 537). Without attempting to locate each of the age groups from the present study within one of Bloom's 'stages', it is possible to draw similarities between these current findings and features of the Stages of Initiation, Development, and Perfection outlined by Bloom. For instance individuals progress from a stage in which fun, playful activities are supplemented by positive reinforcing behaviours (Initiation) to a stage in which strict demands are placed on athletes as attempts are made to achieve decisive performance goals (Perfection). Furthermore, the long term athlete development model (LTADM) proposed by Balyi and Hamilton (2000) is also reinforced by the present study, as a gradual emphasis is placed on the importance of winning as athletes increase with age.
The LTADM (Balyi & Hamilton, 2000) also provides support for some of the 'coaching focus' raw data themes through the proposition that male athletes aged 10–14 concentrate their efforts on the fundamental aspects of sport, developing skills and techniques, before progressing towards a more tactical-oriented approach. This suggestion similarly emerged from the present data. Furthermore, the U19 coaches' belief that their players should partake in position-specific training concurs with Wein's (2001) Soccer Development Model. This same group of coaches also described the development of certain psychological factors (i.e. attitude and bravery) to be an aim of their coaching role. Such attributes were not acknowledged by the coaches of younger players to be a focus of their work. Orlick and Partington (1988) have identified psychological development as a crucial aspect in high performance athletes' pursuit of excellence. This concurred with two of the U19 coaches' acknowledgement of the critical role that psychological factors played in deciding U19 players' progression into full-time professional football, with references being made to the necessity for players to have a professional attitude and to be courageous.

The remaining aspects of this section illustrate the coaches' use of specific coaching behaviours across the age groups. It was noticeable from the emergent data that the coaches' use of some of these behaviours were more influenced by players' age than others. For instance, few comments were made on the differential use of instruction and demonstration. The key point to be made from the coaches' instructional behaviours reflects the previously acknowledged (from Study 1b) suggestion that U19 coaches are more autocratic than the coaches working with younger players. Once more, reinforcing the work of Potrac et al. (2002), this somewhat dictatorial style of information delivery may be linked to the U19 coaches' desire to achieve perceived success within their perhaps more accountable role by guiding players from the U19 age group into senior level professional football. In relation to the coaches' use of demonstrations, the participants indicated a belief that increased use of the behaviour should be provided when coaching younger players. Again this corroborates previously reported literature (Magill & Schoenfelder-Zohdi, 1996; Williams et al., 2003), and the findings from Study 1b, which has suggested the use of demonstrations are most effective, and most prominent, during the early stages of athlete development.
A consistent theme emerged across the age group coaches' views on their use of corrective behaviours. Mirroring the previously mentioned shift in pressure and tension as players' age group increases, the coaches at the older end of youth player development conveyed an urgent necessity for mistakes to be eradicated via coach-implemented performance corrections. This approach was again in contrast to a unanimously agreed belief that there should be less coach-led corrective behaviours exhibited with younger players. Rather, there was a conveyed emphasis on independent player correction, seemingly facilitated through a combination of coaches' patient restraint to correct observed faults and discursive techniques to help guide players towards an understanding of their errors. Whilst the coaches' use of observation did not reflect this suggestion (as U12 coaches were found to use this behaviour least), the same group of coaches did ask more questions, which has been suggested to be related to this style of coaching (Kidman, 2002).

Several interesting points emerged regarding the coaches' use of questioning across the three age groups. Most notably, there was a perceived decrease in value held for questioning according to coaches of older age groups. This was prevalent through both comments relating to the benefits of using questioning and to the role the behaviour was believed to play within the coaches' overall educational strategies. For instance, the coaches of the younger age groups revealed that the purpose underpinning their use of questioning was multifaceted; to develop players' game understanding, to encourage players' independent decision making, to assist players in correcting their mistakes, to enhance players' confidence, and to encourage their communication skills. While the coaches of older players also described their use of questioning in relation to players' understanding, the coaches' intentions for their use of the behaviour seemed to be as a means of checking, or testing, this understanding.

Similarly, two of the U19 coaches explained how they asked questions in order to verify their players' concentration during moments of instruction. Such use of questioning behaviours have been warned against by Jones (2002) who suggested specifically with regards to adolescents, that inadequate athlete responses in these aggressive situations can lead to feelings of deficiency. The older age groups' coaches appeared to use questioning in this way primarily due to a belief that, as the players whom they coached had significantly progressed through the elite youth football
system, there were fewer aspects of performance about which coaches could ask challenging questions. Furthermore, this opinion was coupled with a commonly cited statement of how coaches increasingly adopted an autocratic style with older players, and questioning behaviours therefore did not compliment this method of coaching.

Thus, like it was observed in Study 1b, support for the use of questioning was found to be more prevalent with coaches of younger players. Furthermore, it has become evident that the use of questioning as a means of checking on players was primarily adopted by coaches of older players. Thus, referring back to Study 1b, it might be inferred that, not only do coaches of older players (most notably the U19 coaches in this case) ask the least number of questions, it appears that when they do so, their use of the behaviour is occasionally to initiate a question that been indicated by the players within this study to arouse players’ uneasiness.

A more subtle point about the coaches’ views on questioning can be identified when a comparison of the lower-order ‘older’ and ‘younger’ themes for questioning are analysed. Specifically, conflicting pessimism/optimism is apparent when the raw data themes contained within the statements made by the U15-U19 (regarding ‘younger’ players) and U12-U15 (relating to ‘older’ players) coaches are compared. Three distinct raw data themes portrayed a limited view of the use of questioning with younger players. That is, the U15-U19 coaches indicated their perception that questions can confuse younger players, that the players’ lack of game understanding means that they do not benefit from questioning, and that, at best, coaches should ask younger players questions for which there are few possible answers. These perceptions suggest that the older coaches, whilst acknowledging that they do not use questioning behaviours often within their own coaching practices, also seem to feel that questioning is of little significance with the coaches of younger players.

However, the opposite appears to be true for the emergent data themes from the U12-U15 coaches, as these participants indicated their belief that older coaches are not utilising questioning behaviours as well as they might. The U12-U15 group recognised that the effective use of questioning is more challenging with older players. Indeed, Kidman has suggested that coaches may find it difficult, and at times daunting, to design questions that generate higher-level thinking from athletes
(Kidman, 2002). However, accepting the demands placed on coaches to skilfully demonstrate this behaviour, the U12-U15 coaches expressed the view that coaches obstruct older players’ decision-making skills through an insufficient use of questioning. Indeed, one of the U19 coaches supported this contention by acknowledging the disparity between the perceived emphasis placed on athlete decision making at the younger age groups, which is then seemingly removed as players progress through the developmental system. Reflecting on the decreased use of questioning within his own practices, this U19 coach commented, “maybe we are coaching it out of them”. However, it is important to convey that the consistently suggested prominence of questioning with players of younger age groups was not so apparent within Study 1b. That is, while these coaches did ask more questions – with an averaged R.P.M. of 0.35 open questions (2.36% of total behaviours recorded) – this usage of the one mode of questioning commonly desired by the interviewed coaches and players was still quite rare; thirteen instances of verbal instruction were provided to every one open question.

The coaches revealed a consistent level of agreement regarding the importance of providing feedback to youth players across all age groups. In particular, there was a clear emphasis on supplying positive feedback throughout the youth age ranges. This was especially so with the U12 and ‘younger’ players, as the U12 coaches described how all positive aspects of performance should be praised, while the U15-U19 participants supported this by emphasising the need to be more encouraging with younger players. This finding was not observed within the data from Study 1b, as it was indicated that the ratio of positive-to-negative feedback provision across each age group was almost identical.

Schempp (2003) has discussed the significance of providing feedback for early learners, specifying the consequential increases in players’ effort and confidence levels. Whilst it was not overtly stated by the U12 coaches, the U15-U19 participants detailed the importance of providing specific feedback to younger players for the purpose of developing their learning. This suggestion echoes the work of Wulf, Shea, and Matschiner (1998), who proposed that detailed, prescriptive feedback should be supplied to athletes in the initial stages of learning to direct their focus towards crucial aspects of performance. However, conflicting with this recommendation for
informational feedback, and perhaps portraying a more accurate reflection of the findings from Study 1b (in which U12 coaches had the lowest specific-general feedback ratio), three of the U15-U19 coaches aired their belief that it is common for coaches of younger players to initiate unnecessary and irrelevant feedback comments, purely as a means to make themselves heard. Such claims are without foundation in the present study. However, as Williams and Hodges (2005) have recently made a similar comment relating to the behaviours exhibited by some coaches being based on a desire to justify their existence, perhaps this is an aspect of coaching that requires further research attention.

Although all of the coaches appeared to emphasise the significance of providing younger players with feedback, the U19 participants were most specific in identifying the benefits to be realised from supplying feedback to their players. Again, reinforcing the psychological and learning implications of utilising feedback, the coaches described their use of the behaviour to enhance players’ understanding of their own performances, to develop players’ confidence, and to increase group cohesion levels. Thus, it can be concluded from these raw data themes that feedback provision is valued by coaches of all age ranges within elite youth football.

**Summary**

Reflecting on the themes addressed within this chapter, there have been many discussion points raised within the sub-section summaries, and again so throughout the latter section of this discussion. These will not now be repeated. Instead, a table has been presented, below, to remind the reader of the issues that were generated by the coaches’ and players’ opinions on coaches’ use of specified practice behaviours. In addition, the most noteworthy findings from this study (and those related to Study 1b) will be briefly summarised.

From the coaches’ data on the factors impinging on their practice behaviours, the consistency in agreement regarding the coaches’ role within the Academy/Centre of Excellence systems was apparent, as a consensus was established on the player learning and development emphasis. The educational influences cited by coaches
were most remarkable due to the significance placed on experiential learning, and the lack of peer reflection or observation that was reported to be ongoing.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Consistencies</th>
<th>Discrepancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Instruction/Correction</td>
<td>• Clear instruction</td>
<td>• Players’ preference for increased provision of instruction that links practice activities to game situations</td>
</tr>
<tr>
<td></td>
<td>• Preferences for coach-/player-led correction somewhat split between participants within each sample</td>
<td>• Players only made reference to coach-led demonstrations</td>
</tr>
<tr>
<td>Use of Demonstration</td>
<td>• Clear and accurate</td>
<td>• Only coaches cited the utility of negative demonstrations as a learning-focused behaviour</td>
</tr>
<tr>
<td>Use of Questioning</td>
<td>• Open questions most helpful for player learning</td>
<td>• Use of questioning as a means to test players</td>
</tr>
<tr>
<td></td>
<td>• Closed questions serve little function</td>
<td></td>
</tr>
<tr>
<td>Use of Feedback</td>
<td>• Specific feedback the most desirable type of feedback</td>
<td>• Players’ desire for honest feedback at all times</td>
</tr>
</tbody>
</table>

Table 5.1: Comparison of Coach and Player Findings

The coaches’ beliefs, as reflected within their observed behaviours, were suggestive of an age-related emphasis on autocratic/democratic behaviours, with coaches from the older age groups indicating a preference for directive instructional provision, while coaches of younger players highlighted a democratic approach (as was found to be somewhat evident in Study 1b). However, a major finding within Studies 1b and 2 relates to an apparent discrepancy between coaches perceived value in specific feedback and open questioning that was not so evident in their observed behaviours. In addition, the findings from the present investigation also suggested that coaches’ knowledge of utilising questioning behaviours was somewhat lacking. With respect to the feedback and questioning findings recognised herein, it is these two behaviours that will be studied further within the final study of this thesis (Chapter 6).

Methodological Considerations and Directions for Future Research

The strengths and limitations of the present study will now be considered, whilst suggestions for further research will be offered. The most apparent limitation within this current study, which has been referred to on previous occasions within the chapter, is the size of the sample groups investigated. Whilst the low numbers of
participating coaches and players generated some very interesting findings on the practice behaviours of elite youth football coaches, additional participants may have provided further insight into the themes that were developed. Indeed, additional participants may even have established findings that were not identified by the present sample. Thus, it is recommended that further researchers seek to achieve conceptual saturation with their enquiries into such unique environments.

Accepting that this is unlikely to have been achieved within this study, this investigation can still be regarded as very credible research, as it contributed to the literature in several ways. Firstly, no such study has been attempted before, wherein coaches and players have discussed their preferences (i.e. players), and values and rationale (i.e. coaches) in reference to coaches’ practice behaviours. Beyond the initial focus of the study, the findings generated from the study have included aspects relating to elite youth football coaches’ behaviours that have so far been largely untouched. In particular, and extending the findings from Study 1b, rich data has been identified about coaches’ use of feedback and questioning that could possibly instigate many further lines of research. Furthermore, the findings declared on the coaches’ experiential learning and observation and reflection of peers are also worthy of further investigation. Thus, it is suggested that follow-up research be conducted to probe deeper into the original findings recognised by this study.

*Links to the next study*

Echoing the point made in summary section of this chapter, the following chapter will entail a study that seeks to build upon the apparent feedback- and questioning-related discrepancies identified studies 1b and 2. That is, having discovered a perceived value held by both the coaches of younger players, in particular, and the interviewed players, in the use of specific feedback and open questioning to promote players’ development (within Study 2), reflections on the data from Study 1b suggest that the importance expressed by players and coaches were not so apparent in reality. Conversely, coaches’ also confessed to a lack of skill in their use of open questioning in particular. Thus, it is these aspects of the findings presented up until this point that shall provide the emphasis within the next chapter.
CHAPTER 6

Study 3: Developing Autonomy-Supportive Coaching Behaviours within Elite Youth Football

INTRODUCTION

This chapter begins by considering literature appropriate to the modification of coaches’ practice behaviours, highlighting the previous attempts to do so, before drawing on research from educational settings in which teachers’ behaviours have been altered to support students’ autonomy. Consistent with the brief of literature reviews that have preceded each of the previous studies within this thesis, appropriate literature reviewed within Chapter 2 will again be presented within this chapter, with an emphasis placed on the literature most related to the present study.

Thereafter, a detailed programme of investigation is presented to convey the methods undertaken to enhance elite youth football coaches’ autonomy-supportive behaviours within a single-subject design. The results of the study are then offered and discussed, with the final aspect of the chapter a consideration of the methodological issues.

REVIEW OF RELEVANT LITERATURE

Systematic observation research has generated a vast knowledge base of coaches’ behaviours within practice and game settings (e.g. Lacy & Darst, 1985; Chaumeton & Duda, 1988; Cushion & Jones, 2001). It has been suggested, however, that functional research techniques such as systematic observation, are best utilised when applied directly to practice situations (Abraham & Collins, 1998). Thus, as Krane et al. (1991) have stated, for research on coaching to be most beneficial for coaches, research-based intervention programmes should be implemented. Hence, several researchers have conducted such studies (e.g. Krane et al., 1991; DeMarco et al., 1997; More &
Franks, 1996; Mancini et al., 1987; Smith et al., 1979), utilising qualitative methods to draw out the intricacies inherent in such applied environments.

In terms of modifying coaches' behaviours within these investigations, a variety of practical techniques have incorporated to effect changes. These techniques have included verbal and written presentations, modelling, qualitative and quantitative behavioural feedback, self-monitoring, goal setting, and both researcher-initiated and self-change strategies. The specific coaching behaviours targeted, along with the motive for selecting these behaviours, have also varied somewhat. Essentially, the target behaviours have included coaches’ provision of instruction, positive reinforcement, and criticism, with the rationale for behaviour manipulation seemingly to (a) develop coach effectiveness from an athlete-development/learning perspective (e.g. DeMarco et al., 1997; Krane et al., 1991; Mancini et al., 1987; More & Franks, 1996), or, (b) to positively impact on athletes’ psychological well-being (e.g. Smith et al., 1979; Smith et al., 1995; Smith & Smoll, 1990). Results from these investigations have revealed mixed success in terms of altering coaches’ behaviours, with the studies conducted by Krane et al. (1991) and More and Franks (1996) indicating a failure to achieve desirable changes, whilst others have claimed to have done so (DeMarco et al., 1997; Mancini et al., 1997; Smith et al., 1979, 1990, 1995). Reflecting on the outcomes realised by the coaches' behavioural manipulations, perhaps for reasons outlined in Chapter 2 (i.e. difficulties with measuring learning), it has not been possible to establish any learning-related consequences from coach effectiveness-type interventions. Thus, the key conclusions concerning the impact of coach behaviour interventions on recipient athletes have solely emerged from Smith and Smoll’s research programme. The findings from this series of studies demonstrated that players of coaches who participated in Coach Effectiveness Training (CET) perceived greater enjoyment and self-esteem (1979, 1990), as well as lower levels of performance anxiety (1995), than did athletes playing for 'control' coaches. A desire to extend current understanding of the influence of coaches’ behaviours on athletes' motivation prompted Gagne et al. (2003) to recommend that an intervention study be designed to research this phenomenon. Specifically, Gagne et al. suggested that coaches should be trained to support their athletes' perceptions of autonomy, and to then investigate the motivational effects. Similar intervention studies have been
previously conducted within educational settings (e.g. Reeve, 1998; Reeve et al., 2004), but never within the field of sports coaching.

A range of motivational theories are available which could provide an insight into the effect coaches' behaviours have on their athletes' motivation. However, to follow on from the proposition of Gagne et al. (2003), an investigation of autonomy-supportive behaviours entails a focus on self-determination theory (Deci & Ryan, 1985). According to this theory, an educator's (i.e. a coach) motivating style toward students (i.e. athletes) can be conceptualised along a continuum that ranges from highly controlling to highly autonomy-supportive (Deci, 1981). In general, autonomy-supportive educators facilitate, whereas controlling educators interfere with, the congruence between students' self-determined inner motives and their learning activity. Autonomy-supportive educators facilitate this congruence by identifying and nurturing students' needs, interests, and preferences, and by creating learning opportunities for students to have these internal motives guide their learning and activity. In contrast, controlling educators interfere with students' inner motives because they tend to make salient educator-constructed instructional agenda that defines what students should think, feel, and do. To shape students' adherence toward that agenda, controlling teachers offer extrinsic incentives and pressuring language that essentially bypass students' inner-motives (Reeve et al., 2004).

Research in this area has indicated that students within autonomy-supportive environments have been found to benefit in various ways when compared to those exposed to controlling behaviours. Examples of these positive outcomes can be viewed in table 6.1. Recognising these desirable attributes, Reeve and his colleagues (1998, 2004) sought to discover if teachers could be taught to support their students' autonomy within intervention-based studies. Essentially, the targeted areas of the teachers' behaviours were quite concerned with enhancing the participants' communication skills; focusing on their verbal interaction with (i.e. informational content and mode of delivery), and listening to, students.
Table 6.1: Benefits shown by learners with autonomy-supportive educators (adapted from Reeve, 2002)

<table>
<thead>
<tr>
<th>Benefit for Learner</th>
<th>Supportive Reference</th>
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<tbody>
<tr>
<td>Higher Academic Achievement</td>
<td>Flink, Boggiano, &amp; Barrett, 1990</td>
</tr>
<tr>
<td></td>
<td>Boggiano, Main, &amp; Katz, 1993</td>
</tr>
<tr>
<td>Higher Perceived Competence</td>
<td>Deci, Schwartz, Sheinman, &amp; Ryan, 1981</td>
</tr>
<tr>
<td></td>
<td>Ryan &amp; Grolnick, 1986</td>
</tr>
<tr>
<td>Higher Self-esteem</td>
<td>Deci, Schwartz, et al., 1981</td>
</tr>
<tr>
<td></td>
<td>Deci, Nezlak, &amp; Sheinman, 1981</td>
</tr>
<tr>
<td>Greater Conceptual Understanding</td>
<td>Benware &amp; Deci, 1984</td>
</tr>
<tr>
<td></td>
<td>Boggiano et al., 1993</td>
</tr>
<tr>
<td></td>
<td>Flink et al., 1990</td>
</tr>
<tr>
<td></td>
<td>Grolnick &amp; Ryan, 1987</td>
</tr>
<tr>
<td>Greater Flexibility in Thinking</td>
<td>McGraw &amp; Cullers, 1979</td>
</tr>
<tr>
<td>More Active Information Processing</td>
<td>Grolnick &amp; Ryan, 1987</td>
</tr>
<tr>
<td>Greater Creativity</td>
<td>Koestner, Ryan, Bernieri, &amp; Holt, 1984</td>
</tr>
</tbody>
</table>

Having successfully devised and implemented education-based interventions in both studies (1998, 2004), the research concluded that teachers can be taught to teach and motivate their students in more autonomy-supportive ways. An important conclusion made by Reeve and his team was the necessity to extract from the literature a core set of explicit autonomy supportive behaviours upon which to base any intervention, with Reeve et al. (2004) indicating a perceived mystery amongst practitioners as to what exactly an autonomy-supportive approach comprised. However, close inspection of both investigations (Reeve, 1998; Reeve et al., 2004) reveals that, whilst it is indicated that the participants were clearly guided through an educational process to develop their autonomy-supportive behaviours, little or no mention is made of the actual behaviours targeted within the studies. Thus, the ambiguity remains.

Relating this issue to sport, Mageau and Vallerand (2003) also acknowledged that a single coaching behaviour cannot encapsulate the broader understanding of autonomy-support, rather that it requires the implementation of a more complex set of coaching behaviours. The authors proposed a list of seven autonomy-supportive behaviours that coaches could employ:

1. Providing choice within specific rules and limits
2. Providing a rationale for tasks and limits
(3) Acknowledging the other person's feelings
(4) Providing athletes with opportunities for initiative taking and independent work
(5) Providing non-controlling feedback
(6) Avoiding controlling behaviours
(7) Preventing ego involvement from taking place

Mallett (2005) presented a case study of evidence-based coaching that was consistent with the autonomy-supportive behaviours proposed by Mageau & Vallerand (2003). Recognising the difficulties associated with comprehensively demonstrating the exact nature of the environment that was created, Mallett opted to convey the autonomy-supportive approach he took with two Olympic hurdling teams by illustrating selected examples from his experiences. Essentially, the autonomy-supportive behaviours described were grounded in an athlete-centred approach, as the coach sought to shift responsibility to his athletes in order to promote the perception of choice, personal ownership, and an internal locus of causality. Summarising the examples cited within Mallett's case study, the means through which this approach was carried out involved the use of a democratic leadership style that utilised guided discovery and problem-solving teaching styles (Mosston & Ashworth, 1986); divergent questioning; self-assisted with video footage) and peer-led informational feedback (with occasional instances of coach feedback); and the rationalisation of any coaching decisions. Reflecting on the total experience, the author pondered the “positive behavioural and affective outcomes that were considered attributable at least in part to the autonomy-supportive approach” (Mallett, 2005; 427), citing a prevalent eagerness to pursue excellence, a complimentary attitude, and a work ethic that was favourable in comparison to previous squads the author had worked with.

Considering the behaviours described by Mageau and Vallerand (2001) and Mallett (2005), it is possible to make direct links to some of the behavioural categories of the EYFCOI. Specifically, coaches’ use of questioning and feedback - contained in the EYFCOI - have been suggested as behaviours that can be utilised to promote athletes’ perceptions of autonomy. Indeed, when these particular behaviours are viewed from an autonomy-supportive perspective – as follows in the next two paragraphs – it is
apparent that the literature provides much support for coaches' performance of questioning and feedback behaviours to enhance athletes' perceptions of an internal locus of causality.

For instance, questioning behaviours are central to Mosston's (Mosston & Ashworth, 1986) guided discovery and problem-solving teaching styles, in which students are provided opportunities not only to take responsibility for their own learning, but also for their own instruction (Schempp, 2003). That is, through the use of appropriate techniques, students are presented with a series of problems for which they either discover a pre-determined solution (guided discovery) or devise an appropriate solution to the task they have been set (problem solving). Hence, the perception of choice in the initiation and regulation of particular behaviours is believed to reflect an internal locus of causality (Deci & Ryan, 1985). Furthermore, the concept of 'critical thinking', much used within Physical Education (for a review, see McBride, 1992), regards questioning as an integral part of "reflective thinking that is used to make reasonable and defensible decisions about movement tasks" (McBride, 1992, p. 115). The teaching strategies endorsed by this approach, of which questioning is central, are believed to have the potential to empower students through increased cognitive involvement and social negotiation (Lipman, 1988). Thus, considering deCharms' (1968) definition of autonomy as the need to feel ownership of one's behaviour, the utility of questioning as an autonomy-supportive behaviour is again supported. Whilst acknowledging the role of questioning in providing athletes with an opportunity to be creative and to make decisions, Kidman (2001) has recommended that coaches ask more higher-order than lower-order questions (both defined within Chapter 2), citing higher-order questions as more appropriate for the encouragement of independent learning. Indeed, this echoes Whitmore's (2003) contention that open questions inspire descriptive answers that engender athletes' awareness and responsibility, while closed questions can inhibit the opportunity to explore further detail. Thus, in relation to the EYFCOI, the opportunity for self-initiated choice and action afforded by open questions might be suggested to make them most supportive of athletes' perceived autonomy.

In terms of coach-directed feedback, the variety of methods in which this behaviour can be utilised means that it does not support one's perception of autonomy so
obviously. Indeed, this is apparent by the relatively small level of attention that feedback has received within autonomy-support research. However, research that has been concerned with the impact of feedback on perceptions of autonomy support have identified feedback to be either controlling or informational (Ryan, 1982). Informational feedback provides learners with information about their competence, while controlling feedback incites learners to repeat behaviours. Thus, informational feedback is regarded as being most conducive to supporting autonomy, as recipients are placed in control of their own actions (Chen, 2001). Horn (1987, 1992) has commented on the intrinsically motivating nature of informational feedback in this way, suggesting that the provision of performance-based knowledge should result in an increase in learners’ perceptions of control over future performance outcomes. Similarly, referring to coaches’ use of feedback, Williams and Hodges (2005) have recommended that “learners should be viewed as active problem-solvers rather than ‘empty vessels’” (p. 645). Whilst this specific aspect of autonomy-support has received scant research attention, a summary of the recommendations made by Chen (2001) and Mageau & Vallerand (2003) proposes that practitioners support learner’s autonomy by providing feedback that (i) is on-task, specific, and under the recipient’s control; (ii) promotes the recipient’s perceptions of control over, and responsibility for, the initiation of their own actions; and, (iii) conveys high but realistic expectations.

However, in relation to the desire to develop coaching behaviours in which the highlighted modes of feedback and questioning are predominant – as has been inferred by Cassidy et al. (2004; in relation to feedback) and Dantonio and Beisenherz (2002; in relation to questioning) – such behavioural usage is somewhat difficult to achieve.

Rationale for the Research

Based on the findings from Studies 1b and 2, it was apparent that, whilst generally acknowledged by both coaches and athletes to be desirable coaching behaviours, coaches across all youth age groups investigated were infrequently providing specific
feedback and asking open questions. Furthermore, it was observed within Study 1b that coaches provided less specific feedback than general, with closed questioning levels recorded to be used approximately 50% less than open questions for the total sample, but to be just 37.15% less for the coaches of the youngest age group. Indeed, having been inferred by both the participating coaches and players, an apparent emphasis emerged from Study 2 on promoting players’ autonomy within the learning process that was not so apparent within the behavioural findings from Study 1b. With this in mind, this study sought to implement an autonomy-supportive intervention programme with a group of coaches. Coaches from the younger age groups within the Academy/Centre of Excellence system were selected as, although these coaches were identified within the findings from Study 1b and Study 2 to be most autonomy-supportive, the coaches of older players demonstrated, during interviews, a significant level of resistance to the targeted behaviour of questioning in particular. Hence, this suggested to the researcher that they would be unlikely to embrace the behavioural modification objectives contained within the study. Although the coaches of younger players were more open to this, the data from the previous investigations suggested that there was still a discrepancy between the players’ preferences, the coaches beliefs and implied behaviours, and the actual behaviours observed. Thus, there remains scope for behavioural modification.

RESEARCH AIMS

The basic objective of this study is to increase the participating coaches’ use of open questioning, whilst keeping closed questioning levels to a minimum. It is also intended that the majority of feedback provided by the coaches will be specific, rather than general. It is hypothesised that such behavioural modifications will enhance coaches’ level of autonomy-support for their players. However, this suggestion is not being directly tested. Instead, the research aims to implement the intervention programme and to identify, through interviews, the impact of the intervention methods on the coaches’ attempts to manipulate the specified behaviours over a 6 month period. In addition, the coaches will be questioned about their perceptions of the intervention programme on their athletes’ autonomy.
METHOD

Participants

Coaches. Four male coaches volunteered for and began the study. However, one of the coaches was forced to withdraw, leaving three participants (A, B, and C). Each of the participants were at least qualified to 1st4Sport Level 3 standard (UEFA ‘B’), while two of the coaches were qualified to 1st4Sport Level 4 (UEFA ‘A’; coaches B and C). The participants were aged between 29-33 (mean age = 31; S.D. = 2), and all coached at the same professional Football Club, working with players from different age groups (A = U11; B = U13; C = U14). Each of the coaches had previously been formally observed during practical coaching sessions, with Coach B having been involved in a previous study conducted by the present researcher. Ethical approval had been obtained and each participant had completed standard informed consent procedures.

Players. 35 players from three age groups (N = 12xU11; 10xU13; 13xU14) took part in each phase of the study. Whilst there were other players who took part in some of the practice sessions, the factors that contributed to their occasional participation (i.e. trialists, injured players) meant that their data could not be used for analysis across the three phases. Hence, the data collected from these players was omitted from analysis.

Measures

Systematic Observation of Target Coach Behaviours

Consistent with the measurement of data in Study 1b, EYFCOI was deployed as the observational instrument. Specifically, categories associated with specific and general feedback behaviours, along with open and closed questioning, were event-recorded and tallied during practice sessions.
Player Perceptions of Coaching Session

The perceptions of each participating athlete were recorded throughout the study according to four dependent measures: perceived autonomy-support, perceived autonomy, perceived competence, and perceived learning (see Appendix G). The participants were asked to indicate their extent of agreement or disagreement with each of the 20 items included in the post-session questionnaire by using a 7-point Likert scale, anchored by Not at all true (1) and Very true (7). All summary scores were calculated by averaging the items within the scale (with negative items reverse scored). The assessment of the players' perceptions of their coach's autonomy-support was essentially a manipulation check; to ascertain if the players noticed their coach's autonomy-supportive behaviours (i.e. open questioning and specific feedback) change over the course of the study. The rationale for assessing the players' perceptions of autonomy and competence was based on the construct of Self-Determination Theory (Deci & Ryan, 1985). In seeking to assess coaches' ability to develop autonomy-supportive behaviours, this study was also keen to survey any potential link between the coaches' behaviours and the players' perceptions of these basic needs (e.g. Blanchard and Vallerand, 1996; cited in Vallerand & Losier, 1999). Due to the emphasis on player learning and development within the environment to be studied (a finding from Study 2), and the proposition that autonomy can affect learning (Rigby et al. 1992), the subscale relating to perceived learning was included.

Design and Procedure

Single-Subject Designs

A large amount of intervention research adopting a nomothetic design has been conducted in sport psychology, wherein relationships have been examined across relatively large groups of participants. However, it is suggested that, depending on the research question, it may not be always possible or appropriate to utilise a group design. In this instance, researchers have been encouraged to consider adopting a more ideographic approach, such as single subject designs (Murphy, 1990).

A single-subject design focuses on repeated measurement of a participants performance across several practices and/or competitions, therefore providing
potentially valuable information on individual variation in performance. The design
typically monitors an individual’s response pre- and post-intervention, with selected
behavioural differences between the baseline (pre-treatment) and intervention phases
(post-treatment) then observed at a regular series of data points. Researchers have
identified a number of features that make the single-subject design particularly
appropriate for evaluating the effectiveness of interventions in the sport environment
(Hanton & Jones, 1999; Hrycaiko & Martin, 1996).

In comparison to group designs, single-subject designs have a number of features
which potentially make them more “user friendly” for practitioners to evaluate
interventions in athletic settings (Wollman, 1986; Hryciako & Martin, 1996): Firstly,
each individual participant serves as their own control; secondly, they involve
repeated measurements in order to closely monitor the process of change, which may
occur; thirdly, they allow for ongoing monitoring of athletic performance, a feature of
interest to both coach, athlete and management; and finally, single-subject designs
also include an emphasis on social validation – an assessment of how the subjects
themselves feel about the methods used and the results obtained – and such
information is invaluable in understanding the effectiveness of applied interventions
within sport.

Wollman (1986, p.136) summarised the appeal of single-subject designs when
working with skilled sport performers (athletes or coaches), saying:

"Single-subject designs...allow detection of successful efforts for certain
individual subjects who otherwise might have their success masked in a non-
significant group design. Successful individuals/performance can be
examined to see what subject characteristics or other factors perhaps led
to...performance enhancement. Single-subject methodology may also be better
suited to group designs in working with skilled...performers who will not
improve much from pre-training level. Small but consistent changes may be
seen in single-subject behavioural monitoring that lend themselves well to
tailoring specific...programmes for individuals engaged in real-life athletics."
Procedure

The study took place over a 24-week period in which each coach was observed during a total of 10 practice sessions. A single-subject withdrawal (ABA; Kratochwill, 1978) research design was used to examine the influence of an autonomy-supportive coach behaviour intervention on the coaches' use of questioning and feedback within practice sessions, and to consider their players' subsequent perceptions of autonomy-support, autonomy, competence, and learning. The ABA design comprised an initial baseline phase, an intervention phase, and then a post-intervention phase. Hence, this structure allows for an analysis of the controlling effects of the introduced treatment, and the implications of its subsequent removal (Barlow & Hersen, 1984), allowing the participants to serve as their own source of control for the experiment (Barlow & Hersen, 1984; Hrycaiko & Martin, 1996). However, unlike typical ABA designs, the purpose of the intervention was not to observe the coaches' use of the targeted behaviours return to baseline values. In conducting performance enhancement research with coaches within an elite environment, the programme of study was interested in initially educating the participants on the purpose of the planned treatment (to be explained later in this section), whilst then facilitating a behavioural change with the coaches that would remain apparent post-baseline.

The baseline for each participant was assessed during three practice sessions over a 5-week period, while the intervention phase, initiated 3 weeks after the completion of the baseline phase, required participants to be observed during four practices during a 7-week period. The post-intervention phase involved three additional practice session observations, which began 6 weeks after the intervention phase, running for a period of 3 weeks. With time a constraining factor in the present study, it was decided, based on the recommendation of Barlow and Hersen (1973), that three baseline data points would suffice. It should be noted that all observation took place within the coaches' organised schedules. Thus, observations occurred in the 'natural setting', and was not the product of the experimental design.

Standard Method: Systematic Observation and Questionnaire Completion

Coaches' practice behaviours were recorded by utilising identical procedures (i.e. video-recorded by a trained observer) to those described in Study 1b. Once again, the
observations took place during representative times of 'typical' practice sessions, for the reasons previously described. However, the duration of each observation was 45 minutes in the present study. The players completed questionnaires at the end of each observed session, in the same way as they did in Study 1b.

Reliability of Data
To achieve intra-observer agreement, the researcher was required to observe and code the same video-recorded coaching session on separate occasions. Therefore, a video-recorded coaching session from Study 1b was used, as the researcher re-coded the session, targeting specifically the behaviours relevant to the present study. Comparative analysis was made between the original frequencies from the initial coding of the session (from during the data analysis of Study 1b) and this recent coding. Furthermore, to minimise observer drift during the analysis of the intervention data, this practice session was again coded on three additional occasions throughout the present study. The level of agreement (see Table 6.2) was high for each of the intra-observer agreement tests, perhaps reflecting the precise nature of the few coaching behaviours specifically targeted.

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<th>Level of Agreement (%)</th>
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<td>Following Analysis of Session 15</td>
<td>100%</td>
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<tr>
<td>Following Analysis of Session 21</td>
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Table 6.2: Results from intra-observer agreement tests

- Pre-Intervention (Baseline) Phase
Prior to the intervention phase, the 3 participants were each observed during three practice sessions, in which particular attention was paid to their use of questioning and feedback behaviours. The information gathered during these observations was used to develop an autonomy-supportive coach behaviour intervention tailored to what was deemed by concepts upon which the intervention was based (i.e. increased specific feedback and open questioning) – and agreed upon by the researcher and the participant – to be each participant's autonomy-support requirements (e.g. increase specific feedback/decrease general feedback).
• **Intervention Phase**

The coach observation process conducted during the pre-intervention phase was repeated, as specified data was collected on the coaches’ practice behaviours along with their players’ questionnaire responses. However, this phase also contained several aspects which constituted the actual intervention. These aspects are comprehensively described below:

**30 minute educational session** (see Appendix H): Each coach participated in a one-to-one educational session in which the focus of the intervention was explained to them. The researcher felt it was crucial to the functioning of the intervention that the coaches understood the theoretical rationale underpinning the programme that was being proposed to them. Furthermore, it was imperative that the programme was ‘sold’ to the coaches in a way that captured their interest in the intervention, and in a manner that encouraged the participants to value the focus of the programme. This factor has been highlighted by More and Franks (1996) to significantly impact on participants’ commitment to an intervention programme. Essentially, the concept of ‘autonomy’ was defined, before the researcher elaborated on the potential benefits for player development in enhancing athletes’ autonomy levels. Practical examples were provided to illustrate the attributes of autonomous performers (Reeve, 2002). The researcher then indicated the particular aspects of the coaches’ behaviours that were to be targeted in order to become more autonomy-supportive. Each of the coaching behaviours relevant to the study (i.e. both those deemed ‘desirable’ and those ‘undesirable’ for autonomy-supportiveness) were discussed at this point, as the researcher explained the rationale underpinning the manipulation of the respective behaviours. Each coach was asked for his opinions on the various arguments proposed by the researcher at this stage, and all were content with, and supported, the logic offered. Also at this time, each coach received a full description of how the study would proceed.

**Educational support handout** (see Appendix I): The participants were each provided with a handout that had been designed to assist their attempts to modify their target coaching behaviours. Each coach received the same handout. The educational support handout contained examples of coaches’ comments to hypothetical performance situations. The comments reflected examples of coach behaviours that were
autonomy-supportive (i.e. open questions and specific feedback), along with conflicting methods for dealing with the situations. Furthermore, recommendations for the use of the handout were suggested, as coaches were advised to consider the cited examples, and to be creative with devising their own examples, when planning for future coaching sessions. This notion of planning for future teaching and learning episodes has been suggested by Kidman (2002) and Dantonio and Beisenherz (2001). Thus, it was suggested that coaches could plan to incorporate anticipated specific feedback and open questions into future coaching sessions in light of their understanding of the coaching objectives for their own sessions. For instance, it was proposed that in planning for a future practice session on crossing and finishing, coaches might consider the instructions they would be providing to their players, and to anticipate the content of the feedback statements they could make based on these coaching points. Also, coaches were advised to use their prior experiences to think about some of the difficulties players might encounter, and to formulate examples of open-ended questions they might ask to players regarding these issues.

30 minute post-baseline feedback session (standardised protocol): Following the educational session, the researcher arranged to again meet with each coach individually. This, and subsequent intervention feedback sessions, occurred at the professional Football Club’s Academy site. The focus of this session was to supply each coach with the quantitative raw data for their use of open and closed questioning and specific and general feedback from the baseline period. This was presented in the form of tabular charts and line graphs, with averaged data also included. In addition, selected videotape examples of the coaches’ relevant behaviours were shown to each participant. These examples had been selected by the researcher, with each coach shown examples of both ‘undesirable’ (i.e. closed questions and general feedback) and ‘desirable’ (i.e. open questions and specific feedback) behaviours. The rationale for this approach was to enable the researcher to highlight selected aspects of the coaches’ behavioural data for maintenance/improvement (Martin & Hrycaiko, 1983), and to use the videotaped evidence to illustrate the discussion points (More & Franks, 1996).

Therefore, before meeting with coaches A, B, and C, the researcher analysed and evaluated their baseline data, before formulating an autonomy-supportive strategy that
was specific to each coach. This strategy comprised recommendations and goals for the coaches’ next observed sessions (i.e. to increase/decrease their use of particular behaviours). It was decided that, rather than prescribe specific quantitative targets for each coach, the goals would take the form of a general encouragement to attempt to modify their respective behaviours in a desired manner. This method was based on a review of previous coach behaviour intervention studies (Krane et al., 1991; More & Franks, 1996) in which specified behavioural percentages were set as targets for the participants to meet within their sessions. Both Krane et al. and More and Franks acknowledged that, due to the nature of conducting research within an applied, relatively unstable context, it is difficult to maintain strict control over coaches’ in-practice behaviours. That is, coaches’ practice objectives can change from session to session, and thus the emphasis within each unique learning situation may necessitate the performance of relative coaching behaviours to varying degrees. For example, some sessions will require high frequencies of technical instruction, while coaches may deem it more productive to completely refrain from instructing their players in other sessions. Hence, when conducting an intervention study, setting detailed performance targets that can be unrealistic to the requirements of practice sessions can either result in unachieved intervention goals or contrived coach behaviours. Either way, the outcome is undesirable for researchers’ aims. Therefore, the use of less specific performance goals was regarded as the most appropriate means to encourage behavioural manipulations in this study. Considering the details outlined in the ‘rationale for the research’ section of this chapter, an example of this type of intervention goal-setting strategy would be: “try to supply your players with more frequent instances of specific than general feedback in the next observed session”.

Subsequent 30 minute intervention feedback sessions: The same protocol (described above) was used in the three additional intervention feedback sessions within this intervention phase, with the data recorded from the previously observed session being incorporated into the coach feedback process. Thus, details and video footage from session 5, for example, were revealed to the coaches prior to session 6, with any necessary adjustments introduced to the intervention strategy for the following session.
• **Post-Intervention Phase**

All three coaches then conducted their last three practice sessions (i.e. sessions 8, 9, and 10), to allow follow-up data to be collected. No discussion between coaches and the researcher regarding the coaches' behaviour took place during this phase, and the data was not made available to the coaches until after the study had been completed.

• **Post-Intervention Interviews**

Three weeks after the completion of the post-intervention phase, all of the participants were interviewed regarding their perceptions of the autonomy-supportive coach behaviour intervention. An interview guide was developed based on the components of the intervention programme and the social validation recommendations of Wolf (1998). Questions were arranged within the interview guide into the following sections: the effectiveness of the intervention procedures; the perceived influence of the intervention on use of questioning and feedback; the utility of developing autonomy-supportive coaching behaviours; implications of the intervention for future practice; and, possible improvements to the intervention. The purpose of the post-intervention interviews was twofold: to understand more about the internal experiences of each of the coaches (to compare with the obtained behavioural data), and to act as a means of social validation. As suggested by Wolf (1998), the interviews were designed to provide social validation of the study on three levels: (i) by examining the extent to which the targeted behaviours were important to the participant, (ii) by assessing whether the procedures used were deemed acceptable to the participants, and (iii) by determining if the participants were happy with the results (see Appendix J for interview guide).

**Procedural Integrity and Validity**

To ensure that each of the participants received the same information throughout the study the intervention sessions were delivered in a standardised protocol. Thus, each participant was provided with their individualised feedback and presented with an updated intervention goal through the use of identical methods.
Data Analysis

The researcher used event recording procedures to tally the total number of behaviours for each category of coaching behaviour. This process was again conducted with the use of the SportsCode Performance Analysis Software. In addition to the raw data frequencies, rate per minute (R.P.M.) values were also calculated for each behaviour, while percentage splits were calculated for the coaches’ use of general and specific feedback, to reflect the nature of their overall feedback content.

Visual inspection of data has been described as an accepted alternative to statistical techniques (Kratochwill, 1978) in single-case designs. Thus, this method of analysis was utilized to examine the recorded coach behaviours and players’ perceptions pre-, during, and post-intervention. Based on the recommended guidelines outlined by Martin and Pear (1996), the following criteria were used to establish confidence in the effectiveness of the treatment: (a) when baseline performance is stable or in a direction opposite to that predicted for the treatment, (b) the fewer the number of overlapping data points between baseline and treatment phases, (c) the sooner the effect occurs following the introduction of treatment, (d) the larger the size of the effect in comparison to baseline. Confidence in the observations is also enhanced if the results are consistent with existing data and accepted theory (Hrycaiko & Martin, 1996).

Numerical data from the players’ questionnaires were analysed to generate descriptive results regarding the impact of the manipulated behaviours on players’ perceptions. Furthermore, qualitative data from the participants’ post-intervention interviews were content analysed following the procedures of Cote et al. (1993) and Tesch (1990) (previously described in Chapter 5).
RESULTS

This results section initially summarises the findings from the study in accordance with the analysis procedures outlined by Martin and Pear (1996). Thereafter, the findings for the three participants are examined in isolation, depicting the nature of the intervention for each individual. The intervention data (i.e. coach behaviours and players' responses) is considered in combination with the supplementary interview data in these subject-specific reviews, as background information is provided on each coach along with a detailed summary of their intervention experience. The coaches' use of each of the behaviours is portrayed within figures, which are used to analyse and report the effectiveness of the intervention (Martin & Pear, 1996). Some tentative comments are also made in relation to the impact of the intervention on each coach's group of players based on the players' questionnaire responses. Whilst the participating players repeatedly completed a questionnaire after each observed practice session, these player perceptions have been presented for each respective age group by averaging the combined responses for the three phases of the study. It was felt that presentation of the data in this manner was most illustrative of the total groups' perceptions.

Results Summary

Several authors have advocated the visual inspection of plotted data to establish if a treatment had an effect (e.g. Hrycaiko & Martin, 1996; Kratochwill, 1978; Martin & Pear, 1996). Hence, following the guidelines offered by Martin and Pear (1996), the findings from the present are contemplated. The visual inspection is based on the data presented in figures 1-9, which are displayed throughout this section.

(a) When baseline performance is stable or in a direction opposite to that predicted for the treatment: In general, the baselines showed moderate stability, while only one of the plotlines was observed to consistently move a direction opposed to that predicted for the treatment. As the data was gathered from practice sessions acknowledged by the participants to be somewhat unstable (i.e. dependent on the
stage of the technical programme), it is conceivable that the baseline may never have
demonstrated true stability. To test this further, though, a longer pre-intervention
period could be created. In terms of the movement of the behavioural plotlines, it was
found that, with the exception of Coaches A and C’s specific feedback provision and
Coach C’s closed questioning, the plotlines fluctuated between sessions one to three.

(b) The fewest number of overlapping data points between baseline and treatment
phases: Due to the nature of the target set for the coaches’ use of closed questioning,
this criterion is not such an applicable means to assess the impact of the intervention
on this behaviour. As the coaches’ target for closed question usage was to generally
minimise the use of this behaviour in relation to open questioning, there was not an
explicit direction to increase or decrease the number of closed questions asked.

However, while the imprecision of the set goal makes it difficult to gauge the
coaches’ achievement of this objective, it is perhaps easier to consider the findings
from the perspective of whether the directive was not met. In this respect, it can be
concluded that closed questioning frequencies were not observed to increase with two
of the three coaches (excluding one overlapping data point with Coach B), while the
behaviour was used only slightly more often during the intervention phase with the
other coach (Coach C). This increased usage, however, was in conjunction with a
substantial increase in open question usage during this same period. Each of the three
coaches demonstrated an increased use of open questioning following the first
intervention session, with none of the subsequent data points overlapping with any of
those from the baseline period. Following an increased use of open questioning during
the intervention phase, the frequencies exhibited by Coach B and Coach C declined
post-intervention, but appeared to plateau at a level that was still greater that pre-
intervention. Coach A’s open questioning remained relatively constant across both the
intervention and post-intervention periods.

The provision of general and specific feedback by Coach C demonstrated opposing
shifts with no overlapping data points. That is, general feedback levels decreased
below baseline, and remained so, while specific feedback was supplied at frequencies
higher than those observed pre-intervention. Once more, the recorded frequencies
stayed above baseline for the rest of the study. Coach A was also able demonstrate
general feedback in a similar manner to Coach C, with no overlapping points. Coach A’s modification of specific feedback, though, was not so fluent. Although the participant was able to overturn his dominant use of general feedback so that the majority of his feedback provision was specific, this was achieved through a decreased frequency of specific feedback in the first session of the intervention period. Coach A was able to continue for the remainder of the intervention by supplying more specific feedback in his sessions than general. However, this was achieved with a further overlapping data point during session seven.

Coach B’s very high use of feedback in the pre-intervention phase, however, culminated in his subsequent behaviours demonstrating a slightly different trend. As it was regarded unrealistic to expect Coach B to increase his usage of specific feedback beyond an already high level, his intervention target was to basically supply more specific than general feedback. Thus, this criterion is also not applicable for Coach B’s specific feedback usage.

(c) The sooner the effect occurs following the introduction of treatment: Once again, this criterion is most concerned with the plotlines for the coaches’ use of open questioning, and general and specific feedback. Behavioural changes were quickly apparent with each of the coaches’ use of open questioning, and general and specific feedback, with the only exception being Coach A’s use of specific feedback. The prompt improvements noticed in the participants’ use of the other targeted behaviours during the first session of the intervention phase meant that Coach A’s gradual increase in specific feedback frequency stood out. However, allowing for the immediate decrease (in session four) in Coach A’s use of specific feedback, a sizeable increase was quickly apparent in sessions five and six.

(d) The larger the size of the effect in comparison to baseline: Coach B and C’s low use of questioning pre-intervention ensured that subsequent behavioural alterations would produce high percentage changes. Hence, Coach B’s improved use of open questioning during and post-intervention revealed respective performance increases of 471.16% and 399.25%, while Coach C’s increases over the same phases were 775% and 450%. Furthermore, the extreme nature of these performance increases are highlighted in Coach C’s increased usage of closed questioning during the
intervention phase, as an average improvement from 1.67 instances per session to 4 equated to an increase of 139.52%. Coach A, however, who demonstrated an average of 23 open questions pre-intervention increased this behaviour usage by 16.3% and 27.5% in the following two phases.

The effect sizes for feedback can be considered in two ways: by measuring the frequency changes across phases, and also by analysing any adjustments made to the relative percentage each behaviour accounts for within the total feedback general-specific split. As it has already been indicated that Coaches A and B actually supplied less specific feedback instances following the baseline period, the latter method of evaluation is perhaps the most effective. Each of the coaches demonstrated higher levels of general than specific feedback in the first phase of the study. Coach A thus raised his specific feedback percentage from 44.9% to 63.6% during the intervention period, which increased again to 68.2% post-intervention. Coach C's feedback split followed a similar trend. From a pre-intervention average of 44.8%, Coach C's specific feedback developed to 66.6% in the intervention period, and then to 71% post-intervention. The baseline split for Coach B was much closer than the other two coaches, as specific feedback accounted for 49.4% of the total feedback provided during this period. However, Coach B did not overturn the behavioural split to the same extent as the other participants, as his specific feedback increased to 59.1%, before dropping slightly to 58.8% post-intervention.

In addition to the criterion listed by Pear and Martin (1996), Hrycaiko and Martin (1996) also proposed that confidence in reported findings is also enhanced if results are consistent with existing data and accepted theory. However, as this study was not overtly concerned with the impact of the coaches' manipulated autonomy-supportive behaviours, it not feasible to make comparisons with the results of previous investigations in which the impact of autonomy-supportive behaviours on a group of subjects has been tested. Some provisional observations can be made, however, on the consistently reported increase in autonomy-support perceived by the three groups of players involved in the present study. Indeed, this variable showed the most significant shift in value for each of the sampled groups. This finding suggests that the coach behaviour intervention was successful to the degree of being acknowledged by the recipient players. Furthermore, whilst again stressing the lack of statistical
significance to support the finding, Coaches A and B’s players reported an incremental increase in perceived autonomy across the three phases of study. Following an decline between pre-intervention and intervention scores, Coach A’s players also displayed an apparent increase in their perceptions of autonomy between pre- and post-intervention.

**Coach A**

Coach A was a 29 year old, UEFA ‘B’ qualified coach, who had been working within Academy-level football for five years. He was the coach for the U11 age group, with whom he had worked for the previous four seasons. Coach A worked for the Football Club on a full-time basis, as Assistant Academy Manager, responsible for the functioning of the U9-U11 age groups. This role also involved part-time teaching responsibilities, delivering educational sessions to the U16-U18 ‘scholars’.

Table 6.3 shows the full details of Coach A’s behaviours throughout the intervention, with the frequencies and averaged rate per minute values included. The averaged data for Coach A’s use of each of the targeted behaviours indicates that the intervention successfully altered all behaviours in the desired manner. The mean general feedback frequencies for Coach A decreased from 59 in the pre-intervention phase to 30 in the intervention phase. This represents a performance change of -49.15% (- denotes a behavioural decline) across these phases. The averaged post-intervention frequency for this behaviour was 39.33 (-33.33% from the baseline level).

The averaged specific feedback frequency in the pre-intervention phase was 48, which changed to 52.5 (+9.38%; + represents a behavioural increase) in the intervention phase, and again increased to 84.33 (+75.69%) in the post-intervention phase. Comparing the content of total feedback provided, the predicted dominance of general feedback provision within Coach A’s baseline behaviours was apparent, contributing 55.1% of the general-specific feedback split. The effectiveness of the intervention was evident in the second and third phases of the study, as specific feedback accounted for 63.6% and 68.2% of the total feedback supplied, respectively.
Coach A used an average of 23 open questions in the pre-intervention phase, which rose to 26.75 (+16.3%) in the intervention phase, and increased once more to 29.33 (+27.5%) in the post-intervention phase. The pre-intervention average for closed question usage was 13.67 for Coach A. This decreased to 8.25 (-39.65%) in the intervention phase, with the post-intervention average 12 (-12.12%).
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<td>Freq. RPM %</td>
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Table 6.3: Intervention data (frequencies, R.P.M., and percentage splits) for Coach A
**Use of Questioning**

Coach A’s use of open and closed questioning is illustrated in Figure 6.1. The performance of closed questioning prior to the intervention displayed minimal fluctuation, with frequencies ranging between 12 and 16. Open questioning frequencies were quite similar to those of closed questioning during sessions one and two (19 and 16, respectively), but increased somewhat in session three (23).

The intervention to decrease closed questioning levels below those observed during the baseline was only partially achieved during the intervention phase. Following a sizable immediate reduction during session four, the observed frequencies consistently increased during sessions five and six (whilst remaining below the lowest baseline frequency), seeming to return to the baseline level during the last intervention session. Indeed, this frequency range of 11-13 was consistently recorded during the post-intervention phase, as Coach A appeared to return to his original closed questioning usage.

Whilst Coach A’s use of open questioning increased to a comparatively high level in the final session of the baseline period, frequencies observed in three of the four intervention phase sessions surpassed this usage of the behaviour. The findings for open questioning achieved a certain level of stability during the post-intervention phase, as frequencies ranged between 27 and 32. This consistency can arguably be traced back to the beginning of the intervention phase, as six of the final seven observations witnessed frequencies that ranged from 27-35.
Use of Feedback

Figure 6.2 shows the effects of the intervention on Coach A’s feedback provision. Aside from session one, Coach A seemed to supply general and specific feedback in equal measures during the pre-intervention phase. However, particularly during session one, Coach A consistently provided more general than specific feedback, with an average total of 2.38 (S.D. = 0.46) feedback instances occurring every minute during this initial period.

The first session of the intervention phase witnessed a significant decline in the overall feedback rate, as just 1.51 feedback moments were evident per minute. Thus, Coach A’s use of both general and specific feedback decreased in this session, although Coach A did (narrowly) achieve the objective of making the majority of his feedback usage specific in nature, providing 36 specific instances to 32 general. With the exception of session seven, the dominance of Coach A’s specific feedback provision continued to grow throughout the remainder of the study. A dramatic incline was apparent from sessions 4-6 (with frequencies rising from 36 to 71), before a sharp dip occurred in session 7. General feedback usage was quite stable during the intervention period, as recorded frequencies ranged between 24 and 35.
This general feedback stability somewhat remained during the post-intervention phase, although slightly higher frequencies were observed, as levels ranged from 33-43. Coach A's specific feedback also seemed to plateau during the final phase of the study, with this behaviour also reaching a level that was more frequent to that recorded during the intervention phase (ranging between 79-89). Thus, having declined during the intervention phase to an average of 1.83 (S.D. = 0.31), Coach A’s total feedback usage rose above the pre-intervention phase to a rate of 2.75 (S.D. = 0.58) instance per minute in the post-intervention period.

![Coach A Feedback](image)

Figure 6.2: Coach A’s use of Feedback

Coach A’s Reflections on the Study
Coach A entered into the study quite satisfied with his use of questioning, a perception that was not altered by the baseline figures he observed during the first feedback session. However, this was not also the case with his views on his feedback provision, as Coach A indicated an element of surprise at the reported observations of his behaviour:

*I’ve always thought I’ve been good at that [questioning] – that comes from working in a classroom environment, teaching students. So I felt a lot more comfortable with the questioning side of things than with the specific feedback provision...when I looked at the figures I thought that I was being very*
general in the feedback I was providing... I was providing feedback without paying any attention to the actual comments I was making. So it wasn't until I saw the actual facts from the first three sessions that I realised that a lot of the information that was coming out of my mouth was, I wouldn't say wasted, but it wasn't as challenging or as informative as it could've been. So it was a shock, yeah.

In attempting to explain the observed decline in total feedback usage observed in the early stages of the intervention phase, Coach A suggested that the additional time required to cognitively construct phrases that was not habitual to him might have been a decisive factor in his lesser overall use of the behaviour:

I might've been thinking too much during the session, and taking too much time to think about the content of the information I was trying to get across to the players in my feedback.

Coach A's commitment to the aims of the study, and the possible source of his subsequent performance improvements in terms of the goals that had been set for him, is evident in the following quotation about his decision to actively practice changing the target behaviours in sessions taking place in between observations:

...like anyone would want to, I wanted to demonstrate improvement in meeting the goals that I'd set, so I was a lot more conscious. But because I had the opportunities to practice for a few sessions prior to doing my session 4, and my session 5, and my session 6 - 'cause there were ongoing sessions occurring in between the sessions you were observing me - those sessions where there was no pressure from having a camera pointed at me, or wearing the sound equipment, I was able to practice, and make mistakes, by being comfortable, and stand back and take my time doing it. There wasn't the pressure. And that's where I think I've spent a lot more time focusing on it and working at it. So when it came around for session 4 and session 5, and then session 6, I was quite confident and also I felt a lot more composed in asking my questions... and also when to do it throughout the session.
However, acknowledging the intricacies of behaviour modification, Coach A explained how the processes involved in achieving this adaptation may have briefly occurred at the expense of his players’ normal practice routine:

What I found was, as soon as I had the baseline results, I went out the next session and the boys hardly touched the football 'cause I was working on my questioning, and my specific feedback, and by the fifth or six session I had a good balance on asking the relevant questions, and supplying my informative feedback, without it interfering with the boys' practice time...Although there were probably two or three sessions with which I probably wasn’t happy with the outcome of the session, I think long-term, over the whole season, the boys got the benefits of me working on my particular development.

Reflecting on the post-intervention findings in particular, and a feeling of having attained a level of consistency with his use of all four target behaviours that he had worked hard to achieve, Coach A was keen to stress his contentment with the behaviours he was exhibiting:

When I look back over session 1 to session 10 – and I know this was over a six month period – I felt that I was a lot more confident, and had put in a lot of practice by sessions 8, 9 and 10. But I would have to say that that's [the post-intervention plateaus for each behaviour] probably a peak for me that I don't think I would be able to, or be prepared to, go much further on.

As the post-intervention period showed Coach A’s feedback provision, in particular, to have developed beyond frequencies demonstrated within the intervention phase, the above quotation seems to suggest a certain awareness of having reached a standard of performance that the participant was satisfied with. Indeed, Coach A elaborated on some of the strategies he had adopted in order to promote behavioural change, whilst also describing key process outcomes that he realised from participating in the study. The following quotations portray the participant’s reflections:

...when doing a session with little passing or skill drills, [for example], I started thinking of how I could set my session up so that, when the boys
actually do their skill, they would have a couple of seconds rest, and then they'll have time to answer a potential question from me, before they have to go again.... I feel that my actual planning of coaching sessions has improved greatly. I find myself putting more time into think about the overall outcomes I want to achieve from the session - not just the technical or tactical - and how I'm going to achieve them.

Prior to this study I probably would've said 'well done' or giving them some applause with a hand clap, or, 'oh, that was close', or whatever, whereas now I'm looking more at the actual process of the movement, or whatever, instead of the actual end-result. So I think I'm being a lot more clear in actually focusing on the specific skill or technique, than the end-result of the skill. In that sense, I think the boys have got a lot more out of it throughout the year, than they would've done with me just congratulating them if they've done something well. I'm not so much concerned now as to whether they've scored a goal or whatever, I find myself looking more closely at the process of whatever it is they're doing.

...[I am now] quite specific with asking certain boys open questions to reinforce specific points, or to get them to think about we're maybe going in to. Whereas, what I did find prior to my involvement in this research was that I would stand up at the front of the group and tell them exactly what they're going to do prior to doing it, and then start asking questions after the session had occurred. So instead of me using my language to explain what I was going to expect from a drill or a specific phase of the game, I [am now] getting the boys to use their eleven year-old language to explain to their fellow peers and myself how, or what, their expectations [are] of what they want to achieve. And I found that gave the boys a little bit more responsibility to ensure that whatever I had challenged them to do in that particular drill, they went out to achieve, instead of me standing over the top of them telling them, 'this is what I want from you! This is what I expect!'
Implications for Players

Looking at Figure 6.3, it is possible to make some basic observations regarding the players' questionnaire responses. Of primary importance to the present study are the players' perceptions of autonomy-support and autonomy. With both variables, it was noticed that the players' perceptions increased between the pre- and post-intervention phases, as perceptions of autonomy-support steadily increased from 5.11 to 5.21, and then to 5.49 post-intervention, while the players' perceptions of autonomy decreased from the pre-intervention period (6.09) to the intervention phase (6.05), but rose again above the baseline level by the end of the study (6.2).

Like the perceived autonomy averages, the players' perceived competence decreased during the intervention phase (from 5.74 [S.D. = 1.15] to 5.66 [S.D. = 1.38]) before increasing post-intervention (5.8 [S.D. = 1.64]). Furthermore, the perceptions of learning for the group followed a similarly incremental rise from pre-intervention (5.61) to intervention (5.64), increasing again during the post-intervention period (5.87).

Speaking about the impact of the study, Coach A made some observations relating to his players' behaviours. Whilst recognising the potential influence of other developmental factors (e.g. physical growth, social maturation, improved game understanding), Coach A suggested that the intervention may have had some impact on players' improved responsibility over their own development, their independent creative thinking, their confidence, and their communication skills. However, as the first quotation from the following group of citations explains, some of the players were initially rather apprehensive about the changes to their coach's behaviour:

[Following] the first part of the intervention - in the next few sessions I came out and asked a million and twenty-six questions, and a few of them didn't seem comfortable in the environment, and you'd start to see them hiding behind others so that they wouldn't be asked questions. But I think, as a team, we certainly developed to be confident to try to answer the questions because they found out after a specific time that they weren't gonna get told off for answering questions wrong.
The extent of the players' ease with their coach's increased use of questioning is demonstrated in the following comment, although Coach A conceded that this acceptance was not shared by all of his players:

...we had some Under 10 boys who came up to the Under 11s who were unaware of what had been happening over the previous few months [in terms of the intervention], so whenever they were asked a question they seemed to, from their body language, seemed to be uncomfortable with being challenged to answer a question. Whereas, the Under 11 boys who had been around, they weren't afraid to start making imaginative answers, answers that they maybe wouldn't have said six months ago, knowing that no-one was gonna have a go at them, or pick holes in their answer. But there were a couple of boys who were still a bit reluctant towards the end, boys who weren't overly fond of answering directly to me. They never really came out of their shell. But I guess you're gonna get that with any group of people, some who embrace it and some who shy away.

In addition to the implied confidence and creativity that Coach A has suggested his players gained from his use of questioning, the content and frequency of their communication was also observed to have improved:

The boys seem to be talking a lot more, and they're not just talking for the sake of it, they're now encouraging players to use the inside of their foot, or get their body shape in the correct position before striking at goal, or, little things like that which, I must admit, I am aware of, but I wouldn't say it's obvious.

This detailed communication, Coach A argues, is linked to the increased specific feedback provision that the players were hearing during their practice sessions. Coach A suggests in the following quotation that, in line with the proposed rationale for the inclusion of specific feedback as an autonomy-supportive behaviour, the players were utilising the additional information that was being supplied to them during practice sessions, and doing so independently:

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...they're getting a better quality of feedback for them to use when practising their skills in their own time. And I think that's one of the things that I noticed with my age group, a lot of them seemed to be taking more ownership, in the sense of, when they were writing in their log books after the games and practices...there would be quite a bit of detail in their reflections. They'd be mentioning about things that I know I'd said to them during the sessions, specific things. And they'd be writing about how they'd been working on these things away from the Academy. From their earlier general comments in their log books, when I reflect back on it from the start of the season to the end of the season, while they're a year older, or nine months I mean, I can see that it's a lot more detailed and specific. Although they might not communicate it as well verbally, you can see that some of them have definitely taken a lot of the information on board and shown that in their review of games and sessions.

![Coach A's Players' Averaged Perceptions](image)

Figure 6.3: The Averaged Perceptions of Coach A's Players

**Coach B**

Coach B was a 31 year old, UEFA 'B' qualified coach, who had been working within Academy-level football for seven years. He was the coach for the U13 age group. This was his first year as an U13 coach, having worked with the U12 groups for the
previous four seasons. Coach B worked for the Football Club on a part-time basis, working full-time as a secondary school physical education teacher.

Coach B’s demonstrated behaviours from throughout the intervention are contained within Table 6.4. The averaged data for Coach B’s use of each of the targeted behaviours signifies that moderate success was reached in changing behaviours in the desired manner. The mean general feedback frequencies for Coach B decreased from 121.33 in the pre-intervention phase to 53 in the intervention phase, representing a variation of -56.32% across these phases. The averaged post-intervention frequency for this behaviour was 51.67 (-57.41% from the baseline level).

The averaged specific feedback frequency in the pre-intervention phase was 118.33, which moved to 76.5 (-35.35%) in the intervention phase, before decreasing further to 73.67 (-37.74%) in the post-intervention phase. In terms of the general-specific feedback split for Coach B, baseline data revealed a very even division as general feedback made up 50.6% of the total feedback supplied, with specific feedback representing 49.4%. The intervention was effective in securing a majority usage of specific feedback for Coach B, accounting for 59.1% of overall feedback during the intervention phase and then 58.8% in the post-intervention period.

The pre-intervention average for open question usage was 2.67 for Coach B. This increased to 15.25 (+471.16%) in the intervention phase, with the post-intervention average falling slightly to 13.33 (+399.25%). Coach B used an average of 4.33 closed questions in the pre-intervention phase, which rose to 5.5 (+27.02%) in the intervention phase, before increasing again to 6.67 (+54.04%) in the post-intervention phase.
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Table 6.4: Intervention data (frequencies, R.P.M., and percentage splits) for Coach B
Use of Questioning

Figure 6.4 shows the details of Coach B’s use of open and closed questioning. Closed questioning was used somewhat unpredictably prior to the intervention as frequencies were observed to range between 1 and 9. An undeniably low consistency was demonstrated in Coach B’s open questioning deployment, though, as the behaviour was used on either 2 or 3 occasions in each of the first three sessions.

The fluctuating closed questioning frequencies observed during Coach B’s baseline period make it complex to assess the impact of the intervention on this behaviour. While the averaged figures for the three phases of study indicate a gradual incline in the participant’s use of the behaviour, the frequency for closed questions recorded in session one (8 instances) was exceeded only once in the remainder of the study. Considering the most frequently reported use of the behaviour entailed a 45 minute session (session 5) in which 9 closed questions were asked, it can be inferred that Coach B’s use of the behaviour remained relatively stable throughout the duration of the study. Hence, this partially fulfilled the prescribed objective to minimalise the use of this behaviour in comparison to open questioning.

Coach B’s use of open questioning moderately satisfied the second aspect of this questioning target by dramatically increasing during the intervention period, before appearing to settle at a level that was reasonably higher than the observed usage of closed questioning. The intervention phase witnessed an increase in Coach B’s open questioning usage that progressively involved frequencies of 9, 10, 16, and 26. Following the peak achieved in session 7, Coach B utilised the behaviour on a basis that resembled the averaged behaviour rate recorded for the intervention phase. It is important to stress that this level was significantly higher than the frequencies reported pre-intervention.
Use of Feedback

Coach B's feedback provision is represented in Figure 6.5. An apparently similar fluctuation was observed in the participant's use of both general and specific feedback during the pre-intervention phase, as almost identically high frequencies were observed in all three sessions. The rate of feedback supplied during this phase averaged 5.33 instances per minute, with a standard deviation of 1.42.

Following a discussion with Coach B during the feedback session in which the researcher supplied the participant with the recorded baseline data, a decision was agreed that, in concentrating on the objective of making specific feedback the dominant feedback type, it would be necessary to reduce the total volume of feedback. This decision was based on the assumption that, as Coach B's observed feedback rate from the baseline phase comprehensively exceeded the levels reported in Study 1b and other coach behaviour studies (e.g. Cushion & Jones, 2002), it would be difficult, and perhaps unadvisable, to achieve a further increase in the provision of an already exceptionally highly used behaviour. The element of caution referred to here concerned the potential to over-utilise this informational behaviour and, as has been alluded to by Schmidt (1991), possibly diluting the effectiveness of the feedback.
Thus, the first session of the intervention phase saw a substantial decline in the overall feedback rate, as 2.88 feedback moments were evident per minute. An immediate difference was observed between Coach B’s use of general (48 instances) and specific (70 instances) feedback during session four. This prevailing use of specific feedback continued throughout the remainder of the intervention period, with a relatively stable use of both behaviours observed. Specific feedback levels did gradually and slightly swell during this time (from 70 to 87), while general feedback also increased a little during sessions four to six (from a frequency of 48 to 60), before a small dip in session seven (55 instances).

While the general feedback provision did remain constant in the post-intervention phase (between 48 and 56 feedback moments), and the averaged data for specific feedback suggests that a plateau was observed over the course of the intervention and post-intervention phases, there was an element of variation in the specific feedback frequencies supplied in this last period. Following a decline between sessions seven to nine, specific feedback levels increased in the last session to the highest frequency observed since the baseline period (89 instances).

Figure 6.5: Coach B’s use of Feedback
Coach B's Reflections on the Study

The pre-intervention data on Coach B’s behaviours came as a surprise to the participant. Specifically, Coach B was taken aback by the respective high and low levels of feedback and questioning he had exhibited. However, having been made aware of the focus of the intervention, the coach showed a willingness to embrace the aims of the study:

*I was surprised by the amount of feedback. I was probably surprised by the lack of questions as well – I always thought of myself as a Q&A coach – obviously, from the original baseline figures, you can see that there weren’t the number of questions that I’d’ve expected in there...I thought there were probably things I could improve on...certainly, use of open questions. And I’d never really thought – although I did it – I’d never really thought specifically about ‘specific’ feedback, about what I was actually saying. I’d just sort of done it. But I can see how it’s important.*

The details regarding the total amount of feedback provided during the first three sessions was a significant issue to be discussed before setting any intervention goals. Coach B conveyed strong views on the matter, though, which suggested a determination to particularly work on modifying this behaviour:

*I didn’t expect to have fed back as much as I did. There’s no way I expected my results to indicate that I fed back around 240 times per session. And it’s interesting that lots of it was just very general comments, “good, well done”, without anything specific behind that. And I suppose the argument could be made that what I was actually doing was just creating noise rather than comments that were meaningful to the boys...the boys switch off, you’re voice is not really heard. If you’re doing it less and less then when you do say something it has more impact. So, yes, I do think you can give too much. And I probably was guilty of commentating throughout coaching sessions.*

Whilst Coach B indicated his satisfaction with the recorded alterations to his target behaviours, it seems that, perhaps due to a self-awareness of a somewhat disorganised
approach, the following quotation suggests that his application to the intervention was lacking in structure, portraying a haphazard approach to changing behaviours:

When we first talked about the baseline results, when we had that meeting, I actually sat there and thought, 'I'm never gonna do this'. And even when I went out there [during practice sessions], I'd think to myself, 'oh, I haven't done this or, I haven't done that'. However, the figures come out well after the intervention, so it must've worked, but it wasn't something that I consciously thought about all of the time -- 'I have to do this, I have to do this'. Like I say, every now and again I'd be giving general feedback and think, 'oh, I need to change this into more specific feedback', but it wasn't a very conscious thing at consistent points during my sessions.

A comment made later in Coach B's interview, however, which concerned the decreased volume of overall feedback apparent in Coach B's post-baseline behaviours, intimates that the participant did work to achieve his targets. Furthermore, the participant illustrated a strategy that he had developed when using questioning, indicating a certain element of applied thinking had taken place:

I was thinking more about what I was saying to the kids, rather than just saying it, just commentating. There's a possibility that because I was having to actually think about the content of my feedback, then it's possible that the time I was taking to think about the details of my feedback, was time that I was previously, probably instinctively, providing feedback.

I found it better in the sessions when you could pick on individuals, not in front of the group, and say, 'what could you have done there? How could you have helped your mate out?' and all the rest of it. And I found that that was quite effective for the boys.

The lack of pre-session planning confessed to by Coach B was again evident in the following statement regarding his use of questioning, with seemingly ineffective questioning methods prevalent. Perhaps signifying a motivation to achieve the quantitative-based behavioural objectives set by the study, Coach B may have been
guilty of achieving success within this aspect of the intervention at the expense of qualitatively undesirable behaviours:

...sometimes I'd almost question for the sake of my wanting to increase my usage of the behaviour, because I could, whereas, maybe before, I'd've just told the boys whatever the answer was that I was looking for, and moved on. I thought, you know, 'I can question them here', it maybe wasn't always relevant or appropriate for me to do so. And when I did so, I remember thinking about it at the time – and the results backs this up – I remember setting out to ask open-ended questions which just seem to come out as closed questions.

Reinforcing the suggestion that Coach B was not so independent and proactive in his commitment to the intervention, the participant acknowledged the impact of the intervention feedback sessions on his behaviour changes. Hence, Coach B communicated his belief that the post-intervention decline in his use of open questioning was due to a lack of external support. However, Coach B did seem to be content with having developed his use of the behaviour from the pre-intervention period:

I would suggest, maybe, because of the interventions you were doing with me, it was giving me sort of a kick-start every session, or, after the sessions I did, it was planting a seed in my mind, so I'm thinking about it, and thinking about it. Thankfully, though, my use of [open] questioning during the post-intervention phase was still a lot higher than the baseline average. I would hope I'd still be achieving those levels now. But, I do think it probably dropped off because I wasn't talking to you about it every week and thinking about it in the same ways as I had been.

In summarising the effect of the intervention on his coaching behaviours, Coach B implies that an increased awareness of his own behaviours was a significant outcome, whilst also emphasising the prominent role of specific feedback in his increasingly open style:
I'm much more aware now when I give feedback. And even when I give feedback, or instructions, now, I think to myself, 'I should've asked a more open question there and got them to come up with the answer'... I'd say it's certainly altered my approach – I'm probably less autocratic than I was. It's made me much more conscious of specific feedback. I would say specific feedback is the real thing it's made me conscious of. Rather than saying 'good' or 'well done', it's actually telling them 'why'...what they've done well, what they can improve on, that sort of thing.

Implications for Players

Figure 6.6 provides a fundamental overview of Coach B's players' averaged questionnaire responses from the three phases of the study. Players' perceptions of both autonomy and autonomy-support were reported to have increased across each stage of the intervention, while it was observed that players' perceptions of competence and learning increased between the baseline and intervention phases, before decreasing again post-baseline.

The reported value for autonomy-support was 4.58 (S.D. = 1.31) in the pre-intervention phase. This increased to 5.1 (S.D. = 1.34) in the intervention phase, and again to 5.37 (S.D. = 0.79) post-baseline. Following a similar trend, perceived autonomy scores were averaged at 5.8 (S.D. = 1.06) in the first period of the study, before rising to 5.92 (S.D. = 0.89) and 6.15 (S.D. = 1.31) in the intervention and post-intervention phases, respectively. Following an initial incline from the pre-intervention to intervention phases, perceived competence (5.75 [S.D. = 1.32] to 5.97 [S.D. = 1.16]) and learning (5.34 [S.D. = 1.45] to 5.44 [S.D. = 1.23]) values both dropped post-intervention, to 5.7 (S.D. = 1.09) and 5.36 (S.D. = 1.31), respectively.

Coach B made some observations relating to his players' behaviours. The comments offered suggest that the intervention made a nominal impact. Although the coach stated a belief that his players had become more autonomous over the course of the 6-month intervention period, the participant acknowledged that it was difficult to pinpoint this development. This perception, and a feeling that his use of questioning was often more of a hindrance to the players, meant that Coach B had little to say on
the implications of the intervention for his players. The following quotation suggests an initially positive impact:

*I would say they did become more autonomous...[although] they certainly weren’t what you’d describe as the definition of autonomous [referring to the descriptions listed in the intervention support material] - they weren’t all those things together all the time. I think they did improve on lots of those aspects. So, you know, things like ‘decision-making’ got a lot better throughout the season. Now whether that was to do with this intervention or the fact that we hammered them last season, saying that they’ve got one more year, and it’s a huge year for them, who knows. They did start to improvise a little bit more towards the end of last season, certainly from set pieces and stuff, if what we’d worked on wasn’t on, they tried something different. They played rather than go through the motions and act like robots, they actually tried stuff. So that did improve.*

However, echoing the earlier stated proposition that Coach B had employed little planning and forethought to utilising the target behaviours, his forced use of unprepared questioning was not welcomed by his players:

*I did find that, with some of the boys, I’d ask them an open question, and I’d get, not sarcastic feedback, but it was almost like, ‘you’re asking us a stupid question, to be honest, we know this’. It was almost asking a question for the sake of asking a question, and they were, like, ‘come on, Matt, get on with it, we wanna play’.*
Coach C

Coach C was a 33 year old, UEFA ‘A’ licensed coach, who had been working within Academy-level football for nine years. He was the coach for the U14 age group. This was his first season working with this age group, having most recently coached the U18 (previously U19) group for three seasons. Coach C had experience of working with U9 Academy players, along with most other age groups, in attempting to further his understanding of Academy football in his capacity as Academy Manager. Thus, Coach C has overall responsibility for the functioning of the full Academy at the Football Club, from the U9-U18 age groups.

Table 6.5 contains a full breakdown of Coach C’s observed behaviours from the intervention period. The averaged findings for the three phases of study indicate that Coach C successfully achieved the behavioural modification objectives set for him. Looking firstly at the data on general feedback provision, the frequencies recorded during the pre-intervention phase decreased from 58.67 to 35 in the intervention phase, representing a variation of -40.34% across these phases. The post-intervention frequency reported for this behaviour showed a further decline at 28.67 (-51.13% from the baseline level).
The averaged specific feedback frequency in the pre-intervention phase was 47.67, which rose to 69.75 (+46.32%) in the intervention phase, before increasing slightly further to 70 (+46.84%) in the post-intervention phase. The content of Coach C's feedback, represented by the general-specific split, depicted the overturning of an initially dominant use of general feedback (55.2%) in the intervention phase, as the majority of the participant's feedback was specific during the intervention (66.6%) and post-intervention phases (71%).

Coach C was observed to infrequently use both open and closed questioning in the first period of observation. Open questioning featured 2 times per average session during the pre-intervention phase, increasing to 17.5 (+775%) in the intervention phase, before reducing to an average of 11 (+450%) open questions post-intervention. A similar trend was observed with Coach C's use of closed questioning, as the averaged 1.67 closed questions in the pre-intervention phase rose to 4 (+139.52%) instances per average session in the intervention phase, before returning again to 1.67 (0%) in the post-intervention period.

Use of Questioning
Coach C's use of open and closed questioning is shown in Figure 6.7. Both open and closed question usage were quite stable in the pre-intervention phase, as Coach C rarely used either behaviour. For instance, neither behaviour was used more than 4 times in any session during this period. These low frequencies, however, meant that any observed increase in open questioning would arguably result in the intervention being instantly regarded as a success in this area.
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Table 6.5: Intervention data (frequencies, R.P.M., and percentage splits) for Coach C
Indeed, this was found to be the case as Coach C’s subsequent use of open questioning dramatically increased following the intervention, rising from 2 in session three to 9 instances in session four. This trend continued again between sessions 4 and 5 (from 9 to 20). The final three sessions of the intervention phase witnessed an element of consistency in Coach C’s open question usage, as the frequencies ranged between 19 and 22. This peak usage of the behaviour was followed by an instant decline during the first session of the post-intervention period, as 9 open questions were asked. This final phase remained at quite a consistent level, as the recorded frequencies settled between 9 and 13. Thus, although Coach C’s use of open questioning was found to decrease in the last phase of the study, the open questioning frequencies observed at this time were still considerably higher than the pre-intervention level.

As it has been reported, Coach C’s use of closed questioning was scarce in the pre-intervention phase. This was also the case in the intervention period – representing the attainment of one of the goals of the intervention – and again in the post-intervention phase. Whilst there was a marginal increase in the use of closed questioning during the intervention phase, this increment basically indicated that Coach C had used the behaviour once (in sessions four and five) or twice (session six) more in these sessions than he had done in the last session of the baseline period. Closed questions were asked less often in the post-intervention phase, as Coach C was observed to use the behaviour on only one occasion in the final two sessions.

![Coach C Use of Questioning](image)

Figure 6.7: Coach C’s use of Questioning
Use of Feedback

Figure 6.8 shows the effects of the intervention on Coach C’s use of feedback. With the exception of session one, Coach A appeared to provide similar amounts of general and specific feedback during the pre-intervention phase. In each session during this phase general feedback frequencies exceeded those recorded for specific feedback. Total feedback provision occurred at an average of 2.36 instances per minute.

The average total feedback supplied in the intervention phase was comparable, as Coach C demonstrated this behaviour 2.33 times per minute. Following the first intervention feedback session, Coach C’s use of general feedback decreased instantly while specific feedback provision showed an opposing trend. General feedback continued to drop in the second session of the intervention period, as the frequency fell from 48 to 24. A slight increase followed in sessions six and seven with frequencies appearing to stabilise between 33-35. This consistency seemed to continue in the first session post-intervention phase (session eight) as 36 general feedback instances were recorded. However, Coach C’s use of the behaviour dropped off again in the final two sessions of the study to frequencies of 26 and 24 in sessions nine and ten, respectively.

The specific feedback frequencies demonstrated by Coach C seemed to plateau from the first session of the intervention phase until the end of the study, as observed instances ranged between 64 and 73. Whilst general feedback provision appeared to change post-intervention, this was not the case with specific feedback usage. The consistency exhibited throughout the final seven sessions suggests that the intervention target set for Coach C’s use of specific feedback was successfully attained, and that the participant had maintained the same standard beyond the withdrawal of the supplied support mechanisms.
Coach C’s Reflections on the Study

When questioned about his deployment of the targeted coaching behaviours prior to the beginning of the intervention, Coach C suggested that, while there was always scope for improvement, he was generally satisfied:

...[usage was] not perfect, but I’d like to think that I had some knowledge of their importance, and was putting this into practice.

Coach C did, however, indicate that the baseline data on his exhibited behaviours had surprised him by stating, “I thought that I was demonstrating these behaviours more than I actually was”. The data in figures 7 and 8 clearly show that Coach C was able to quickly make the suggested alterations to his behaviour. The participant indicated that he had been able to achieve this with relative ease:

...the intervention kicked it in really, it happened quite quickly...I knew that I needed to change, so it wasn’t particularly difficult – planning the sessions, knowing what you were looking to get, what was gonna come out of it...so it was very easy to change that round I thought.
The 'need' to modify behaviours, expressed by Coach C in the previous quotation, was based on a belief (to be explained later) that players of different age groups require alternative behaviours to be demonstrated by coaches. In working with the U14 group, Coach C proposed that some of the behaviours promoted by the intervention were particularly beneficial to these individuals. However, Coach C had only recently begun working with this group of players, and thus he suggested that the intervention actually helped him to make changes to his behaviour that he already desired to make. In explaining the suggested effortlessness Coach C found in achieving these changes, the participant implied that his prior coaching experiences, and having previously adjusted his coaching methods on different occasions, enabled this smooth transition to take place. The following quotation recognises each of these issues:

I've grown up with 2 or even 3 different styles of coaching. Before I became involved in football as a full-time coach, I was probably providing a lot more specific feedback than I have been over the last few years, 'cause your expecting the players to know what your talking about while working with the youth team [i.e. the U18 group], as I had been. Moving back down to the Under 14's was kinda interesting, 'cause it required me to change my behaviours from what had been the norm for me over the last few years, to what I felt it needed to be when working with this under 14 age group. And so, doing this project with you probably assisted me in making a transition in my coaching style to how I had previously operated, and was what wanted I to achieve anyway.

The conveyed perception that Coach C was able to easily modify his use of the target behaviours was complimented by his pre-session preparations. The participant detailed the nature of his thoughts when devising his session plans, revealing that particular attention was paid to the implementation of the targeted behavioural modifications. This is apparent from following quotation:

I used the questions when planning my sessions. As I knew the content of each session and the coaching points that were going to be central to the session while making my plans, I was able to anticipate the types of issues that might
crop up during the session. In thinking of these issues, I was therefore able to think of questions that I might be able to ask the kids when I saw the different incidents occurring that I had predicted. Similarly with the feedback – 'cause you were able to think of phrases to use, and specific, informative terms to use when providing the feedback during the session...[also] using the worksheet [educational support handout] just gave me a few triggers – it stimulated my thinking which I put into practice.

Coach C also described the source of further stimulation which, he suggested, added to ensure that he focused on achieving his intervention-based goals. Depicting the realities of carrying out research in the applied setting, the participant stated that the presence of the researcher was an influential factor in his practice behaviours:

*I think sometimes you do get carried away and its easy to get carried away into your session, to let your self drift off, to go away from what you were specifically trying to change in these sessions. But your [the researcher's] presence there on the camera, and the fact that I'd got the headset [microphone] on made it pretty obvious – a constant reminder that there's a goal to be met.*

Hence, Coach C admitted that his practice behaviours were effected by mid-session reminders about the goals of the intervention. Coach C also cited his determination to achieve the goals set within the intervention as the reason for his occasional use of behaviours that may have been inappropriate within their given context:

*I found was that sometimes I was asking questions for question's sake – to change my score on this. But not to the point of actually preventing me from doing my normal behaviours.*

As Coach C's use of open questioning declined post-intervention, it is probable that the participant was referring to the last three sessions of the intervention period in the statement above. It seemed that Coach C valued the use of open questioning as a coaching behaviour, but believed, perhaps, that there were not so many instances during his U14 practice sessions in which use of the behaviour was required for the
players' improvement. A further probe on the inferred age group differences previously alluded to by Coach C led the participant to present his views on how feedback and questioning behaviours should be utilised for developmental purposes when coaching U18 and 'younger' players:

...you expect kids, as they get older, and when you're doing the sort of sessions we were doing out there, you expect them to understand the types of technical and tactical issues you're talking about... I would expect them to know the information that I'm asking these questions about. They should know that already...a lot of the general feedback things – you know, 'well done', 'good', 'bad', 'not good enough' those sort of comments – I would expect the U18 players to understand what they are, in terms of technique. If you do a more advanced session on tactical bits and pieces then that would be different. But, going back to the younger groups, I would like to think that I'd ask more open questions and provide more specific feedback the younger you get, because that understanding won't be there. With U14 players, though, well, they're kinda middle of the road, aren't they? So they sort of get a mixture of the two extremes.

Therefore, Coach C indicated that the behaviours targeted by the intervention are most applicable for use with players of younger age groups. Acknowledging his recent shift from working with U18 to U14 players, but also recognising that U14 players are much further along the developmental programme than U9 players, Coach C thus accepted that the behaviour is more apt within his current coaching practice. However, his comments also suggest that this is only moderately so. Reflecting on the impact of the intervention on his overall coaching approach, Coach C focused on the renewed emphasis the intervention had caused him to place on the content of his verbal behaviours:

...it's had a positive effect. 'Cause now whenever I give feedback or ask questions I'm certainly thinking – most of the time – about what it is I'm actually saying. It has made me think about saying things for the sake of saying something or saying things to have an impact.
Implications for Players

The data presented in figure 6.9 provides a summary Coach C’s players’ averaged questionnaire responses from the three phases of the study. It is immediately apparent that, aside from the ‘autonomy-support’ and ‘learning’ responses, there was very little movement in the players’ perceptions. Perceived competence and autonomy remained stable across all three sessions, while slight increments were observed for the players’ perceptions of autonomy-support and learning following both the intervention phase and post-intervention.

The reported value for autonomy-support was 4.58 (S.D. = 1.23) in the pre-intervention phase. This increased to 5.1 (S.D. = 1.19) in the intervention phase, and again to 5.37 (S.D. = 1.24) post-baseline. Following a similar trend, perceived learning responses were averaged at 5.8 (S.D. = 0.97) in the first period of the study, before rising to 5.92 (S.D. = 2.08) and 6.15 (S.D. = 1.12) in the intervention and post-intervention phases, respectively. The relative stability of perceived competence is demonstrated in the averaged value for pre-intervention (5.56 [S.D. = 1.01]), which became 5.54 (S.D. = 1.11) during the intervention period, and finally 5.51 ([S.D. = 1.22]) post-intervention. Across the same phases, perceived autonomy scores were 5.44 (S.D. = 0.72), then 5.7 (S.D. = 0.91), before a value of 5.36 (S.D. = 0.82) was revealed in the final phase.

Perhaps consistent with the players’ questionnaire responses, Coach C remarked that he was unable to identify the impact of the intervention on his players. Whilst acknowledging the difficulties in explicitly observing subtle changes in players’ cognitions/behaviours/affect, Coach C explained that he had observed very few, if any, changes:

*If you look at it from session one to session ten, very little [change] to be honest. Because you’re not looking at a specific thing in isolation, it’s difficult for me to say that that [the targeted behaviour changes] may have had a major impact on them. But I didn’t see a negative or particularly positive reaction.*
In discussing the players’ reactions to Coach C’s modified use of the target behaviours, the participant hinted at a belief that, in terms of Academy player development, attempts to enhance U14 players’ perceptions of autonomy were overridden by their perceptions of their own ability. Coach C almost conveys a sense of helplessness in the following quotation, while describing the insignificance of perceived autonomy in terms of his players’ endeavours to become professional football players:

Well there are people like Player 1 who just didn’t really respond at all, he would answer certain questions but got to a point were I think he knew where he was in terms of his football, and how much I praised or gave specific feedback didn’t really affect him. People like Player 2 would be there answering questions and would respond well, how much it affected his football is limited by other factors – they’re the things that are stopping him progressing, not necessarily his perceptions of autonomy. So it varied for different players.

![Coach C's Players' Averaged Perceptions](image)

Figure 6.9: Coach C’s Players’ Averaged Perceptions
**Social Validation**

The social validation findings, based on the three criterion listed by Wolf (1998), are presented below.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Coach A</th>
<th>Coach B</th>
<th>Coach C</th>
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<tbody>
<tr>
<td>(i) Target behaviours important to the participant?</td>
<td>Initially I was a little apprehensive in that I wasn't sure what process I was stepping into and what it was going to entail. On reflection now, it wasn't as mind boggling as first anticipated...</td>
<td>...one of the major things that I find at Under 13 is the decision-making process, and trying to get them to make decisions on the pitch themselves. So, I mean, I was well into it straight away, you didn't really have to give me a big ‘hard sell’ on that one, I believe in it anyway.</td>
<td>I was very open to it. I think there was a lot of value in it. The key question I always have is what are the values of the project weighed against the potential negatives in terms of taking away value in other areas? And I was happy with what this one was about.</td>
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<td>(ii) Procedures used acceptable to the participant?</td>
<td>to be actually given a description in point form and relate it to the Academy and the boys I work with made it very easy for me. By setting me realistic challenges, and allowing me to actually view video clips of myself on the computer, that just reinforced my knowledge of what specific feedback was, or what general feedback was, or what an open-ended question was, and so I felt a lot more focused as a result, and had a better understanding of where I was going in terms of the behaviour changes I was looking to make.</td>
<td>I think that any sort of visual image like that is very useful - it helped to see and hear myself speaking with the boys, and I found it even more useful because you could see the context it was all happening within.</td>
<td>Very well, clear, very good.</td>
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<td>...the use of graphs, the use of clips of good specific feedback and good open questions, reinforced, I could visually see it.</td>
<td>Everything was very clear. The video clips obviously helped me to realise what was actually happening within my sessions...the use of the video feedback was very helpful for me personally.</td>
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<td>in terms of the goal setting method you used - of showing me each of the stats for my previous sessions, and allowing me to track the progress I was making - that worked well in providing me with a challenge to continue...And, from the stats, it seems I've been able to achieve that pretty well.</td>
<td>I'm not sure whether the feedback you presented - the frequencies on each behaviour, like - or the video feedback - &quot;flippin 'eck, I've just seen the video and seen what I'm really like. So I must change!&quot;</td>
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<td>What I found very appropriate was that I was getting feedback of previous sessions prior to going out and delivering my next coaching session</td>
<td>I certainly feel that as there was a goal set for each session I went out into my session thinking to myself, &quot;I've gotta ask more questions, and more open questions in particular&quot; - which I wouldn't have been thinking otherwise.</td>
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| | | This study has taught me that as coaches, we do need to keep challenging the kids to think on their own two feet, to want to be challenged...Cos at the moment I think, if I've got to say I'm pleased with how the results have turned out. Like I say, I didn't expect them to have turned out as well as they | I'm pleased, mostly 'cause the intervention's helped me to change my use of behaviours that I
we were to be truthful in analysing the boys who are coming through, a lot of them when they get to 16, 17, and 18, they're so used to having everything done for them, they haven't had the opportunity to make decisions or take ownership at a younger age, and so when they get to this 16-18 age group, and there's a lot more pressure on them, they're just falling by the way-side. And hopefully, something like this, might be able to promote, promote learning.

have, 'cause I wasn't that conscious of it. But, yeah, pleased especially about my use of feedback now. wanted to change anyway. And the results show that I've achieved that.

Table 6.6: Summary of Social Validation Comments
The aim of this study was to enhance coaches' use of autonomy-supportive behaviours via the implementation of an intervention programme. Based on the delivery of initial educational support, and with supplementary quantitative and video feedback provided during the intervention phase, the three participants from the present investigation achieved varied success. A detailed summary of each of the subjects' experiences from throughout the course of the intervention programme have been quantitatively and qualitatively provided within the results section. Furthermore, inferences have been made, based on the data available to the researcher, about the contributing factors to have appreciably impacted on the study's findings. Therefore, the focus of this section is to build upon the comprehensive analysis provided in the Results section, and to draw particular attention to these aspects within the functioning of the intervention that were found to be influential.

An important finding to emerge from the study is that coaches will only effectively alter their behaviour if their adherence to change is significant, and grounded in an inherent value in the outcomes to be realised from any transformations. Furthermore, the extent of any long term modifications appears to be dependent on coaches' willingness to commit their efforts to initiate and implement the target behaviours into their session planning, and to independently reflect on their experiences. Furthermore, the qualitative data supplied by the participants from the present study suggests that, beyond the coaches' attempts to achieve the general goals set within the intervention phase, it is important for coaches to reach a level of behavioural modification that is comfortable to them and which satisfies their coaching objectives. In terms of seeking to support players' perceptions of autonomy, whilst not a central aim of the study, the data generated suggests that subtle, positive improvements were apparent, but these changes were effected by players' age, and require further, longitudinal analysis.

Sport psychologists utilise a plethora of interventions and techniques intended to ultimately enhance athletes' competition performance, with a growing body of research (e.g. Pates, Cummings & Maynard, 2002; Rogerson & Hrycaiko, 2002) reflecting the scientific efforts being made to establish validity within these
approaches, and to generate a mass of working knowledge (Swain & Jones, 1995). Abraham and Collins (1998), however, have bemoaned the lack of intervention-based coaching research. Commenting on the potential application of such research to applied settings, Abraham and Collins highlighted the necessity for practical investigations that are valued by the population for whom the research is conducted. Thus, the practical features of the investigation were based on Deci and Ryan’s (1985) conceptions of supporting learners’ autonomy, with the principal outcomes to be realised from doing so (i.e. the series of benefits listed in table 6.1), along with the interview findings accrued in Study 2, providing the basis for assuming the intervention would be perceived as being worthwhile by the participating coaches.

However, with the participants’ adherence to the objectives of the intervention emerging as an important finding, the effort/decision made to initially “sell” – through an educational session – the aims and benefits to be potentially realised from committing to the programme was justified. Indeed, More and Franks (1996) have cited the failure to achieve this commitment with the subjects in their study to have influenced their findings identified.

A key aspect in securing this commitment, however, was one that had not been wholly anticipated by the researcher. Building upon the discrepancy observed between coaches’ actual and valued coaching behaviours (reported in Studies 1b and 2), two of the participants acknowledged that the breakdown of baseline data regarding their use of feedback had prompted an awareness of the content of their verbal remarks that had not been previously considered. That is, both Coaches A and B expressed their surprise upon realising the lack of information provided within their baseline feedback comments, with both participants honestly admitting to having never considered the prospect of feedback that may differ according to the language utilised therein. This finding has not been previously noted within coach behaviour literature.

Certainly supplemented by this apparent increase in self-awareness, the quotations listed in table 6.6 illustrate that, generally speaking, the coaches within the present study expressed a strong willingness to engage in the objectives of the intervention. Developing autonomous players, with the consequence of promoting attributes akin to
those listed in table 6.1 - as was conveyed to the coaches during the initial educational session - was immediately welcomed by each of the coaches. However, an interest in modifying behaviours to potentially improve their players' ability was only one indication of the coaches' commitment to the study. A further aspect concerned the coaches' determination to invest additional effort to actually implement behavioural changes. As shall be elaborated on below, two of the coaches reported on the means through which they sought to employ modifications to the targeted behaviours. However, the remaining coach (B) indicated a level of enthusiasm for the processes involved within the intervention that was suggestive of the lack of application to come:

_I had no problem with being part of the programme... it didn't bother me at all... changing behaviours isn't easy, so a little bit of trepidation, but, again, because I valued the things you were talking about, I thought it sounded very interesting._

Reeve et al (2004) emphasized the significance of not just attentively participating in an educational intervention session, but to then independently engage in the practical elements required to develop autonomy-supportive behaviours.

Coaches A and C provided precise details regarding their integration of the targeted behaviours into their session plans. Whilst also describing their use of anticipation to predict the types of feedback phrases and open-ended questions that might be appropriately utilised within forthcoming practices. Furthermore, Coach A admitted that he had been actively practising his use of the target behaviours during practice sessions that were scheduled between observations. However, Coach B admitted having difficulty with asking open-ended questions, indicating that, whilst an intention had been made to do so on many occasions, the resultant question was frequently closed. Indeed, more than one of the coaches described their experience of providing specific feedback as being time-consuming during practices, citing the time taken to construct the appropriate informational comments as being a possible reason for an observed decline in overall feedback frequencies. However, with each of the coaches, any recorded drop in feedback frequencies at the beginning of the intervention period were found to have increased by post-intervention (with specific
feedback remaining dominant). Thus, perhaps suggesting that the coaches were able
to develop through continued practise. Recognising the intricacies of demonstrating
the targeted behaviours in the manner specified within the intervention, such attention
to developing the skills of questioning (Dantonio & Beisenherz, 2001; Hunkins, 1995)
and feedback (Cassidy et al., 2004; Markland & Martek, 1988) has been suggested to
be necessary. Thus, Coaches A and C’s evident diligence to the intervention
programme might be suggested to have contributed to the positive results identified
with both coaches.

In addition to coaches’ willingness to engage in behavioural modification, as Coach B
suggested, it important was for participants to show an ability to change their use of
the targeted behaviours. In this respect, Coach C indicated that he had prior
experience of adapting his coaching behaviours. Referring to hi previous coaching
roles with players of different ages. Coach C acknowledged the age-related theme
central to studies 1b and by describing how he had modified his coaching style to
meet the perceived needs of the respective age groups. Hence, whilst also engaging in
self-initiated strategies to assist behavioural change, Coach C claimed that he was
able to meet the objectives of the study with relative ease.

Although the application to the project and encouraging behavioural modifications
demonstrated by Coaches A and C has been emphasised, Coach B’s observed
behaviours were also, to a lesser extent, found to be desirable to the aims of the study.
Returning to the theme of players’ stage of development, however, the implications of
the coaches’ behaviours were interpreted to be most apparent with the youngest
players. Whilst the questionnaire data – acknowledged to be psychometrically frail –
revealed little about the impact of the intervention on the players, the coaches’
interview reflections provided a greater insight. Working with the U11 age group,
Coach A detailed several aspects of his players’ behaviours which he implied to be
related to the intervention programme. Depicting a perceived positive impact on this
group of players, the coach described how his players’ had developed in certain ways
consistent with previously reported research. For instance, Coach A intimated that his
player’s confidence in answering questions and providing informative communication
to each other during performances had increased, while their awareness and
application of technical information (Grolnick & Ryan, 1987) was suggested to have improved in addition to their creative thinking (Koestner et al., 1984).

Coach B, however, and to a greater extent, Coach C, did not claim to have noticed such effects. Instead, Coach C acknowledged the significance of more pressing developmental concerns to have been apparent in his assessment of his U14 players' reaction to the intervention. Citing an impending decision on their future playing careers with the Football Club, Coach C suggested that the pressures associated with this crucial period were more prominent in his observations of players' behaviours. Coach B proposed that apparent improvements in his U13 group's decision-making abilities and their demonstration of increased initiative might have been linked to the intervention-induced behavioural changes. However, being non-committal on this issue, the participant was quick to suggest that, again, the threat of being released from the Academy could also have influenced these developments.

One speculative but inconclusive reason from the present findings, however, for the lesser influence of the intervention on the players of the older coaches might again be the players' age. Coach C, like some of the participants from Study 2, specifically remarked upon the relevance of the use of questioning for players of younger age groups, citing the increased opportunities available to develop players' understanding that obviously improves as players progress through the Academy system. This suggestion, whilst unproven within this study (or indeed Studies 1b or 2), is a factor to be considered by any further research into the area of questioning behaviours within youth sport.

Reflecting on the players' questionnaire responses — whilst recognising that this can only be done descriptively — it was encouraging for the efficacy of the intervention programme that the players' averaged values for perceived autonomy-support within all age groups was found to increase over both post-baseline phases of the study. Thus, whilst not tested for statistical significance, it could be suggested from these findings that players recognised their coach's to have become increasingly autonomy-supportive as the programme of study progressed. The same consistent increases, however, were not observed for the players' perceptions of autonomy, competence, or learning. Instead, the data revealed the players' perceptions of these variables to have
generally improved, but to a lesser extent than perceptions of autonomy-support. Generalising on these findings, and recognising the moderate increases in players’ perceptions of autonomy and learning, in particular, it might be proposed that – due to the players’ unfamiliarity with their coaches’ increased use of specific feedback and open questioning, and due also to the relatively short-term nature of the investigation – these perceptions of autonomy and learning may have increased further than was apparent within the present study. Essentially, it might be assumed that players’ responses to their coaches’ behavioural changes are more sensitive than their internal perceptions of autonomy, or their perceptions of having learning. Thus, an initial recommendation for further research is for a replication of the present study, but to be extended longitudinal over a much longer period of time. Ideally, a more rigorous and reliable measure of learning should also be created to more accurately gauge the players’ perceptions.

To summarise this section, and draw together the findings made in relation to the effectiveness of the intervention programme as a method to develop coaches’ use of the targeted behaviours, three key observations are offered. The first of these concerns the apparent finding that coaches, through an accumulation of their self-perceived value in the programme of change, their adherence to change, and via the provision of a variety of facilitative features, can modify their coaching behaviours over a short-term time period.

A second aspect to emerge from the study was the suggestion that elite youth Academy coaches may be unaware of the implications of their feedback usage, whilst each of the coaches also revealed a lack of awareness regarding the extent to which they demonstrate certain behaviours. This latter finding supports the finding of Smith and Smoll (1996) that coaches’ awareness of their own behaviours is limited. The proposition, however, that two of the coaches seemed to be oblivious to the possibility that feedback can be, amongst other things, both motivational and informational is an important finding from an applied perspective. If this revelation is also true for a sizable proportion of the Academy/Centre of Excellence coaching population, it suggests a potential flaw may be apparent within current coach education material and/or procedures. Once more, this aspect of the present study warrants further attention.
Finally, regardless of the participants’ initial awareness of the targeted behaviours, a consensus of agreement was evident with regard to the utility of specific feedback and open questioning as learning-focused coaching behaviours. Although this perceived value was found to vary amongst the participants, the implication that elite level coaches perceived themselves to have gained at some level from the intervention programme supports the efficacy of the investigation. Indeed, drawing on Wollman’s (1986) approving comments regarding the deployment of single-subject design approaches to engender the enhancement elite performers’, the coaches’ evaluative comments (see table 6.6) seem to reinforce the intimation that the method utilised in the present study had this effect.

**Methodological Considerations and Recommendations for Further Research**

**Strengths of the Study**

Essentially, a central strength of the present study is that it was conducted in the field over the course of mid-late season, and therefore had high ecological validity. Additionally, data were gathered from multiple sources, which made it possible to examine the processes as well as the outcomes associated with the intervention.

Each of the three subjects involved in the study demonstrated improvements in their performance of the targeted behaviours during and following the intervention phase, with consistent changes emerging which may not have appeared significant within a more traditional group design. Hence, acknowledging the utility of such investigations, and recognising the potential for subtle but crucial modifications with elite level performers in particular, Martin and Pear (1996) have advocated that researchers employ this type of design more often. Indeed, increased use of single-subject designs has been recommended as a means to advance its integrity within the scientific community (Lerner, Ostrow, Yura, & Etzel, 1996). The study enabled single-subject monitoring that lent itself to tailoring a specific programme to the individuals engaged in an ongoing coaching process (Swain & Jones, 1995).
In the ABA design, reversal of the dependent variables after the intervention has been withdrawn is typically important for demonstrating the experimental treatment condition (Barlow & Hershen, 1984). However, as this particular investigation sought to positively impact on the coaches' targeted behaviours beyond the intervention period, a return to baseline levels would have represented the failure of the programme's objectives. Therefore, while the coaches' use of some of the targeted behaviours were observed to have been adjusted post-intervention, every targeted behaviour was found to be, relative to the aims of the study, at a more desirable level than had been recorded pre-intervention.

There remains the possibility, though, that the findings have been influenced by a Hawthorne effect. This effect refers to a subject's change in performance that occurs merely as a function of being in an investigation (Drew, 1976), and the relative scrutiny that performers receive as a function of being involved in a single-subject design would appear to heighten this problem (Swain & Jones, 1995). Indeed, two of the participants from the present study made explicit reference to their recognition of the researcher's presence during observations which, they claimed, acted as somewhat of a stimulant for their initiation of the targeted behaviours. However, as Drew (1976) observed, and as has been suggested by Kendall (1990), following an initial positive impact on performance scores, the effect will decline as subjects become used to the experimental conditions and the routine involved. With respect to the present study, this initial incline – prior to the intervention phase – was not applicable, primarily because the participants were unaware of the aims of the study. However, the post-intervention declines observed with Coach B and Coach A's use of open questioning, in particular, might be linked to this issue. In single-subject design research, the length of the study is regarded as a factor in helping to control this element (Swain & Jones, 1995). Hence, in this particular investigation, it is proposed that the subjects were familiar with the provision of performance feedback and the observations of practice sessions that occurred over a 6-month period. This has been alluded to by the coaches' comments in which the participants specifically acknowledged the issue of their behaviours having been influenced (by the researcher's presence and the equipment used within the study) during the initial intervention phase observations.
In considering the educational support mechanisms created to facilitate the coaches' behavioural modifications, several strengths can be identified. Most notably, the general goal setting practices were commented upon by each of the participants, as was the use of video-based feedback. Furthermore, as acknowledged within the previous section of this discussion, the educational support handout was found to be helpful to two of the coaches in particular.

However, returning to the goal setting approach employed, a particular feature of this process included the individualised goal setting method in which the participants' baseline data were considered prior to planning for the rest of the programme. It has been recommended that participants' current standard of performance, along with their perceived requirements be considered before implementing an intervention, as their adherence to any proposed manipulations to an investigation's treatment will be increased (Bull, 1991; Lindsay, Maynard, & Thomas, 2005). Indeed, this premise concurs with the conception upon which the targeted behaviours within the present study were based — self-determination theory (Deci & Ryan, 1985) — and was found to have been significant in the intervention experience of Coaches B and C, in particular, who acknowledged during interview how the aims of the programme had satisfied their views on their behavioural needs.

Indeed, each of the participants reported their attention being directed to the targeted performance targets and a mobilisation of effort generated as a function of the general goals that had been agreed. These findings add support to Locke's (1966) basic premise that cognitions serve to regulate purposeful human behaviour. Furthermore, as two of the coaches declared, the process had motivated an exploration for appropriate strategies to improve performance. Again, this finding is relevant to Terborg's (1976) contention that goal setting can be a stimulus for the development of new strategies for performance development. Furthermore, Martin and Hrycaiko (1983) have advocated the use of goal setting strategies that encourages athletes to improve against their own previous performance, with an emphasis on maximising the positive aspects of performance, and minimising the negative. Martin and Hrycaiko have also suggested that video-taped self-evaluation be used to enhance this process.
Indeed, the utilisation of video technology in combination with behavioural data produced reliable data and provided a unique, efficient, and powerful medium for the coaches to monitor and modify their instructional behaviours. This was also found to be the case in a study by DeMarco et al. (1997), which adopted a similar method. Observing, on the edited video clips, that the coaches would often use such expressions as “good”, “excellent”, and “well done” in a quick succession of seemingly thoughtless delivery – without providing follow-up contextualising statements – was found to be a powerful cause of the participants’ determination to change their feedback behaviours. Similarly, their use of questions such as “now should you strike that pass with the inside or outside of your boot?” and “do you want this pass to go long or short?” enticed the coaches to extend their questioning strategies to induce higher-level thinking from their players.

As has been mentioned to support many of the findings presented within this study, a secondary purpose of the investigation was to consider coaches’ experiences of the delivery of the intervention. Marlow, Bull, Heath, and Shambrook (1998) have suggested that the use of such interview procedures as those used within the current investigation promotes identification of the factors which influence the effectiveness of specific aspects of the routine. Indeed, this was found to have been invaluable in explicating the multitude of dynamics impinging on the research process, and the participants’ perceptions therein. Additionally, such qualitative information has implications for improving aspects of sport psychology intervention (Poczwardowski, Sherman, & Henschen, 1998), and indeed, coach education (Abraham & Collins, 1998) delivery.

A final, but important, strength of the study was the applicability of Self-Determination Theory's (Deci & Ryan, 1985) conception of autonomy to the environment of study. Indeed, SDT provides but one perspective of autonomy, with Gronn (2000) and Bergmann Drewe (2000) both debating the role of a slightly different form of autonomy within educational settings. Essentially, the key difference between the definition of autonomy used within SDT and the alternative approaches concerns the level of independence provided to the learner. For instance, Bergmann Drewe has referred to the notion of “self-sufficiency or self-rule” (p.153), which conflicts with the continuing necessary essence of support central to SDT’s definition.
of autonomy. Indeed, relating the cited conceptions of autonomy to the studied environment, it is strongly felt by the researcher that the staff working within the Academy coaching environment would not have been able, or willing, to supply the empowered independence referred to by Gronn (2000) and Bergmann Drewe (2000), but did embrace the autonomy-supportive programme grounded within SDT.

**Limitations and Directions for Further Research**

A few limitations of the study need to be acknowledged and, where possible, suggestions for additional study will be offered. An initial limitation, which has been previously cited as a strength of the research, is that the investigation was conducted during an intensive 6-month data collection period that was located within an elite performance environment. The implications for this issue include constraints on the time available with the participating coaches, and to the number of coaches available to participate within the study. That is, the time demands placed within the coaches' role meant that intervention feedback sessions were limited by the coaches' available time. While this was not to the apparent detriment of the study, it is felt that additional one-to-one time with the participants may have been more productive. Furthermore, additional participants would have allowed for a richer insight into the impact of the intervention on elite youth coaches.

Given that no control group was employed the method was quasi-experimental, and it is therefore impossible to infer causality (in the strict experimental sense). However, it is logically impossible to conduct research with teams and employ the randomised control group design of a "true" experiment. Only in a laboratory can an attempt be made to control the threats to internal validity, but groups of individuals that have been randomly assigned are not real teams. Practitioners may utilize results from laboratories or contrived settings, but they then rely on generalisations for which adequate validity has not been established (Greenspan & Feltz, 1989). Furthermore, there are ethical and practical problems using control group designs in the field, "To deny and individual an effective treatment for improving performance would not be ethical when others in the study received that benefit." (Wanlin, Hrycaiko, Martin, & Mahon, 1997, p.222).
In addition, to increase the study’s external validity, a larger sample size would be desirable, as would a sample that included coaches from a variety of sports and coaching contexts. Rather than pursuing external validity, however, the present investigation was explicitly designed with the aim of attaining high internal validity (Mook, 1983). By limiting the sample to a group of three (although originally intended to be four) coaches, the researcher was able to smoothly carry out the logistics of the study throughout the duration of the programme. It is proposed that future research, however, seeks to follow up on the suggestions regarding increased sample sizes from diverse backgrounds.

As has been suggested within previous research (Lindsay, Maynard, & Thomas, 2005), a recommendation emanating from the present study is to encourage researchers investigating within ecologically valid settings to consider training plans and structures when devising their studies. This issue was referred to by the participating coaches when reflecting on their use of the target behaviours within particular practice sessions. Specifically, the coaches drew attention to the established coaching curriculum in place within their Football Club, which entailed 4-week cycles in which players were coached on pre-determined performances topics. Hence, in terms of the present study, it was identified that coaches’ use of instructional behaviours was commonly withdrawn towards the end of each cycle, as the coaches’ intended information had been dispensed during the early sessions. Ideally, it would be suggested that research programmes achieve a consistency in the types of practices observed. However, such requests are often not conducive to practitioners’/athletes’ willingness to participate in research programmes.

A possible limitation of the current study was the relatively short baseline period (three coaching sessions). Martin and Pear (1996) have suggested that the ABA design requires an assessment of stable baseline performance of the dependent variable or a trend in the opposite direction. Yet, despite adhering to Barlow and Hershen’s (1984) minimum baseline recommendation of three trials, the results in the present study revealed relatively unstable performance values. It is contested, however, that due to the cyclical coaching curriculum to which the coaches’ adhered, stable behaviours might never have been achieved.
By simultaneously attempting to manipulate four behaviours, it is troublesome to
precisely ascertain the reasons for the coach’s observed behaviours. For example, it is
not possible to accurately reveal the factors underpinning the opposing trends
observed in the coaches’ use of general and specific feedback, as essentially the same
protocol was administered to effect modifications for the collective group of
behaviours. Indeed, as a facilitative approach was adopted that relied heavily on the
coaches’ independent investment in working to develop improvements, the coaches’
unique application to the programme suggests that the lack of research control to be
gained from using this qualitative methodology meant that any relationships identified
would be grounded in the researcher’s interpretation of the coaches’ experience.
Again, the inclusion within the intervention protocol of several supporting resources
(i.e. education session, handouts, video feedback, goal setting) has ensured that
conclusions can not be drawn on the true effect each feature of the intervention had on
the behaviour changes observed.

Furthermore, whilst the present investigation was not directly concerned with
identifying a causal link between the modified behaviours and the outcome(s) for
players, the study of multiple behaviours meant that a lack of information could be
acquired on the impact of the recorded behavioural manipulations on the athletes’
perceptions. However, reflecting on these related limitations of the study, it can be
inferred from the interview data that novel discussion points have been elicited in
relations to each of the components of the programme (including the targeted
behaviours, the intervention protocol, and the implications for players). Thus, in
considering future research, several aspects of these findings can be extended for
further enquiry.

Greenspan and Feltz (1989) have argued that intervention research in sport
psychology is marked by the absence of studies that have included a follow-up
assessment beyond the post-test. A weakness of this study, therefore, is the failure to
assess the retention of the intervention effects. Attempts to repeat such an
investigation should be advised to therefore incorporate this additional analysis into
the research programme.
CHAPTER 7

General Discussion

STRUCTURE OF THE CHAPTER

This final chapter entails a final discussion that draws together the results from each of the studies in this thesis. Practical implications of the results and their contribution to the literature are also contained within this discussion. Some final methodological considerations are then offered, before the chapter then turns to a number of proposals for future research directions. Firstly, by way of reminder, a short review of each of the studies will be provided.

SUMMARY OF STUDIES

The purpose of this thesis was to answer the following questions: How do coaches behave during elite level English youth football coaching practices? Why are the coaches doing whatever it is that they do? How are the coaches' practices perceived by their players, and which coaching behaviours do elite youth football players most prefer? Furthermore, how can this knowledge be utilised to inform applied practice; specifically, to enhance aspects of coaches' practice behaviours that have been identified to contribute significantly to players' motivation and learning?

The questions listed here, whilst grounded in a desire to ultimately enhance coaching practice within elite level youth football, straddle a variety of academic fields including the realms of psychology, pedagogy, and sociology. Indeed, Lyle (2002) has cited the broad range of independent disciplines encompassed within sports coaching as a significant factor in the lack of sports coaching theories or conceptual frameworks, commenting on the necessity to acknowledge the multi-faceted nature of sports coaching when conducting research. Thus, a diverse range of research methods
have been deployed within this thesis in order to satisfy the applied questions posed. As was detailed within Chapter 3, this process entailed the contextual validation of a systematic observation instrument to specifically enhance the quality of data generated by this programme of investigation. A brief review of the main outcomes from each study will now show how these questions have been answered.

Study 1a comprised the contextual validation of a systematic observation instrument (the Elite Youth Football Coaches’ Observation Instrument; EYFCOI) that would enable a precise detailing of coaches’ practice behaviours to be undertaken that was more holistic than the other observational tools in common use.

Study 1b used the EYFCOI carry out an evaluation, over mid-late season, of Under 12, Under 15, and Under 19 coaches’ behaviours that found instructional provision to feature prominently within positive learning environments. These behaviours, and players’ perceptions in relation to them, were found to be stable throughout the observation period. A significant age group finding, however, was identified in relation to players’ perceptions, as younger players were found to have higher levels of enjoyment, exerted effort, and perceived learning than their older peers. Descriptive analysis of the coach behaviour data revealed that coaches of older players provided more frequent verbal instruction, but less frequent demonstrations and questioning strategies. A positive-to-negative feedback ratio of approximately 4:1 was consistently recorded across the three age groups, with general feedback usage found to dominate over feedback that was informational.

Study 2 sought to build on the findings of Study 1b by qualitatively investigating the factors that influenced the performance of their role, whilst simultaneously researching players’ coaching behaviour preferences. The main findings identified in relation to the factors impacting on coaches’ performance of their role included a consistently cited emphasis on developing players, with conflicting opinions expressed in relation to how this is best achieved. The beliefs ranged between the extremes of valuing intense, pressurising, and controlling methods to a much more facilitative approach. Coaches’ educational development was found to primarily be achieved through independent reflections. The most significant findings from the focus group interviews with players was a preference for coaches’ open questioning
usage on the basis that it was most beneficial for learning. Similarly, this same reason was cited for players' desire for feedback to be provided that was specific and informational.

The final study, Study 3, assessed the efficacy of an autonomy-supportive coach behaviour intervention that was conducted over a 24-week period in mid-late season. Following an initial baseline period, coaches were supplied with educational support essentially geared towards increasing their usage of open questioning and making specific feedback their dominant feedback type. Support — in the form of quantitative data, video feedback, and behavioural modification strategies — was consistently provided during an intervention period, before being withdrawn post-intervention. The participating coaches were each found to successfully modify their behaviours, although it was found that changes were most effectively realised through coaches' perceived value in the programme of study, their adherence to the programme (reflected most notably in their independently-initiated efforts to achieve behavioural changes), and ultimately, in reaching a behavioural frequency at which the coaches' objectives are best achieved.

DISCUSSION

This section considers the significant themes to emerge from the thesis, reflecting on the contribution made by each of the individual studies to the culminated understanding of elite youth English football coaching practice. Furthermore, the developments made by this current programme of study are discussed in relation to previous literature, whilst also acknowledging novel conclusions drawn from the work that introduce new ideas or extend previous lines of thought. Primarily, as Lyle (2002) has indicated most coach behaviour research should, the conclusions drawn from the present study will most significantly have implications for coach education and coaching practice, and for the development of English elite youth coaches in particular.
Considering the data from Study 1b, an initial theme evidenced — through an unparalleled investigation of a relatively large sample of elite level coaches — was the predominant use of prescriptive coaching methods within Academy/Centre of Excellence practice sessions. As the focal hub for the production of professional football players in England, it was perhaps not so surprising to make this discovery. This inference is based on the belief that coaches working within environments in which expectation is high for them to achieve certain targets, coach through the use of methods that seek to closely control their athletes (Kidman, 2001; Potrac et al., 2002). Thus, following the introduction of the Academy/Centre of Excellence systems, great emphasis has been placed on the development of young talent within individual Football Clubs. That is, with the cost of players having risen dramatically since the inception of the Charter for Quality (The Football Association, 1997), and increasing numbers of clubs facing financial difficulties, Football Club managers have been looking increasingly to their youth development programmes as their principal talent resource (Roderick, 1998). This has resulted in much pressure being placed on coaches within Academies and Centres of Excellence, with a yearly demand for the programmes to progress players into the senior game. Aside from these contextual issues specific to English professional football, it has been suggested that current coaching practice within the United Kingdom is principally directed through a “hands-on” approach (Stratton et al., 2004). Thus, the high frequencies of verbal directions observed in this study might have been expected regardless.

However, beyond this initial inspection of coaches’ actual practice behaviours, subsequent qualitative enquiries into coaches’ rationale for their practice behaviours along with their beliefs on coaching — in which 7 of the 15 participants from Study 1b were interviewed — revealed certain discrepancies. The most apparent revelation was the contradiction between the findings from Study 1b relating to coaches’ provision of information and an espoused coaching philosophy within Study 2, cited by many of the participating coaches, which emphasised player development through a guided discovery/problem solving approach. Moreover, these beliefs were coupled with comments on coaches’ reasoning for using questioning behaviours which depicted a valuing of open questioning, in particular, on the grounds that asking such questions was beneficial to players’ critical thinking and autonomous learning. Hence, whilst comments like the one presented in the quotation below were voiced by coaches, the
findings from Study 1b suggest that such coaching behaviours were rarely seen in practice:

"[The use of questioning]...helps him to educate himself, to coach himself about things that happen on the field. You, as a coach, are teaching him the shape of the game – 'this is the predictable thing that happens' – but that doesn't always happen. So you're helping the kid to think on his feet...So when you're working with the boys on a Wednesday and a Friday, and asking them the questions about the various things that you're working on, you're hopefully encouraging them to ask the same questions for themselves when they're out on the pitch on a Sunday. I think asking the boys questions is the best way to help them do that thinking for themselves, when they've not got you to do their thinking for them."

This discrepancy in coaches' perceived and actual behaviours has been acknowledged before (Smith & Smoll, 1996). However, never through the quantitative and qualitative, triangulated research approach adopted within this thesis. The implication, from an applied perspective, is that coaches' should be encouraged to critically reflect on their coaching methods, with observational analysis, used in combination with a systematic behavioural coding system, suggested as a powerful mechanism to fully appreciate the exact nature of the behaviours utilised.

The emphasis on guided discovery/problem solving and the use of questioning as a learning-focused coaching behaviour, though, was rejected almost entirely by the coaches of the Under 19's group interviewed in Study 2. Furthermore, the coaches' derision of this type of coaching approach was consistent with the observations of the same age group's behaviours in Study 1b. Instead, through an analysis of coaches' behaviours and beliefs according to the age group they coach, it was identified that Under 19 coaches' favoured an autocratic style of coaching in which their expectations were clearly dictated to their players, with little opportunity provided for debate. For instance, as one of the Under 19 coaches stated:

"...when I ask them a question, I'd want them to feel like they had an option, but I know that they really don't. So they feel like they're getting a
choice, but I know they have no choice. 'Cause I know that what I'm directing them to is the right answer. You know, if I'm talking to a young lad, and I know that the best ball is either a short ball into feet or one in behind for someone to chase after, there's no two ways about it...that's what I know is right. So I'll give him the two options in my question, 'cause I don't want him to come back and say that he might hit it out over to the left or right or whatever, 'cause I know that's not the right ball at all. No matter what he says, I know it's wrong."

Hence, some of the coaches contested that such an approach was underpinned by their superior knowledge of the game. It was true within the present study, and has indeed been previously remarked upon (Roderick, 1998) that managers and club directors have traditionally appointed recently retired professionals to the positions of Academy Manager and Coach of the most senior youth age groups. Thus, while the knowledge and experiences from the coaches' professional careers are undoubtedly valuable to the development of players within these crucial final years within the youth programmes, it is also consequential to their playing careers that these coaches are relatively under-trained in terms of coaching/pedagogical skills such as communicating ideas, developing physical, technical and tactical skills, or of understanding the difficulties of dealing with the changing status of teenagers. It could therefore be possible that in the absence of such crucial training and education, players-turned-coaches draw upon the methods they were exposed to as players. Accordingly, the autocratic style so commonly used within senior level sport is applied to young players within a ‘development’ programme. The key issue here, therefore, concerns the quality of guidance provided to these players.

Essentially, it seems that there are two options available in rectifying this situation. The first of these basically proposes that coaches are employed purely on the basis of their ability to effectively perform the developmental role required, by demonstrating the list of competencies deemed necessary to perform the job. However, as the culture of English professional football, commonly renowned for it’s insularity, dictates that this coach selection process is rarely conducted in such a fair manner – particularly for positions within the upper playing age groups – it would seem that the possibility of this suggestion being implemented is unrealistic. Thus, the alternative would be to
enhance the coach education system currently in place to better prepare the coaches to fulfil their responsibilities. Based on the criticisms presented here, it could be suggested that specific area for improvement may include the coaches' use of pedagogical coaching skills. Indeed, this suggestion fully supports the proposition that coaching is not simply a process of copying behaviour, but a series of skills to be learnt (Abraham & Collins, 1998).

However, it was not just the former players within this thesis who were found to be in need of additional coach development training. While the summary of the collective sample of coaches indicated that learning-focused questions were rarely asked, it was found that coaches of younger players (primarily people not to have played to a professional standard) did utilise these behaviours more often than the coaches of older players. Although, as it has already been suggested, while many of the participants advocated the use of questioning to develop favourable attributes (e.g. critical thinking and decision-making skills, enhanced perception of ownership over own learning), the data from Study 1b demonstrated that: (1) coaches rarely – in comparison to other instructional behaviours – asked their players questions related to performance, and (2) when they did so, a high percentage of these questions were closed questions – agreed upon by both coaches and players within Study 2 to be an ineffective pedagogical behaviour.

Furthermore, notwithstanding the debate over the impact of using general/specific feedback, the coaches investigated within this programme of research seemed to be ignorant to the suggestion that feedback may be utilised in various mediums to serve different functions. As participants were questioned in Study 2 on their rationale for using feedback, and intentionally probed on the differences between supplying general and specific feedback, the details within their responses indicated an overwhelmingly consistent vindication for the provision of specific feedback over general comments. Essentially, as was supported by the findings from the players' focus group responses within the same study, specific feedback was considered to, like general feedback, serve a motivational purpose. However, the distinction that specific feedback apart from general feedback was the implied implications the behaviour has for players' learning (Wrisberg & Schmidt, 1991). In spite of the coaches' inferred preference for the feedback they supplied to be specific, their actual
usage of the behaviour was predominantly general. An honest disclosure made by one of the coaches within Study 3, confirming an issue regarding his lack of awareness of his own coaching behaviours, was perhaps reflective of quite a few of his peers:

"I'd never really thought — although I did it — I'd never really thought specifically about 'specific' feedback, about what I was actually saying. I'd just sort of done it. But I can see how it's important."

Thus, an apparent theme emerging throughout the studies conducted within this thesis relates not just to coaches' use of pedagogical behaviours during coaching practice, but to their actual awareness of the repercussions of the behaviours they exhibit. This thesis would suggest that coaches have limited knowledge pertaining to the consequences of the coaching behaviours they demonstrate, with their use of questioning and feedback most notable within this current series of studies. Furthermore, it is concluded herein that coaches have inadequate awareness of the behaviours they emit during practice sessions. Considered in combination, these assumptions suggest that English elite-level youth football coaches have particular aspects of their role which can be improved upon.

However, as a typical Academy/Centre of Excellence coach performs his/her role on a part-time basis, the opportunities available to initiate and appropriately adhere to such professional development by oneself are possibly scarce. Indeed, as a principal method of improvement detailed by coaches in Study 2 was incorporated a trial and error approach, supplemented with seemingly minimal peer reflection, any such pedagogical skill developments are most likely the responsibility of those in charge of the construction of coach education courses, or through in-service training delivered by the respective Clubs. Whilst echoing recent criticisms aimed at British football coach education systems (Jones et al., 2003), the participants from Study 2 did have some complimentary remarks to make about their development during coach education experiences. However, none of the interviewed coaches mentioned their pedagogical skills to be amongst the aspects in which they perceived themselves to have improved from the courses they had attended. Instead, it was apparent that coach education courses, with the exception of the recent FA Youth Coaches' Course, were primarily oriented towards enhancing attendees' football-specific coaching
knowledge, whilst also seeking to improve coaches' organisational skills. Encouragingly, from a pedagogical and psychological perspective, participants did comment on an emphasis placed on players' learning requirements. Although this was cited in relation to the previously mentioned Youth Coaches' Course. Thus, FA coach education providers have a responsibility to educate and train coaches in the pedagogical behaviours critical in the development of talented players. Currently, as the findings from this thesis suggests, this aspect of coach development is being somewhat neglected.

A facilitative educational programme, like that conducted in Study 3, seems to be merited. Indeed, to use the observed outcomes from this intervention-based investigation, a mode of development, or at least the factors found to be important in the functioning of such a programme, might be proposed. Prior to any attempts being made to modify or, indeed, initially advise on specified behaviours, it is imperative to gain participants' commitment to, and to engender a perceived significance in, the targeted features of the process. A key finding from Study 3 (which supports that of a related study; More & Franks, 1996), concerned the need for coaches' value in, and adherence to, the educational programme. Thereafter, guiding participants through an awareness-raising educational period relating to both the desirable behaviours, and the coaches' current behaviours (for those whose behaviours are being modified) is suggested. This, again, was commented on by the participants within Study 3 to have been valuable in assisting the critical reflection process that was deemed decisive to altering behaviours. A final suggestion, and one which has already been made for future attempts to intervene with coaches' behaviours, is that a support programme continue to monitor, and be available to support, participants for a requisite period of time determined by each participating coach and the data generated by their performances. Whilst acknowledged to be a process dependent on coaches' ability to commit the necessary time and effort, along with additional resources that enable the recording of coaches' actual behaviours, it is proposed that The FA and the professional Football Clubs collaborate to implement such an educational process. Thus, the initial educational aspects may be provided by The FA, whilst the behavioural recording and monitoring aspects of the programme be conducted within the respective Clubs.
Drawing together the final conclusions from this thesis, one final point shall be made to summarise the essence of the key findings. An emergent theme from the present study was the apparent aspiration, shared by coaches of all age groups, to develop players capable of thinking independently, and to demonstrate an ability and a desire to take responsibility for their own, and the actions of their team, during performances. Yet, a consistent finding throughout the thesis has demonstrated that a key behaviour associated with promoting such player autonomy (i.e. questioning; Kidman, 2001; Lombardo, 2002) was found to be secondary to prescriptive methods (e.g. pre- and concurrent instruction, post-play correction) associated with disempowerment (Kidman, 2001). An apparent flaw within this identified norm was the incongruence between the type of players coaches seek to produce and the methods being utilised to do so; coaches seem to be striving to develop autonomous players, but are perhaps unaware of the processes most facilitative of realising this aim. Therefore, it is suggested that the coaches investigated within this programme of study – performing within a highly elite and privileged context – were somewhat unaware and, consequently, under-performing within their consensually agreed objective to assist the learning and development of the players under their tutelage. Hence, this thesis advocates that the coach education programmes currently in operation within English football be reviewed, and for an increased emphasis on the pedagogical coaching behaviours crucial to players’ development be implemented. In particular, it is proposed that special consideration is given to coaches’ use of questioning and feedback behaviours – behaviours which the findings of this thesis indicate are being inappropriately utilised.

METHODOLOGICAL CONSIDERATIONS

Many methodological considerations for each study (1a through to 3) have already been commented upon within the relative chapters. Accordingly, this section will simply reiterate the most prominent strengths and limitations from the combined studies comprising this thesis.
Strengths

An initial strength to the thesis was the rigorous process undertaken to develop the systematic observation instrument (EYFCOI) to be used for collecting data within a unique context. Furthermore, as was suggested in the discussion of Chapter 3, the EYFCOI may also enable researchers from other sports science/coaching disciplines to gather detailed information on the practice behaviours of elite youth coaches. Indeed, extending this thought, while the origin of this validation was the necessity to contextualise the instrument for the population under investigation, it might be interesting to test the utility of the EYFCOI within the elite youth football environments of other nations, and indeed within other youth sport settings. However, returning to the strengths of the present thesis; prior to any further enquiry into this unique setting, it was felt that an investigation should establish, as accurately as possible, the practice behaviours utilised in the coaching of talented youth players. Therefore, the development of the EYFCOI allowed this to happen.

Thereafter, the EYFCOI was used to record, from a systematic observation perspective, a relatively large group of coaches over the mid-late season period, provide a level of detail that advanced the literature on elite-level English football beyond that already studied by Cushion and Jones and colleagues (Cushion & Jones, 2001; Potrac et al., 2002; Smith & Cushion, 2006). Most specifically, this study's (1b) contribution is most significant due to the between-age group comparison that was conducted. Indeed, this novel investigation was somewhat extended by Study 2 as, collectively, a triangulated approach had been adopted to more fully understand, in particular, the specific learning-focused behaviours exhibited by the different age group coaches within English elite youth football Academies/Centres of Excellence studied. This was further achieved by utilising focus group interviews to qualitatively ascertain players' opinions relative to coaches' behaviours, a method of study not previously initiated.

Finally, Study 3 followed up on the recommendation of Abraham and Collins (1998) by conducting practical research within an applied coaching environment. Grounded in the findings from Study's 1b and 2, Study 3 was designed and implemented with the intention of developing specific learning- and motivation-focused aspects of
coaches' behaviours, thereby reacting to some apparently important behavioural themes that were emergent from the initial studies' findings.

Limitations

While the procedure followed during the contextual validation of the EYFCOI was intended to create an instrument that would provide a level of detail beyond the existing systematic observation instruments, it might be suggested that the number of behavioural categories (26) included within the final version of the instrument is too many. Indeed, when utilised for the live recording of coaching behaviours, the author would possibly agree with this. However, as the method of data collection endorsed by this thesis involves the coding of video-recorded data, the author would argue that the number of categories to be familiarised with is not an issue.

A second proposed limitation relates to the small sample sizes studied within each of the investigations. Quite simply, from the standpoint of making generalisations in reference to the population of English youth football Academies/Centres of Excellence, the number of participants researched during each of the studies made it difficult to state any generalisations regarding the studies' conclusions. However, in defence of the methods employed, English professional football is a notoriously difficult environment to gain entry to, and so the level of participation accessed might actually be conceived of as a strength.

The lack of psychometric measures utilised in the collection of data signify denotes an obvious limitation, with such an approach instantly reducing the precise replication of the procedures used difficult to achieve, and ensuring that the findings realised and be reliably compared to few studies. However, attempting to justify the decisions made regarding the questionnaires used, thorough analysis of the relevant areas was conducted in seeking a measure that satisfied the demands of the research question. In the absence of these requirements being met by commonly used, valid and reliable measures, efforts were made to make those questionnaires utilised as legitimate as possible.
DIRECTIONS FOR FUTURE RESEARCH

Whilst several comments relating to recommendations for further investigations have already been detailed throughout the duration of this thesis, the suggestions of primary concern shall now be re-iterated, whilst those emerging from reflections on the thesis in its entirety shall also be detailed. Recommendations listed previously within the thesis have been largely borne out of acknowledged limitations identified in relation to specific studies, with recommendations made for replication studies including the suggestions that players' psychological responses to the coaching practices in which they partake should be tracked and analysed via the use of repeated measures, that an increased sample size be drawn for interviews with coaches and players, and that additional time be spent in the building of rapport with children prior to focus group interviews, and also that a coach intervention study be conducted over a longer period of time, with follow-up observations also be factored in.

Suggestions for further research have also arisen from the recognition that other disciplines of sports science and other areas of psychology and learning in particular may provide useful insights into coaches' and players' experience of the coaching practice. An initial consideration within the present thesis was the issue of devising some form of measurement of learning. Whilst thoughts on this issue were frequently deliberated during the course of this PhD process, the present thesis opted to assess players perceptions of learning. However, researchers may want to include more of a motor learning perspective. This work would probably require collaboration between social psychologists interested in motivation and motor control/learning experts.

For instance, the use of self-regulation strategies with both coaches (to monitor and police their behavioural development) and players (to initiate control over their own learning strategies) is an area of study that has stimulated interest. However, the conceptual area in which development is most urgently advocated by the researcher is autonomy, whilst the initial insight established by the present study's investigation of coaches' use of questioning has spawned an interest in further exploring this particular aspect of the coaching process.
The study of autonomy-supportive educators has been developed by Reeve and colleagues (1998, 2004), who have progressed the mode of study beyond enquiries into the implications of learning within controlling/autonomy-supportive environments, to applied, intervention-based investigations which attempt to manipulate participants' behaviours. Having experienced the complexities, but also the realities of conducting such research, an understanding of the practical gains to be appreciated within the applied sport setting has initiated a desire to further investigate the concept within football, and other sports environments.

Players' perceptions of autonomy, in conjunction with the implied benefits to be realised from an autonomy-supported learner, generated a significant level of interest throughout the course of the present investigation. Players, whilst not explicitly acknowledging the concept of autonomy, inferred during the focus group interviews conducted within Study 2 a desire to learn within an autonomy-supportive environment. Moreover, a preference was expressed by several participants relating to the opportunities provided within coaching practice sessions for independent problem-solving opportunities. As a feature of coaches' behaviours recently supported by Smith and Cushion (2006), observational strategies are suggested to be strongly linked to such provision of independent learning. Thus, further research, utilising a similar intervention programme to that implemented within the present study, could be conducted to investigate the impact of coaches' observational behaviours – and consequent withdrawal from interfering with players' problem-solving situations – on players' perceptions of autonomy. Furthermore, as has been previously suggested, stimulated recall methods might be effectively utilised to analyse in detail players' task-relevant, and autonomy-perceived thoughts, matched with their observed actions.

Chambers and Vickers (2006) have recently published findings from a study which has investigated coaches' questioning behaviours. In particular, whilst, like Study 3 from this thesis, also considering the effects of feedback in addition to questioning, this study has sought to train athletes to increase their cognitive effort and decision-making skills. Thus, extending the proposition from Study 3 that coaches' use of questioning be targeted to develop athletes' perceptions of autonomy, future research might seek to develop athletes' questioning skills on the premise that posing effective
questions during performance situations could develop athletes' decision-making skills whilst also enhancing their perceptions of autonomy.
CHAPTER 8

References


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Blitzer, L. (1995). It's a gym class... What's there to think about? JOPERD, 66(6), 44-48


Brawley, L.B. and Vallerand, R.J. (1985). Effects of informational and controlling fitness leaders on participants' interest and intention to pursue engagement in a fitness program. *Unpublished manuscript*, University of Waterloo, Waterloo, Canada.


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intrinsic motivation and perceived competence. *Journal of Educational Psychology*, 73, 642-650.


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APPENDIX

A
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<th>Study</th>
<th>Purpose of the Study</th>
<th>Participants &amp; Data Collection Method</th>
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<tr>
<td>1. Smoll, F.L., Smith, R.E., Curtis, B., &amp; Hunt, E. (1978). Toward a mediational model of coach-player relationships, <em>Research Quarterly</em>, 49, 528-541.</td>
<td>To test a mediational model of coach-player relationships - link between (1) coach behaviours, (2) player perceptions of coach behaviours, &amp; (3) players' attitudes towards their coach.</td>
<td>51 baseball coaches' behaviours were observed during a total of 202 games (mean = 3.96 games per coach). 542 baseball players' (aged 8-15) perceptions of their coach &amp; their sport were recorded.</td>
<td>(1) Direct observation &amp; coding (using CBAS) of coaches. (2) &amp; (3) Structured interviews involving the children responding to 7-point likert scales.</td>
<td>Relationship between players' perceptions of coach behaviour frequency of occurrence &amp; actual coach behaviours assessed using a Spearman's rho correlation test.</td>
<td>General technical instruction (27.4%), general encouragement (21.3%), &amp; reinforcement (17.1%). No RPM's.</td>
<td>The tendency to be spontaneous &amp; reinforcing was positively related to attraction toward the coach, while perceived punishment was negatively related.</td>
<td>Aside from 'Keeping Control', players' perceptions of coach behaviours correlated quite closely with actual behaviours (.78).</td>
<td>No mention of the duration of each session - therefore unable to generate RPM figures.</td>
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<td>2. Smith, R.E., Smoll, F.L., &amp; Curtis, B. (1979). Coach effectiveness training: A cognitive-behavioural approach to enhancing relationship skills in youth sport coaches, <em>Journal of Sport Psychology</em>, 1, 59-75.</td>
<td>To assess the impact of a Coach Effectiveness Training package (1) on coach behaviours (see Personal Notes), (2) player perceptions of coach behaviours &amp; player attitudes, &amp; (3) general or &quot;global&quot; self-esteem.</td>
<td>31 baseball coaches (experimental group = 18; treatment control group = 13) (with an average of 8.37 years coaching experience) were initially observed during 2 games (baseline) before being observed for another 4 games (post-training). 325 male players' (aged 10-15) perceptions of their coach &amp; their sport were recorded.</td>
<td>Coach training session (lasted approx. 2 hours), supplemented with behavioural feedback (CBAS) &amp; self-monitoring procedures. (1) Direct observation &amp; coding (using CBAS) of coaches. (2) Structured interviews involving the children responding to 7-point likert scales. (3) An adaptation of</td>
<td>A stepwise discriminant analysis (Cooley &amp; Lohnes, 1971) was conducted to identify any differences between the experimental and control groups (coach behaviours &amp; player perceptions).</td>
<td>General encouragement (29.04% - E; 33.13% - C) [whole group = 30.8%], reinforcement (25.99% - E; 20.51% - C) [whole group = 23.7%], &amp; general technical instruction (21.43% - E; 24.55 - C) [whole group = 22.7%]. No RPM's.</td>
<td>Children in the experimental group evaluated both their coach &amp; the interpersonal climate more positively, with the authors suggesting this to be a result of the &quot;positive approach&quot; created by the players' perception of their coaches more frequently engaging in reinforcement, mistake-contingent encouragement, &amp; general technical instruction, &amp; engaging less frequently in nonreinforcement, punishment, &amp; punitive technical</td>
<td>Only the relative frequency of reinforcement used by the two coaching groups was significantly different - the behaviour most highly emphasised and urged in the training programme.</td>
<td>Coach training involved verbal &amp; written material, coupled with modelled examples of desirable (reinforcement, encouragement, &amp; technical instruction) &amp; undesirable methods of responding to specific situations. Goals of the training were to increase positive interactions between coach &amp; players, amongst teammates, &amp; to reduce fear of failure.</td>
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<td>Study</td>
<td>Overview</td>
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<td>3. Curtis, B., Smith, R.E., &amp; Smoll, F.L. (1979). Scrutinizing the skipper: A study of leadership behaviours in the dugout, <em>Journal of Applied Psychology</em>, 64, 391-400.</td>
<td>To assess (1) whether observed coach behaviours were stable over a 2 season time period, (2) to test the similarity between actual, self-perceived, &amp; player-perceived coach behaviours, &amp; (3) to evaluate the correlations between players' attitudes towards the coach, the team, &amp; win-loss records.</td>
<td>Samples of 51 (1) &amp; 31 (2) baseball coaches (19 of whom were in both samples) were observed during 3-6 games over 2 seasons, with each coach also providing their self-perceptions of their own behaviours, 542 (1) &amp; 325 (2) youth (aged 8-15) players' perceptions of their coach &amp; their sport were recorded.</td>
<td>Correlational analyses were conducted on the observed behaviours over the 2 seasons, along with the self- &amp; player-perceptions of coach behaviours. Correlations were also carried out on observed behaviours &amp; coaches' &amp; players' ratings of the CBAS categories with team attitudes towards the coach &amp; win/loss records. In addition, multiple regressions were performed to determine the extent to which these criteria were related to behavioural data provided by observers, players, &amp; coaches. As reported in 1. &amp; 2., above.</td>
<td>- Significant correlations were obtained on 7 of the 12 observed categories &amp; were largest for punitive behaviours &amp; general encouragement. - When compared to winning coaches, proportionately more of the observed behaviours of coaches on losing teams were reactions to player mistakes &amp; misbehaviours. Also, players perceived coaches of losing teams as more punitive &amp; less supportive than winning coaches. - Although there was some consistency in the percentage of observed behaviours across years, players &amp; coaches were most aware of this consistency in punitive behaviours. - Although punitive &amp; the handling of misbehaviours may affect players' attitudes (Keller &amp; Szilagyi, 1978), poor performance by players or team disharmony may give coaches more opportunities to display such behaviours.</td>
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| 4. Dubois, P.E. (1981) The youth sport coach as an agent of socialisation: An exploratory study, *Journal of Sport Behaviour*, 4, 95-107. | The study set out to describe the 'during-game' behaviours of coaches & to examine if any relationship existed between these behaviours & team performance. | 14 coaches (10 male, 4 female; 10 football, 4 American football) youth (8-12 year olds) coaches. It is unclear, but it seems as though each coach was | Direct observation of coaches' behaviours using an instrument developed for the study (containing 4 "educationally appropriate" comparisons of coach behaviours carried out using raw data frequencies & mean percentages. Team performance was accounted for by win-drawn-lost records of the coaches, with the Positive feedback & encouragement' occurred most frequently with girls' football & American football coaches (41% & 36%, respectively), while 'instruction & positive corrective feedback' (43%) None | - The breakdown of positive-negative coach behaviours revealed a 74.5-26.3 percentage split of total behaviours. -Youth American football coaches (49.4-50%) were found to be 'much less punitive & more supportive than winning coaches. - The "educationally appropriate" behaviours included positive feedback, skill instruction, & comments supportive of opponents & officials. The "educationally inappropriate"
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<th>Study</th>
<th>Methodology</th>
<th>Findings</th>
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<td>5. Smith, R.E., Zane, N.W.S., Smoll, F.L., &amp; Coppel, D.B. (1983). Behavioural assessment in youth sports: coaching behaviours and children's attitudes, <em>Medicine and Science in Sports and Exercise</em>, 15, 208-214.</td>
<td>To obtain data on (1) the relative frequencies &amp; rates at which specific behaviours occurred, (2) to determine the structure of these behaviours, (3) to relate the behaviours to kids' perceptions of their sport, coach, &amp; teammates, &amp; (4) to compare the results with previously-collected data.</td>
<td>31 male basketball coaches' behaviours were observed during a total of 110 games (average game time = 57.4 mins), with coaches observed 2-5 times (mean = 3.55). 182 children's (aged 9-12) perceptions of their coach, their sport, &amp; their general or 'global' self-esteem were recorded. (1) Direct observation &amp; coding (using CIBAS) of coaches. (2) For structural analyses, a principal-components factor analysis of the rate data was carried out, followed by a varimax rotation to generate orthogonal factors. A stepwise multiple regression was performed to assess how well the total set of coaching behaviours observed during the season predicted the team means of each of the post-season player attitudes. General technical instruction (0.881 RPM/35.8%), reinforcement (0.508 RPM/22.9%), &amp; general encouragement (0.409 RPM/15.8%). - Positive post-season attitudes towards the sport were positively related with corrective technical instruction frequencies. - Keeping control &amp; general encouragement were negatively correlated with attitudes towards the coach (kids dislike behaviours or coaches responding to low-level interest?). - Neg relationship also with attitude to coach &amp; punishment &amp; general communication. - Player attitudes positively correlated with mistake-contingent technical instruction. - Results revealed the assumption that reinforcement/encouragement &amp; punishment are at opposing ends of the same behavioural dimension to be inaccurate: the extent to which coaches are supportive or punitive are independent of one another.</td>
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<td>6. Lacy, A.C., Darst, P.W. (1985). Systematic observation of behaviours of winning high school head football coaches,</td>
<td>To analyse the teaching/coaching behaviours of winning high school head American football coaches during practice</td>
<td>10 high school American football coaches were each observed during 3 practice sessions over the A systematic observation system – similar to the ASUOI - was used to code coach behaviours. Analysis of variance with repeated measures (Dixon &amp; Brown, 1979) was used to statistically determine significant differences between [Data presented as RPM]: Instruction (P=1.83; E=1.46; L=1.32; T=1.55), management (P=0.77; E=0.61; L=0.56; T=0.64), hustle - Every behaviour (except nonverbal punishment &amp; nonverbal reward) showed higher RPM's in pre-season than in the other 2. - The authors chose to collect data during the warm-up, group (units), team, &amp; conditioning segments of the practice sessions.</td>
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<td>Journal of Teaching in Physical Education, 4. 256-270.</td>
<td>7. Claxton, D.B. (1988). A systematic observation of more and less successful high school tennis coaches, Journal of Teaching in Physical Education, 7. 302-310.</td>
<td>To describe &amp; analyse systematically the coaching behaviours or more &amp; less successful high school boys' tennis coaches during practice sessions.</td>
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<td>9 (5 more/4 less) boys' tennis coaches were observed during practice sessions 3 times each during the pre-/early-, mid-, &amp; late-season periods. Each observed session was 30 mins long.</td>
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<td>Coach behaviours were coded using the ASUO! (Lacy &amp; Darst, 1984).</td>
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<td>Due to the small sample size, nonparametric statistical analysis was used to compare differences in behaviour between the groups. The Mann Whitney Test (Minium, 1978) was used to compare average percentages of exhibited behaviours for each category between the groups.</td>
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<td>(1) Direct observation &amp; coding (using a revised version of CBAS) of coaches. (2) The players &amp;</td>
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| and Situation on Coaching Behaviours, Journal of Sport Behaviour, 11, 157-174. | competitive sport involvement by (1) observing coach behaviours & (2) determining the coaches' goals, their perceptions of their players' goals, & the self-reported goals of the athletes. | 18 years) basketball coaches were each observed during 2 games (mean duration of 68.75 mins) & 2 practice sessions (mean duration of 89.86 mins). Players (48-e; 38-jh; 38-lh) & coaches both completed questionnaires based on goal involvement (coaches - their own & their players; players - their own). | coaches completed questionnaires designed & used by Smith & Smoll (Smith et al., 1978; Smoll & Smith, 1984). | 'undesirable' behaviours across situations & levels of competition, & in task-involved or ego-involved reinforcements. One-way ANOVAS were performed to test for differences in the players' goals as a function of age, coaches' goals as a function of competitive level, & their perceptions of their players' goals. | coaches competing at lower levels. Coaches also perceived their players to regard winning as more important at the higher levels. | - There were no competitive differences in the importance placed on the task-involved goal in respect to the coaches' goals, their view of their players' goals, & the players' actual goals - with each valuing mastery goals. | - Junior & senior high increasingly emphasised performance outcomes & de-emphasised the performance process, especially so during games than in practice sessions. | - The coaches who most frequently used the behaviours discouraged by Smith et al. in the CET guidelines were high school coaches, who used them more often in games than practices. | - Study found that coaches find greater number of behaviours in games than in practice sessions. | - Coaches were found to be significantly more encouraging in games than in practice sessions, while the opposite was true for the use of instruction/ organisation. | - Coaches believed that they encouraged their players to a greater degree to what actually occurred. The opposite was true for the coaches' perceived & actual use of instruction/ organisation. | - Junior & senior high increasingly emphasised performance outcomes & de-emphasised the performance process, especially so during games than in practice sessions. | - The coaches who most frequently used the behaviours discouraged by Smith et al. in the CET guidelines were high school coaches, who used them more often in games than practices. | - Study found that coaches use a greater number of behaviours in games than in practice sessions. | - The authors suggest that coaches may not sequence their remarks correctly, indicating that they often failed to provide alternative suggestions to their players after making a criticism. | mistake-contingent encouragement, & punishment for undesirable processes) & outcome-oriented or ego-involved (rewards & punishments for desirable & undesirable outcomes) behaviours. | 9. Wandzilak, T. Ansorge, C.J. & Potter, G. (1988). Comparison Between Selected Practice and Game Behaviours of Youth Soccer Coaches, Journal of Sport Behaviour, 11, 78-88. | To (1) determine selected coaching behaviours of coaches in game & practice settings, & (2) compare the perceived behaviour of the coaches to their actual coaching behaviours. | 17 youth (players aged 11-14) soccer coaches were observed (2-4 games; 2-5 sessions) during a combined total of 60 games (mean length = 54.92 mins) & 69 practice session (mean length = 54.17 mins). Coaches and players also completed respective questionnaires. | Coach behaviours were coded using the Coaching Behaviour Assessment Inventory (CBAI). Coaches completed questionnaires based on their knowledge of the sport, their ability, & their perceptions of own behaviours. Players evaluated their coach & their descriptive statistics were calculated on coach behaviours. Pearson product-moment correlations & separate correlated t-tests were done to examine any differences in games & practice behaviours. Correlations were also carried out on coach behaviour data & coaches' perceptions, & between observed behaviours & coaches' & players' questionnaires. | [Data presented as RPM]: instruction/organisation (P=1.18; G=0.9), encourage/hustle (P=0.53; G=0.86), positive remarks (P=0.47; G=0.6), & negative remarks (P=0.33; G=0.34). | - The findings suggest that coaches providing information may not encourage or provide positive reinforcement to any great extent. The authors hypothesise that coaches lacking competence may encourage more as they have little else to offer. Those with a stronger skill/knowledge base are more secure & more likely to provide information. Also, more demanding & more selective in the | - Coaches were found to be significantly more encouraging in games than in practice sessions, while the opposite was true for the use of instruction/ organisation. | - Coaches believed that they encouraged their players to a greater degree to what actually occurred. The opposite was true for the coaches' perceived & actual use of instruction/ organisation. | - Study found that coaches use a greater number of behaviours in games than in practice sessions. | - The authors suggest that coaches may not sequence their remarks correctly, indicating that they often failed to provide alternative suggestions to their players after making a criticism. | mistake-contingent encouragement, & punishment for undesirable processes) & outcome-oriented or ego-involved (rewards & punishments for desirable & undesirable outcomes) behaviours. | 385
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<td>To analyse the behaviours of (1) male &amp; female high school coaches during the (2) pre- &amp; in-season phases.</td>
<td>10 high school basketball coaches (5 male, 5 female) were observed (for 30 minutes during each session) during 3 pre-season &amp; 3 in-season practice sessions.</td>
<td>Coach behaviours were coded using the ASUO1 (Lacy &amp; Darst, 1984).</td>
<td>Percentages &amp; RPM values were generated for each of the behaviour categories, providing descriptive data.</td>
<td>[Data presented as RPM]: (1) concurrent instruction (T=1.01; (M=1.1; F=0.92)), post-instruction (T=0.97; (M=0.86; F=1.09)), &amp; management (T=0.79; (M=0.68; F=0.9)). (2) concurrent instruction (P=1.06; I=0.96), post-instruction (P=1.07; I=0.88), &amp; management (P=0.82; I=0.76).</td>
<td>- The dominant function of the coaches in this study was giving verbal instructions (49.6% of total behaviours for the combined group).</td>
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<td>To assess the relationship between young athletes' general self-esteem &amp; their liking for coaches who differed in supportiveness &amp; in their tendency to help children develop sport competencies through instruction (i.e. coach behaviours).</td>
<td>51 baseball coaches' behaviours were observed during a total of 202 games (mean = 3.96 games per coach). 542 baseball players' (aged 8-15) perceptions of their coach, their sport, &amp; their self-esteem were recorded.</td>
<td>Direct observation &amp; coding (using CBAS) of coaches. Structured interviews involving the children responding to 7-point likert scales. An adaptation of Coopersmith's (1967) Self-Esteem Inventory.</td>
<td>Coach behaviours were subjected to a principal-components analysis to determine the dimensions along which the CBAS categories were patterned. Children's attitude measures were also analysed in the same way. Factor scores on the 4 emerging behavioural dimensions were generated for each coach, along with self-esteem scores, served as predictors of attraction responses in a multiple-regression model.</td>
<td>Same results as reported in Study 1.</td>
<td>- Having divided the sample into thirds to form high-, moderate-, &amp; low-self-esteem groups, the results from the study suggest that low-self-esteem athletes responded most positively to highly supportive coaches &amp; most negatively to lowly supportive coaches. Further, low-self-esteem coaches were most attracted to coaches who were highly instructive.</td>
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<td>1 successful Pop Warner (boys aged 12-14) American football coach was tracked for over 4 phases of the season (pre-, early-, mid-, &amp; late), being observed for 5 practice sessions in each phase. Observations lasted 28 mins for each session. Coach behaviours were coded using the Coaching Behaviour Recording Form (CBRF). Investigators also took field notes as a supplement to aid in data explanation &amp; interpretation. (1) Percentages &amp; RPM values were generated for each of the behaviour categories, providing descriptive data. (2) Comparisons were made with the subject of this study &amp; 2 other successful coaches via a Spearman Rho rank-order procedure. (Data presented as RPM): For all practice sessions: instruction (0.87), coach interaction (0.64), &amp; praise (0.34). Over the 4 phases: instruction (P=.18; E=.91; M=.76; L=.66), coach interaction (P=.12; E=.19; M=.36; L=.48), &amp; praise (P=.29; E=.34; M=.44; L=.24).</td>
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<td>To determine through systematic observation (1) the coaching behaviour of a successful coach, &amp; (2) to compare the findings with 2 previous studies of successful coaches.</td>
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<td>To describe the practice behaviours of elite archery athletes &amp; their coaches during one-on-one practice sessions. 12 elite archery coaches were each observed during 1 practice session, while their athletes’ behaviours were also observed during the course of 1 entire session. Coaches’ behaviours were coded using a tool that focused on coaches’ verbal performance feedback ('information generated about a motor response aimed at strengthening that response or modifying the next response'). Percentages &amp;/or RPM values were generated for each of the behaviour categories, providing descriptive data. <em>Pearson correlations</em> were calculated to determine relationships between coaches’ verbal performance feedback &amp; their archers’ practice behaviour (using the .05 level of confidence). Total skill feedback (0.74RPM), general positive skill feedback (0.39RPM), specific positive skill feedback (0.21RPM), &amp; specific corrective skill feedback (0.14RPM). Total positive feedback (80.4%), total corrective feedback (19.6%), total specific feedback (48.9%), total general feedback (51.1%), &amp; feedback during retrieval (13.3%). When feedback was given following a shot attempt, it was more likely to be general (r=0.61), rather than specific (r=0.6). The specific feedback that was provided tended to occur more during retrieval episodes. The more positive the coaches’ feedback, the lower the archers’ shot rate (r=0.61). The higher shot rates correlated with higher rates of corrective feedback (r=0.6).</td>
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<td>To describe the practice behaviours of elite archers and their coaches during one-on-one practice sessions.</td>
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<td>To determine if a significant difference in coaching 12 (6 male, 6 female) work with grades 1&amp;2, 6 work with grades 3&amp;4, 6 work with grades 5&amp;6. Coach behaviour were coded using the ASUQI (Lacy &amp; Werts). Percentages were generated for each of the behaviour categories, providing descriptive data. Silence, (T=28.5%; E=24.6%; L=32.4%), management (T=26.6%; E=27.6%; L=28.1%). Only 1 significant difference was observed between the early- &amp; late-season. The percentages for instruction were lower in this study than in other studies.</td>
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<p>| - The categories of instruction, modelling-positive, &amp; questioning show a decrease over the course of the season, while coach interaction &amp; other increased. - As the season wore on, it appears as though Kilmer tended to direct his attention towards organisation, partly at the expense of instructional behaviours. - A coach compared with Kilmer in this study, Kush (Langsdorf, 1979), demonstrated praise &amp; scold behaviours at an equal rate (0.22 RPM). |
| - The authors suggest the high general feedback rate provided at the shooting line may be explained by the coaches not wanting to interfere too much with the archer’s shooting pace. - It may be that high feedback rates in certain situations actually detract from performance, in that it can take up valuable practice time, as has been noted by Paese (1987). - Based on years of instructional effectiveness research, Gage (1978) has argued that, in light of the teaching act’s complexity, no one instructional skill by itself will be able to explain the variance in learners’ performance. |</p>
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<tr>
<th>15. Lacy, A.C. &amp; Martin, D.L. (1994)</th>
<th>To analyse the motor-skill engagement (MSE) of starters (x2 per coach) &amp; non-starters (x2 per coach) &amp; the coaching behaviours of women's volleyball coaches during the preseason.</th>
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<td>(Dodd &amp; Rife, 1981; Lacy &amp; Darst, 1985; Langsdorf, 1979; Tharp &amp; Gallimore, 1976).</td>
<td>- It is suggested the unusually high management percentage may relate to the players' young age.</td>
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<td>Darst, 1984).</td>
<td>- The authors expected to see an age-related difference between the groups, but don't explain why.</td>
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<td>descriptive data. An approximate t-test was used to examine the comparison data since the variations between the 2 groups of observations were not equal. The samples were not independent for the 2 observations &amp; a paired t test was used to look at differences between them.</td>
<td>All results presented as percentage of total average behaviours: Silence (T= 13.5; W= 13.5; Sk= 13.5; Se= 13.5; Ce= 13.5). Other (T=13.5), correction (T= 13.5; W= 13.5; Sk= 13.5; Se= 13.5; Ce= 13.5), &amp; concurrent instruction (T= 13.5; W= 13.5; Sk= 13.5; Se= 13.5; Ce= 13.5). No RPM's.</td>
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<td>L=25.6%), &amp; concurrent instruction (T=15.2%; E=14.5%; L=15.8%). No RPM's.</td>
<td>- Observed players were engaged in MSE for 31.1% of the observed time (Starters=32.1%, non-starters=30.1%).</td>
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<td>behaviours: questioning represented 1.7% of the early- &amp; 0.4% of the late-season total percentages.</td>
<td>- No significant differences were observed between starters &amp; non-starters across practice segments.</td>
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<td>- There were no significant differences observed between the coaching behaviours of coaches within the 2 grade samples in either the early- or late-seasons.</td>
<td>- The high praise-to-scoold ratio (7:1) may be due to the coaches' efforts to promote a positive atmosphere as the season begins (very low rates of scold rather than high rates of praise).</td>
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<td>16. Solomon, G.B., Striegel, D.A., Eliot,</td>
<td>To (1) extend the literature on college coach + 3</td>
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<td>(2x1 head coach + 3</td>
<td>- Questions were asked at an average RPM of 0.18 during the skill phase (average of 18.33 questions per skill phase).</td>
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<td>The CBAS was used to code</td>
<td>- Because athletes were well motivated it wasn't surprising that there were low levels of negative behaviours in relation to player conduct.</td>
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<td>The percentage of intervals for each</td>
<td>All results presented as percentage of total</td>
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 assistants) university basketball coaches were observed during 6 practice sessions (4 early-, 2 late-season). Coaches ranked the 23 athletes (11 from women’s, 12 from men’s team). Athletes & coaches both completed post-observation questionnaires. | coach behaviours & the Cole-DAS system was used to code coach feedback. Both coaching groups ranked their group of players. Athletes’ questionnaires were focused on their perceptions of coaches’ feedback & expectations. | observed coaching behaviour were calculated, providing descriptive data. Two series of MANOVAs were conducted. To test the self-fulfilling prophecy hypothesis, MANOVAs were conducted for all coaches, head coaches only, & assistant coaches only. A series of T tests were carried out to analyse the players’ perceptions of coach feedback. | average behaviours: CBAS - technical instruction (TIG & TIM; 58%) & reinforcement (R; 36%). Cole-DAS – feedback was predominantly auditory (25%) & immediate (25%), involving approval (12%) & corrective feedback (12%). No RPM’s. |
| 17. Trudel, P. Cote, J. & Bernard, D. (1996) Systematic Observation of Youth Ice Hockey Coaches During Games, *Journal of Sport Behaviour, 19*, 50-65. | To observe and record all coaches’ behaviours during games. | 14 youth ice hockey coaches were observed during a combined total of 32 games (11 coaches during 2-4, 1 for 1 game only). | Coach behaviours were coded using the Coaching Observation System for Games (COSG). | The percentage of intervals for each observed coaching behaviour were calculated, providing descriptive data. | All results presented as percentage of total average behaviours: observe (51.2%), organise (15%), & direct the game (8.1%). No RPM’s. |
|  |  |  |  |  | - The relatively low percentage of time spent providing information & feedback indicates that youth ice hockey coaches offered few ‘teachable moments’ in games. |

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| 18. DeMarco, G.M.P. Mancini, V.H. & Wuest, D.A. (1997) Reflections on Change: A Qualitative and Quantitative Analysis of a Baseball Coach’s Behaviour, *Journal of Sport Behaviour, 20*, 135-163. | To determine the effectiveness of self-assessment as a means of modifying a coach’s behaviour. | 1 youth baseball head coach was observed during 13 practice sessions over the course of a season (Phase I = 1-4; II = 5-9; III = 10-13). | Coach behaviours were coded using the Self-Assessment Feedback Instrument (SAFI), the coach & players completed the Coach Performance Questionnaire (CPQ), & the coach also kept a personal journal throughout the whole study. | Percentages & RPM values were generated for each of the behaviour categories, providing descriptive data. The data from the questionnaire responses were also converted into percentages, & the qualitative comments made within the questionnaires, along with the coach’s journal, were subjected to content analysis. | [Data presented as RPM]: extended information (P1: 2.2; P2: 1.65), gives directions (P1: 1.8; P2: 1.75), praise (P1: 0.47; P2: 0.51), instruction during performance (P1: 0.27; P2: 2.77), questions (P1: 0.23; P2: 0.72), praise/reinstruct (P1: 0.1; P2: 1.3), & constructive criticism/reinstruct (P1: 0.03; P2: 0.64). | - Players’ CPQ data responses indicated that they perceived the coach’s behaviour to be relatively consistent throughout the course of the season (perceived behaviours increased by no more than 2.6% & decreased by no more than 3.9%). - It was suspected that the players’ inability to perceive coach behaviour changes might have been due to their inability to distinguish between the various types of praise/criticism the CPQ sought to identify. - Based on the analysis of gathered data from the SAFI, CPQ, & the coach’s journal, the process of self-assessment was found to be an effective method of monitoring, modifying, & thus, improving a coach’s behaviour. - Most significant change was the reduction in extended information-giving behaviours, while increasing the frequency at which instruction was provided. - As part of a 2-step approach, the goals the actual behaviours to be changed, while the strategies provided a specific plan to affect that change. - See Discussion section for interesting evaluations of findings. - Study also included qualitative notes on the coach’s perceptions of the programme. |

| 19. Bloom, G.A. Crompton, R. & Anderson, J.E. (1999) A Systematic Observation Study of the Teaching Behaviours of an Expert Basketball Coach, *The Sport Psychologist, 13*, 157-170. | To observe & record the teaching behaviours & verbal cues of an ‘expert’ coach. | 1 men’s basketball coach was observed during 10 practice sessions over the course of an entire season (for 2 hours per session). The coach & his assistant were also interviewed after the completion of the study. | Coach behaviours were coded using a Revised version of the CBRF, & individual interviews were carried out with the coach & his assistant. | The percentage of intervals for each observed coaching behaviour were calculated, providing descriptive data. | All results presented as percentage of total average behaviours: tactical instructions (29%), hustles (16%), technical instructions (13.9%), & praise/encouragement (13.6%). No RPM’s. | - Possibly the most interesting finding was the coach’s emphasis on tactical training. The authors speculate that maybe expert coaches expect their athletes to have a sound grasp of the fundamental skills when they reach the elite level. - Some interesting thoughts on beginner-intermediate-elite differences. - Literature review points to some research that has discussed coach philosophies. - The assistant coach felt that the coach was more tactical during the defensive sessions, viewing attacking to be less tactical, since the philosophy was to keep players’ minds free & let them play instinctively. |

<p>| 20. Cushion, C.J. &amp; Jones, R.L. (2001) A | To provide descriptive data | 8 (5 Premierships/3) | Coach behaviours were | Percentages &amp; RPM values were | [Data presented as RPM]: concurrent - The amount of instruction provided - Nationwide coaches were found to use the - Cross (1995) concluded some elite | 390 |</p>
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<th>Systematic Observation of Professional Top-Level Youth Soccer Coaches, Journal of Sport Behaviour, 24, 354-376.</th>
<th>pertaining to the coaching behaviours of elite youth soccer coaches. And to consider any differences between the two levels of competition investigated.</th>
<th>Nationwide elite youth soccer coaches were each observed during 3 practice sessions (for 45 mins per session).</th>
<th>observed using the ASUOL.</th>
<th>generated for each of the behaviour categories, providing descriptive data. For the purpose of comparison of event-recorded data, the Mann Whitney U test was used to compare percentages of exhibited behaviours between the two leagues.</th>
<th>instruction (T=3.62; P=4.14; N=2.76), praise (T=1.8; P=1.76; N=1.86), pre-instruction (T=1.76; P=1.46; N=2.26), &amp; post-instruction (T=1.51; P=1.58; N=1.4).</th>
<th>to the players in this study was greater than had been observed in any previous studies. - The high levels could be due to task dependency (Terry, 1984), suggesting elite performers in interdependent sports prefer high levels of instruction &amp; direction. - Praise to scold ratio was 9:1, higher than in earlier studies, but less than found in pro English soccer (Potrac et al., 1997). Inconsistencies such as these suggest differential feedback strategies, perhaps related to the age &amp; ability of the players. In this case, creating a positive environment for the young players, fostering enthusiasm &amp; favourable attitudes.</th>
<th>following behaviours significantly more than Premiership coaches: use of first name, pre-instruction, questioning, &amp; negative modelling. Premiership coaches used concurrent instruction more than Nationwide coaches. - The author indicates that the coaches' feedback contained informational content directing players' attention to specific aspects of performance, but hasn't attempted to code feedback behaviours within his analysis (includes this comment within discussion of instructional behaviours).</th>
<th>athletes wanted coaches to make decisions for them. This is described by Lyle (1999) as the principle of consensual authority, where an accommodation is reached between coach &amp; player, with the latter accepting high levels of instruction &amp; direct intervention &quot;because of the coach's empathetic &amp; supportive approach&quot; (p.42). - The issue of 'power' is also discussed. - The author describes instructional feedback as being a frequently observed behaviour, however, it is not an ASUOL behaviour.</th>
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<td>21. Potrac P., Jones, R. &amp; Armour, K. (2002) &quot;It's all about getting respect&quot;: The Coaching Behaviours of an Expert English Soccer Coach, Sport, Education and Society, 7, 183-202.</td>
<td>To generate an in-depth understanding of the coaching behaviours utilised by a top-level English soccer coach.</td>
<td>I professional soccer coach was observed during 9 practice sessions (for 45 mins per practice) over the course of a season.</td>
<td>Coach behaviours were observed using the ASUOL. Interpretive interviews were used to gain a deeper understanding.</td>
<td>Percentages were generated for each of the behaviour categories, providing descriptive data. The interviews were subjected to inductive analysis.</td>
<td>All results presented as percentage of total average behaviours: post-instruction (26.1%), concurrent instruction (20.14%), silence (13.19%), pre-instruction (11.29%), &amp; praise (11.1%). No - Praise to scold ratio was 33:1, much higher than any previous study. However, the RPM for praise was lower than Cushion &amp; Jones' (2001), thus, revealing a very low use of praise. - The coach had a clear understanding that his primary function as a pro football coach was to develop successful teams, while improvement of individual players' skills was secondary.</td>
<td>- Many comments are made about each of the ASUOL coaching behaviours, utilising the coach's interview data to support the researcher's conclusions.</td>
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<td>season (3xearly, 3xmid, &amp; 3xlate season). The coach was also interviewed on 2 occasions at the end of the season.</td>
<td>of the coach’s instructional behaviours in the practice environment.</td>
<td>RPM’s, but able to work them out.</td>
<td>scold usage.</td>
<td>technique &amp; decision-making abilities were secondary concerns. Thus, it could be argued that the high levels of observed instruction reflected the coach’s desire to be in control of developing team strategy &amp; tactics in practice sessions. - Coach indicated he believed pro players respond most effectively to coaches who make them fully aware of their role within the team framework.</td>
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APPENDIX

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<th>Behavioural Classification</th>
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<td>1 Use of first name</td>
<td>Use of first name or nickname when speaking directly to a player. Examples: “Nice pass, Bill” “Get lower into contact, Craig”.</td>
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<td>2 Pre-instruction</td>
<td>Directional information given to player(s) preceding the desired action to be undertaken. It explains how to execute the skill, play, task or drill that it precedes. Examples: “You will take the ball into the tackle shield and go to ground”. “Here is a series of 8 contact pads. In your groups, move up the channel mauling the ball with the left shoulder on the way up, and go into contact with the right shoulder on the way back.”</td>
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<td>3 Technical explanation</td>
<td>The coach rationalises through explanation of how the practices that are being undertaken would relate to the game situation, either from a technical (technique) or strategical (tactical) basis. Examples: “From this situation in a game you would...” “The point of this drill is to...”</td>
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<td>4 Concurrent instruction</td>
<td>Cues, reminders or instructions given during the actual performance of the drill, skill or play. Examples: “Now run left” As the play develops. “Catch, secure, drive, pass” as play develops from a lineout.</td>
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<td>5 Concurrent positive feedback</td>
<td>Positive feedback of a specific nature given to the player(s) during the actual performance of the drill, skill or play. Examples: “Keep driving, that’s a great body position.”</td>
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<td>6 Concurrent Praise</td>
<td>Non-specific positive feedback, in the form of demonstrations of satisfaction or pleasure, at skill or practice attempts given during the actual performance of the drill, skill or play. These demonstrations may be either verbal or non-verbal in nature. Examples: “Good.” “Well played.” A smile, thumbs up sign, pat on the back, as play develops.</td>
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<td>7 Concurrent Correction</td>
<td>Information, re-explanation or feedback given during the actual performance of the drill, skill or play which informs the player of how the performance should be altered in order to improve. Examples: “Get lower” “More depth on the run.” as play develops</td>
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<td>Behavioural Classification</td>
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<tr>
<td>Concurrent Scold</td>
<td>Verbal or non-verbal behaviours demonstrating displeasure at the players' skill or practice attempts given during the actual performance of the skill, drill or play. Examples: “That’s awful!” “You’re not concentrating. Pay attention and do it again!” Shaking of the head, shaking of a clenched fist.</td>
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<tr>
<td>Positive skill specific feedback</td>
<td>Positive feedback of a specific nature given to the player(s) following the execution of a specific skill or task. Examples: “You secured the ball extremely well after you made that catch.” “The timing of that pop pass was excellent.”</td>
</tr>
<tr>
<td>Praise at skill attempt</td>
<td>Non-specific positive feedback, in the form of demonstrations of satisfaction or pleasure, at skill or practice attempts, given at the conclusion of the skill or exercise. These demonstrations may be either verbal or non-verbal in nature. Examples: “That was great play.” “Well done.” A smile, thumbs up sign, pat on the back.</td>
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<tr>
<td>Scold (skill)</td>
<td>Verbal or non-verbal behaviours demonstrating displeasure at the players’ skill or practice attempts. Examples: “That was awful!” “You went the wrong way. Pay attention and do it again!” Shaking of the head, shaking of a clenched fist.</td>
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<td>Correction</td>
<td>Information, re-explanation or feedback given after the execution of a skill or play which informs the player of how the performance would need to be altered in order to improve. Examples: “Next time you need to accelerate onto the pass and take the ball into contact at pace.” “That’s OK, but you need more depth on the run.”</td>
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<td>Questioning</td>
<td>Any questions to players concerning the strategies or techniques associated with the sport / practice. Examples: “Would you use a box kick in this situation?” “Where’s the ball going with this line-out call?” “Is that within the laws of the game?”</td>
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<td>Positive demonstration</td>
<td>A physical or enacted demonstration by the coach of the correct performance of a skill or technique.</td>
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<tr>
<td>Negative demonstration</td>
<td>A physical or enacted demonstration by the coach of the incorrect performance of a skill or technique.</td>
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<td>Behavioural Classification</td>
<td>Behavioural Description</td>
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<td>16 Hustle</td>
<td>Verbal statements or non-verbal actions intended to intensify the efforts of the players. Examples: “Pace, pace, pace.” “Come on, faster, move.” Repeated clapping to ‘gee players up.’</td>
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<td>17 Praise (General)</td>
<td>The coach demonstrates general satisfaction or pleasure at general practice behaviours, through verbal or non-verbal compliments, statements or signs. Examples: “Your attitude has been good throughout the session.” “That was your best session to date.” A smile, thumbs up sign, pat on the back.</td>
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<td>18 Scold (general)</td>
<td>Verbal or non-verbal behaviours demonstrating displeasure at the players’ social behaviours within the training session. Examples: “You’re late again.” “I told you not to turn up without the correct training top!” “Will you shut up for a second.” Shaking of the head, shaking of a clenched fist.</td>
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<tr>
<td>19 Use of humour</td>
<td>Verbal remark containing irony, sarcasm or witticism relating to the players’ performance in the practice or related game situation. Examples: “You’ve got the acceleration of the QE2” “As a prop you’d make a great soccer player!”</td>
</tr>
<tr>
<td>20 Management</td>
<td>Verbal statements or actions related to the organisation of the practice session, which do not relate to the technical details of the practice. Examples: “2 lines, on the try line, facing me.” “OK everyone, get a drink.” “Go” “Stop” Collecting / moving equipment, putting out cones.</td>
</tr>
<tr>
<td>21 Conferring with assistants</td>
<td>Speaking to individuals not directly involved in the practice. Examples: “I think that if we move Adam into the 2 jumper, we might get better ball of the top, don’t you?” To the Assistant coach. “When do you think that Steve will be fit?” to the physiotherapist.</td>
</tr>
<tr>
<td>22 Uncodable</td>
<td>Any behaviour that can be seen or heard which does not fit into the above categories.</td>
</tr>
<tr>
<td>23 Observation</td>
<td>Periods of diagnostic observation, when the coach is not talking and is observing the players and analysing their execution of the skill or activity, or observing the way in which a team is executing strategies in open play situations.</td>
</tr>
</tbody>
</table>
APPENDIX

C
Instrument Validation Help Notes

The validity test will require you to watch, and then code, 52 clips of coaching behaviours.

Each of the behaviours listed in the Youth Football Coaches Observation Instrument will appear 2 or 3 times on the video.

I have split the contents of the Instrument into two tables. The first table deals specifically with behaviours that fall neatly into the 'Pre-play', 'During play', or 'Post-play' sections, while the categories in the second table do not.

'Pre', 'During', and 'Post' play:

- if it is clear that the players are not active, but are being prepared to play, this behaviour will be in the Pre-play section;
- if play is ongoing and the coach is speaking, this behaviour will be in the During play section
- if the coach is speaking, having just called play to a stop, this behaviour will be in the Post-play section.

The 'Pre', 'During' and 'Post' play sections make up the three different rows in the first table. There are four columns in this table, made up of: 'Instruction', 'Correction', 'Feedback', and 'Praise/Scold'.

'Instruction', 'Correction', 'Feedback', and 'Praise/Scold':

- **Instruction**: occasions during which the coach provides direct instructions, cues, or reminders to a player(s). Can only occur Pre- or During play.
- **Correction**: occasions during which the coach provides information, re-explanation, or feedback to a player(s) on how they should alter their performance. Can only occur During or Post-play.
- **Feedback**: occasions during which the coach provides feedback of a specific (technical/tactical) nature to a player(s). Can only occur During or Post-play.
- **Praise/Scold**: occasions during which the coach provides non-specific/general feedback to a player(s). Can only occur During or Post-play.
In the second table, there are four columns that have grouped behaviours (‘Demonstration’, ‘Questioning’, ‘Humour’, and ‘Social Behaviour’), while the five behaviours in the final two columns feature individual behavioural categories. None of the rows have meaningful titles to differentiate between behaviours. Each of the behaviours on this page can occur at any point within the coaching session.


- **Demonstration**: a coach-led physical or enacted demonstration by the coach of correct (positive) or incorrect (negative) performance.
- **Questioning**: any occasion in which the coach asks a question. There are three types: procedural (relate to coaching session procedures or routines); and divergent and convergent (coaching/learning focused questions: responses to divergent questions can prompt a diverse range of possible responses, while convergent questions can only prompt a short number of responses [often ‘yes’ or ‘no’]).
- **Humour**: any verbal remark containing irony, sarcasm, or witticism directed ‘at’ (humour ‘at’ players), or shared ‘with’ (humour ‘with’ players).
- **Social Behaviour**: any observable demonstration of pleasure (Praise (General)) or displeasure (Scold (General)) at players’ social behaviours.

Miscellaneous Behaviours:

- **Hustle**: any verbal or non-verbal behaviours intended to intensify the efforts of players.
- **Technical/Tactical Explanation**: a verbal explanation of how the future/undertaken practice relates to a real game situation.
- **Confer with Staff**: any verbal or non-verbal behaviours directed to non-playing members of staff.
- **Observation**: any period greater than 5 seconds in which the coach can be observed to be silently viewing performance.
- **Management**: verbal statements or actions related to the organisation of the practice session, which do not relate to the technical details of the practice.
Perceptions of Coaching Session Questionnaire

The items listed below relate specifically to the coaching session you have just taken part in.

Please read each item carefully. Then circle the number that you feel best describes your feelings towards the session you have just completed. There are seven different responses for each item, based on the scale of 1-7 (1= not at all true, 4= sort of true, and 7= very true). Answer every item with only one response.

Your answers to this questionnaire will form part of a larger study being carried out by the FA into coach behaviours and player learning. False or inaccurate responses will provide a misrepresentation of the observed session. Therefore, it is essential you answer each question as truthfully as possible.

Answers are strictly confidential.

<table>
<thead>
<tr>
<th>Not at all true</th>
<th>Sort of true</th>
<th>Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2</td>
<td>3 4 5</td>
<td>6 7</td>
</tr>
</tbody>
</table>

1. I feel that I learned something new in tonight’s session.
2. I enjoyed doing tonight’s session.
3. I tried very hard in tonight’s session.
4. I was very relaxed during tonight’s session.
5. I think I improved as a player tonight.
6. Tonight’s session did not hold my attention at all.
7. I don’t feel that I learned anything new in tonight’s session.
8. I put a lot of effort into tonight’s session.
9. While doing tonight’s session, I was thinking about how much I enjoyed it.
10. I felt pressured during tonight’s session.
11. I feel that my skills have improved because of tonight’s session.
12. I didn’t put much energy into tonight’s session.
13. Tonight’s session was fun to do.

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14. I think that my understanding of the game of football has improved because of tonight’s session. 1 2 3 4 5 6 7
15. I felt very tense during tonight’s session. 1 2 3 4 5 6 7
16. I would describe tonight’s session as very interesting. 1 2 3 4 5 6 7
17. I feel that I developed the technical side of my game tonight. 1 2 3 4 5 6 7
18. I didn’t try very hard to do well in tonight’s session. 1 2 3 4 5 6 7
19. I did not feel nervous at all during tonight’s session. 1 2 3 4 5 6 7
20. I thought tonight’s session was boring. 1 2 3 4 5 6 7
21. My tactical awareness has developed due to tonight’s session. 1 2 3 4 5 6 7
22. It was important to me to do well in tonight’s session. 1 2 3 4 5 6 7
23. I was anxious while working in tonight’s session. 1 2 3 4 5 6 7
24. Tonight’s session has not improved me as a player. 1 2 3 4 5 6 7
25. I thought tonight’s session was quite enjoyable. 1 2 3 4 5 6 7

Thank you for your time.
APPENDIX
Interview Guide – Study 2

Academy/Centre of Excellence Coaches

Aims:
- To gain a more comprehensive picture of coaching philosophies within the Academy setting.
- To investigate the coaches’ perceptions of the significance of specific coaching behaviours (e.g. providing general and specific feedback).
- To establish the coaches’ rationale for their behaviour in specific situations.

Themes to be covered:

Differences between how coach’s behave towards players of different age groups? E.g. more/less use of instruction/feedback/questioning to younger/older kids. [age differences]

During coaching sessions, which behaviours do you feel are most important to the players’ development? And why? [coach philosophy]

Interview Script

Introduction

Purpose of research
Confidentiality
Free to withdraw at any time

Demographic/Background Information

Name, age, qualifications
Age group currently working with (previous age groups)
Former playing experience

Personal Coaching Philosophy

- What makes a good coach?
  Probes: importance of knowledge? communication? organisation? knowing your players?

- Can you describe to me your philosophy as a coach?
  Probes: coaching style that you use? type of players you try to produce?
- How have you developed your philosophy?
  Probes: FA coach education, other education? coaching/playing experiences?
  club's influence? mentors/role models?

- Considering your philosophy and the age group that you currently work with, do you feel your philosophy would differ in any way if you were working with an older/younger age group?
  Probes: 'yes/no' - why? how would specific coaching behaviours differ, if at all (i.e. instruction, feedback, questioning)?

**Individual Coach Behaviours:**

**a) Instruction**

- What are the characteristics of good instruction?
  Probes: content? how is it delivered most effectively?

- When is the best time to provide instruction?
  Probes: why?

**b) Demonstration**

- Why do you provide demonstrations to your players?
  Probes: impact on player learning?

- What are the characteristics of a good demo?

- Why do you sometimes demonstrate 'bad' examples of play?
  Probes: impact on player learning?

**c) Correction**

- How do you react when you see a player make a mistake?
  Probes: why? has this always been you way?

- What is the best way to correct a mistake?
  Probes: why? how do you feel this effects their improvement/learning?

**d) Feedback**

- Why do you provide feedback to players?
Probes: what is its impact?

- When is the best time to provide feedback to a player? Probes: during play/stop play? how frequently?

- What are the characteristics of good feedback? Probes: why?

- Should the content of feedback be different for different players? Probes: why? when? which players?

- *Show coaches an example of them providing general and then specific feedback:* ask why they did what they did for each? ask what impact they feel each had on the players?

e) Questioning

- Do you feel that asking players questions has any impact on their improvement as players? Probes: why? what do questions do?

- Why do you think questioning is such an under-used coaching behaviour? Probes: time consuming? difficult to do?

- Describe the characteristics of a good question? Probes: why? what is it about each of these characteristics?

- When is the best time to ask a player a question? Probes: why?
APPENDIX

F
Interview Guide – Study 2

Academy Players

Aims:

- To gain a more comprehensive picture of players’ responses to specific coaching behaviours – how do they feel questioning/feedback manipulations affected their learning/understanding of the game (and perceptions of AUTONOMY)
- To understand how players perceive the Academy coaching practice (considering coach behaviours in general, and questioning/feedback in particular) from a personal development perspective
- To establish the players’ views on ‘learning’ within Academy football – how they learn, what influences it, when it occurs (allowing this theme to progress to wherever the participants want – games, individual practice, parents, peers, etc.)

Themes to be covered:

The influence of the coach on player learning during coaching sessions [coach behaviour]

Players’ perceptions of the use of questioning and specific feedback by their coaches – how does this relate to their development? [focus on questioning/feedback literature for question prompts]

During coaching sessions, which behaviours do the players feel are most important to their development? And why?

Focus Group Interviews (4 players per group – have already been selected and parental consent gained)

Interview Script

Introduction

Demographic/Background Information

Name, age
Current age group
Years playing football/Academy football

Purpose of research
Confidentiality
Free to withdraw at any time

Coaches

Do you like the way the coaches teach you at the Academy? What do the coaches do that you like?
How does your coach help you to learn?

What do your coaches do - when you're trying to learn something new - that really helps you?

Can you think of which coach you've learnt most from? What did they do that helped you to learn more with them than with other coaches?

What were the best/worst things about Rhett/Matt/Nick as a coach? Why did you like/dislike these things?

Specific Coach Behaviours

*Instruction/Demonstration/Correction*

Do you always understand what your coach wants from you when he sets you an activity to do? How does your coach generally do this and what helps for you to understand?

Would you say that you have a particular learning style (i.e. learn best from watching a demo/hearing your coach describe something/from physically doing [practicing] something?)?

How does your coach make you feel when he sees you making a mistake? What's he do? Think of a time when you've made a mistake during a training session/game, do you prefer it that your coach tells you how to correct the mistake, or would you rather try to work it out for yourself? How do you feel when you correct a mistake by yourself?

*Questioning - General*

Do you think that coaches should ask players questions during sessions? Why do you think they do ask questions? What do questions do to you, the learner?

How did it make you feel when you answered (or even just knew the answer) one of the coach's questions correctly?

*Questioning - Intervention*

Please view these examples...

- what differences do you find in answering each of these types of Q's (learning-related?)
- what are the differences between the ways in which they make you think?
- what do you think about when you're asked each of these Q's? talk me through it

How did you feel when you were asked a question in front of your team mates?

*Feedback*

How important is the feedback you receive from your coach in influencing your learning? Which do you prefer of the following examples?

- How do you use your coach's feedback?
- What do you think of when you hear these different types of feedback?
- What are the differences between the way you think when you hear them?
APPENDIX

G
Study 3 Questionnaire

The items listed below relate specifically to the coaching session you have just taken part in.

Please read each item carefully. Then circle the number that you feel best describes your feelings towards the session you have just completed. There are seven different responses for each item, based on the scale of 1-7 (1= not at all true, 4= sort of true, and 7= very true). Answer every item with only one response.

Your answers to this questionnaire will form part of a larger study being carried out by the FA into coach behaviours and player learning. False or inaccurate responses will provide a misrepresentation of the observed session. Therefore, it is essential you answer each question as truthfully as possible.

Answers are strictly confidential.

<table>
<thead>
<tr>
<th>Not at all true</th>
<th>Sort of true</th>
<th>Very true</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></td>
<td></td>
</tr>
</tbody>
</table>

1. I feel that I learned something new in tonight's session.
   1  2  3  4  5  6  7

2. I feel that my coach provided me with lots of opportunity to make my own choices in tonight's session.
   1  2  3  4  5  6  7

3. There was not much opportunity for me to decide things for myself in tonight's session.
   1  2  3  4  5  6  7

4. I felt a sense of achievement from tonight's session.
   1  2  3  4  5  6  7

5. I think I improved as a player tonight.
   1  2  3  4  5  6  7

6. My coach considered my thoughts and opinions about my performance during tonight's session.
   1  2  3  4  5  6  7

7. I don't feel that I learned anything new in tonight's session.
   1  2  3  4  5  6  7

8. I felt pressured by my coach during tonight's session.
   1  2  3  4  5  6  7
<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all true</th>
<th>Sort of true</th>
<th>Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. My coach showed confidence in my ability to do well tonight.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Tonight’s session has not improved me as a player.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. I don’t feel I got much of a chance to show how capable I am in tonight’s session.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. I feel that my skills have improved because of tonight’s session.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. My coach encouraged me to ask questions tonight.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. I think that my understanding of the game of football has improved because of tonight’s session.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. My coach listened to how I wanted to do things in tonight’s session.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. I felt free to express my ideas and opinions during tonight’s session.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. I feel that I developed the technical side of my game tonight.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. My coach tried to understand how I saw things before suggesting a new way to do things in tonight’s session.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. I didn’t feel I played very well during tonight’s session.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. My tactical awareness has developed due to tonight’s session.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Thank you for your time.
School of Sport and Exercise Sciences

Coach Behaviour Intervention Workshop
Gareth Morgan

Workshop Aims
- Introduce Research Project
- Discuss Focus of Current Project
- Establish Methods to be used to Achieve this Focus
- Discuss Coach Behaviour Methods with Staff

Overview of Research
- Audit of Coach Behaviours
- The current study:
  - baseline data
  - intervention phase (current stage)
  - post-intervention phase
- Player Interviews

Study One: Conclusions
AGE-GROUP ANALYSIS
- Low use of coaching-focused questioning by coaches, featuring just 3% of total coaching time
- Consistent use of positive feedback across the age groups – 4:1 ratio reported for all groups
- Less specific feedback being provided at the youngest age group

Study Two: Impacting on the players
Questions the study seeks to answer:
1. Can an intervention program alter specific coaching behaviours?
2. Will these alterations be maintained over time?
3. Can these alterations to coach behaviours positively impact on player perceptions of learning, and increase their perceptions of control over of their own learning?
4. Do changes to behaviours/perceptions vary depending on the age of the players?

Study Two: Data Collection Methods
- Observe and code coaching behaviours:
  - 4 Coaches at 1 Pro Club (U11, U12, U13, U14)
  - observe each coach 10 times: 3 baseline
    4 intervention
    3 post-intervention
  - video-record each session (45 mins each)
- Record players’ perceptions of sessions:
  - for each session, players report their perceived competence, autonomy, autonomy support (from coach), and learning
**Player Autonomy**

An autonomous player will:
- take responsibility for / ownership of his own football development
- make decisions on the pitch by himself
- take a keener interest in your coaching points, trying to understand how they can use the information
- work on his development away from your Academy, not because you told him to, but because he wants to
- attempt things on the pitch that you might not have suggested

**Autonomy-Promoting Coaches**

- Currently working to create mature, responsible young men (bring own water bottles, assigning captaincy, conduct your own warm-up, etc.)
- does this transfer across to your approach to your players’ football development?
- what are you currently doing to facilitate this?

**Study Two: Implications for Players**

- The process of learning occurs optimally when the learner is internally motivated (or autonomous) to engage and assimilate information (Thomas, 1985)
- Therefore, targeting behaviours that will increase players’ autonomy levels (FA Youth Coaches Material)
- Specific feedback produces learning through the provision of information & suggestion of how to maintain/change subsequent trials
- Open questions prompt descriptive answers that promote the learner’s awareness and responsibility for their own development

**Target Behaviours**

- Cutting edge FA Coach Education Research
  - Youth Coaches Course (John Altgrass)
  - to be integrated into further Coach Ed (Trevor Brooking)
- Notts Forest are first Club to participate in the testing of this line of coach behaviour research
- it is felt (from evidence of 1st study) that you are already supporting player autonomy development, however, we’re targeting these behaviours as an area that can be refined

**Acquired data on the coaching behaviours of staff working within the Academies & C of E to be fed back into the coach education system**

- Findings to be coupled with players’ evaluative perceptions of the coaching they receive
- Testing a learning-supportive coaching intervention program (currently being promoted by FA Coach Education course), generating player-focused data
- Will gain information on the players’ perceptions of the Academy system - the coaching they receive
Educational Session Handout

The purpose of this handout is to attempt to stimulate some lines of questioning and specific feedback that you may think to be useful in terms of developing players. The focus of this handout is to assist you to become more skilled at the technique of asking coaching-focused questions – questions you actually believe will help your players – and to develop your use of specific feedback.

(Obviously some of the examples I suggest will be more meaningful to certain age groups than others. The challenge is for you to find examples that will be applicable to your sessions).

Specific Feedback

I'm not going to complicate this session by telling you what you should include within your feedback. However, I'd simply like to point out the content of the language within two different examples:

"Well done, nice one, superb"

"Fantastic pass, I love how you’ve swept through the ball to get your curl on it"

Please just consider the implications of providing each comment in relation to the discussions we've had during the educational session.

Open Questions:

It is the open-ended questions that most encourage players to engage their brain in coaching sessions. It is these questions that require players to think about what it is they are about to do, and/or about actions that they have completed – with research indicating that comprehension of knowledge being a decisive factor in enabling players to make on-field decisions for themselves.

Reactions to mistakes or good play

- "Why is this not a good idea (e.g. standing square on when defending)?"
- "What was wrong (or good about) with this passage of play?"
- "What could you have done better?"
- "What kind of mistakes were you making in that drill?"
- "Why has that just happened?"
- "What were you thinking when you played that pass?"

Assessing players' understanding of a topic

- "Why do you think I asked you to do that (e.g. head over the ball when shooting, play the ball in between 6 yard box & pen spot when crossing, show a player inside/outside when defending 1-on-1)?"
- "In which area of the pitch might you use this technique?"
- "Which players do you think this session is aimed at (i.e. which playing position)?"
• "Why do you think I'm asking you to work on this?"
• "What were the key coaching points?"

**Advanced Questioning (i.e. outside of the specific session topic area)**

• "Where would your next pass be from here? Why there?"
• "If he played the ball in there, where would you then go? Show me..."
• "In order to stop him from doing this, what would you need to do?"
• "What effect is this player having on the game?"
• "How/When/Where would you use this in a game?"
• "When have you used this before in a game? What happened...and why?"

*Please consider...*

While one focus of this research is on enhancing coaches' usage of open questioning, it is important to consider how the players receive these questions. If you, as coaches, are not currently asking your children many questions, how do you feel your players will react to any changes in your behaviour? Threatened? Hesitant? Suspicious of your intentions? Worried about the implications of providing a wrong answer? These are all possibilities. Therefore, I would encourage you to consider the manner in which you ask questions: your tone, your facial expressions, your reactions to an answer you deem incorrect/correct, the timing of your questions (while player confidence levels are high?), etc. We will discuss each of these issues, and others, during our next feedback session.

Good luck!
APPENDIX

J
**Interview Guide**

**Post-Intervention Study Follow-ups**

(N.B. Actual Questions are written in italics)

**Introduction:**

In this review I am interested in your honest opinions regarding the coaching behaviour intervention programme you were involved in over the course of last season. Please understand there are no right or wrong answers and I am only concerned with your thoughts.

All information you give will remain strictly confidential and anonymous. Your participation in this interview is entirely voluntary and you are free not to answer a question or leave the study at any time. Do you have any questions before we start?

**Demographic Information:**

Name; age; qualifications; current coaching age group.

**Education Workshop:**

- *How did you feel my intervention workshop was delivered?*
  Probes: method of delivery (presentation) and manner of communication? contents of the presentation? work on you as a ‘selling’ method to entice you to ‘buy in’ to the intervention programme?

- *What were your feelings on being invited to alter the specific coaching behaviours the intervention programme focused on?*
  Probes: your perceptions of your use of those behaviours at that time (already using specific feedback/open questioning well?)? does the general-specific feedback ratio matter? value the use of questioning as a coaching behaviour?

- *Were you convinced that enhancing your players’ autonomy levels was going to be beneficial to their development? And did you feel that the methods identified by the researcher to achieve this were realistic?*
  Probes: thoughts on player autonomy and player development? (if positive) why is creating autonomous footballers a good thing? why did you feel the coaching behaviour methods may/may not work?

**Feedback Sessions:**

- *How did you feel the researcher feedback sessions (during intervention phase) were delivered?*
  Probes: methods of delivery and manner of communication? help you to focus on the next session?

- *How helpful was the researcher’s support during the intervention phase?*
Probes: use of video examples from previous session(s)? use of support sheets on questioning and specific feedback examples? discussions on implementing target behaviours to specific session plans? goal setting methods for future sessions?

**Individual Coach Results:**

- *Were you surprised by the baseline results identified?*
  Probes: why, what you expected?

- *How easy was it for you to alter your baseline behaviours?*
  Probes: dealing with instinctive (habitual) behaviours? focusing on implementing behaviours more than usual? interfere with any other aspects of your session? feel any reluctance to do so at this time?

- *Which behaviour did you find most difficult to alter?*
  Probes: why was that? was this because you didn’t perceive value in this at all?

**Impact on Players:**

- What changes, if any, did you notice in the behaviours of your players during the programme?
  Probes: [provide specific examples??] any evidence of them demonstrating increased autonomy/responsibility/ownership in relation to their development? have they retained these behaviours? transfer across to game situations in any way?

- *How did the players react to being asked questions?*
  Probes: [provide specific examples??] same players answering all the time [if so, how did you overcome this?] did their ability to answer questions (and their confidence at doing so) change during the programme? did they enjoy/dislike doing so?

- *Did you notice any changes in the players’ reactions to the increasingly information-based feedback you provided?*
  Probes: [provide specific examples??] any evidence of them processing the information? and then utilising the information?

**Impact on Coach’s Future Behaviours:**

- *What effects, if any, has the programme had on you as a coach?*
  Probes: awareness of own behaviours? of players’ autonomy-learning behaviours? altered your actual approach/philosophy/behaviours?

- *In terms of your future coaching approach, how much will the autonomy-supportive coaching programme have a ‘role to play’ in your coaching of players?*
  Probes: what have you found most value in? any immediate impact on your current coaching behaviours? consider any aspects of the programme when planning your sessions?

**Perceptions of the Intervention Programme:**

- *To what degree do you feel you have ‘engaged in’ and ‘adhered to’ the programme over the 6 months during which the programme took place?*
Probes: what has been significant in causing you to 'engage' and 'adhere' in this way?

- Do you feel that an autonomy-supportive coaching approach is important in youth football?
  Probes: why? why is this approach not more common in youth football? in what other ways can coaches support players' autonomy for learning and development?

- What benefits, if any, have you taken from the autonomy-supporting intervention programme?
  Probes: awareness of own behaviours? awareness of supporting players' autonomy to learn/develop? strategies to support players' autonomy (e.g. types of questioning to elicit certain responses)?