

Title of thesis:

The role of coach education in the development of expertise in coaching

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Abstract:

The coach has a crucial role to play in the furtherance of sporting performance however, unlike the athlete, scant attention has been paid to the development of the expert coach. This thesis investigated methods of coach education, which allowed coaches to develop their practice through the adoption of both structured and unstructured processes. It consists of three different studies, examining coach education, support and development, as perceived by sport coaches. The findings conclude that coaches questioned the effectiveness of formal coach education programmes, the support of their NGBs and the sports specific nature of many of the awards. Coaches progress using a variety of methods but key were the informal Communities of Practice (COP), critical thinking skills, a supportive club environment and a personal desire to develop their knowledge base in a range of areas. Some professions have integrated expertise development into education programmes using a variety of methods. Sport coaching should embrace the examples from these and introduce the concept of long term coach development into the coach education framework.

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Chapter 1. Introduction

High performance in sport has been attributed to innovations in sport science, technological advances, training systems and nutritional analysis (LeUnes, 2007). However, little attention has been given to the place of the coach in the furtherance of sporting achievement, as there is an inclination to concentrate on scientific aspects which are perceived as easier to control (Williams & Hodges, 2005). Although the coach has a crucial role to play, the support systems available are generally in place for the performer (Mageau & Vallerand, 2003). Many countries have an infrastructure in place for coach education, continuing professional development and sport science support. This is usually organised under the auspices of a governmental agency, a national governing body of sport and dependant on the country, an autonomous national coach education organisation. As with many systems and structures that involve a number of different organisations, the manner in which they interact to provide the best experience for the coach, through identification, selection, education, employment and deployment, and support the coach to allow him/her to offer the best service possible to athletes, is not often successful in practice (Cushion, 2007).

Over the last fifteen years much emphasis has been placed on the identification and development of sporting talent, with talent identification systems being established in different countries e.g. Australia (Hoare, 2000, Australian Sports Commission, 1996). However, once again this has focussed on performers rather than coaches. In accordance with the findings of Bloom (1985) and Balyi (2001), training for specific

sports should begin at a certain age, usually in childhood with the end goal of expert performance being attained approximately ten years after the commencement of deliberate practice and training. If a similar process were to be successful in identifying and developing coaches, there would be considerable implications for many organisations in terms of their existing provision. This suggests that NGBs, coach education providers, sports clubs and youth organisations would need to work together to provide a performance development pathway for coaches, participants and performers (Houlihan, 2000).

As outlined by Cote, Salmela, Trudel, Baria, & Russell's model (1995), athlete development is multi-dimensional by nature. Therefore, coaches' knowledge across many domains would be beneficial to their performers. This knowledge should be reflected in course content within coach education programmes (Wiersma & Sherman, 2005). Youth sport coaches in most countries typically have sparse formal training and may lack the foundational understanding of the sport and pedagogical concepts needed to make informed decisions when selecting pedagogical content (Gilbert & Trudel, 1999b). Previous research has demonstrated that many coaches do not perceive their coach education courses delivering the type of information that they can utilise to improve their athletes e.g. not sport specific, delivery is not always as prescribed, assessments are performed by rote (Jones & Turner, 2006; Werthner & Trudel, 2006; Fung, 2004; Campbell, 1993). It has also been suggested that the available coach education courses are presented and assessed in a format that does not encourage learning to take place (Gilbert & Trudel, 1999a; Abraham & Collins, 1998; ASC, 1994;

Haslam, 1990). Many coaches attribute their development of coaching knowledge to their own experience and observing experienced coaches (Gould, Greenleaf, Guinan, Dieffenbach, & McCann, 2001; Coaching Association of Canada (CAC), 1998). Bell (1997) identified four stages in the development of expertise within both teaching and coaching as novice, competent, proficient, and expert. Most coach education organisations operate a hierarchical structure, often reflecting four or five different stages or levels of achievement. However these stages do not appear to reflect the competences expressed within the development of expertise (Gilbert & Cote, 2003; Griffey, 1994; Rutt-Leas, 1993). Current coach education courses tend to evaluate coaches on competency which suggests a limited range of skill (Bergmann Drewe, 2000). Conceivably, coaches should be educated, in the fullest sense, allowing them to frame their practice within a much wider belief system. Teacher's beliefs have been shown to influence their teaching style and by extension, their practices so it seems reasonable to suggest that coaches beliefs also influence their actions (Cothran, Kulinna, Banville, Choi, Amade-Escot, MacPhail, Macdonald, Richard, Sarmiento and Kirk, 2005).

Research suggests that to become an expert athletes must spend years of preparation and practice in their selected domain, which normally follows a series of distinct, identifiable stages (Bell, 1997; Berliner, 1994). Schinke, Bloom and Salmela (1995) examined the career structure of expert coaches and identified seven potential stages within their career. These stages are early sport participation, national elite sport, international elite sport, novice coaching, developmental coaching, national elite

coaching and international elite coaching. Much of the debate surrounding expert studies has centred on the definition of expertise or an expert. Early research utilised the concept of experience in a domain constituting expertise but more recently it has been recognised that although experience is a necessary component of expert performance, it does not follow that expertise develops through experience (Narhi, 2002; Krishna & Morgan 2002; Shanteau, Weiss, Thomas & Pounds, 2002). Experts appear to derive more from their experiences than non-experts (Selinger & Crease, 2002; Berliner, 1994). Within coaching, experts have been defined by observation instruments giving a quantitative measure of their behaviour in practice and competition environments (Chelladurai & Quek, 1996; Franks, 1986). More recently, expertise research has examined the general theory of expertise and by extension the principle of deliberate practice (Ericsson, 2003; Ericsson & Lehman, 1996). The study of expertise or how domain-specific knowledge is acquired has its historical roots in cognitive skill acquisition (Vanlehn, 1996). Theoretical foundations for the study of expertise emerge from two opposing views – talent & nature, and practice & nurture, which have led to the emergence of the “interactionist” theory (Starkes & Ericsson, 2003). Expertise can be defined as “a fluid configuration of knowledge, information and situated experience, all of which are apt to change in response to questions arising in highly specific and localised contexts” (Nowotny, 2000, p12). Many aspects of expertise are still under debate, whether in a specific domain or across a number of domains (Shanteau et al, 2002).

Coaching has not yet been recognised as a profession, so the issues of continuing professional development and career pathways will be limited in both their implementation and effectiveness (Lavalley, 2006). Generally a profession is expected to have a scholarly grounding in an academic discipline with a body of knowledge, skills and research in that domain yet Eraut defines the concept of a profession as “the social control of expertise” (2002, p.2). The apparent lack of a defined career pathway and professional recognition could affect the selection, employment and deployment of potential coaches. If coaching is to become a professional career, a more appropriate instrument for evaluating coaching performance will have to be more widely utilised (Mallett & Cote, 2006). Conversely, the teaching profession has well established benchmarks by which to evaluate teaching performance. Many coaches are judged based on a win-loss ratio that does not consider any other relevant factors (Lyle, 1997). There is some debate as to what constitutes appropriate criteria by which to evaluate coaches due to a lack of clarity within organisations as to the definition of coaching effectiveness (Cross, 1997). This has implications for the education and development of coaches at all levels of practice. “Coaching is a complex mix of behaviours, characteristics, knowledge and effectiveness, yet coaches often have not had or not taken the opportunity to be trained.” (Kidman, 2001, p.15). If coaching is to be considered or accepted as a profession there needs to be an established base of knowledge, which all coaches must possess. Knowledge that coaches require, across a number of domains, is similar to the knowledge base required by teachers however the education and training provided to coaches and teachers differ very significantly

(Gilbert & Trudel, 2005). The standards that determine initial teacher education include areas such as professional knowledge and understanding, principles and perspectives, professional responsibilities, professional skills and professional reflection. The utilisation of similar benchmarks or professional standards would assist in developing the key skills of both coaching and professional practice, as well as providing criteria for assessment and evaluation (Knowles, Borrie & Telfer, 2005).

The purpose of this thesis is to investigate methods of coach education, which will allow coaches to develop their practice through the adoption of both structured and unstructured processes. This thesis analyses existing literature and current coaching practice to evaluate the development of expertise within coaching and applies these findings to suggest an alternative construct for coach education.

1.1: Aims

- To contribute to a greater understanding of the complexities of the coaching role, specifically the development of expertise within a highly unstructured environment, by investigating individuals who have both reached that level of functioning as well as those individuals who are striving to develop coaching expertise.
- To examine the effectiveness of current coach education provision, in providing not just sport specific knowledge, but the knowledge and skills required by coaches to both develop their athletes and themselves to their full potential.

- To explore the perceptions of coaches at all levels of qualification in terms of the effectiveness, value, knowledge, skills and importance of formal coach education courses, as well as examining their views on the role of the coach and the development of their coaching philosophy and approach.
- To investigate the inclusion of critical thinking skills, for example, decision making, problem solving, reflection, reasoning, in coach education, to enable coaches to develop the skills of independent learning.
- To utilise different methodologies, both qualitative and quantitative, to gain both a broad perspective and an in depth examination of the barriers and constraints that coaches perceive inhibiting their development.

Within this thesis, aims and research questions were designed as a framework to give direction to the overall programme. As with exploratory research, resulting findings have changed the consequent nature of the studies, therefore a brief overview of the flow and purpose is offered.

A comprehensive review of literature relating to expertise and expertise development was undertaken. Due to the dearth of literature in this area relating to coaching, the concepts of expertise and automaticity were examined in other domains, both structured and unstructured. Considerable similarities were apparent in the context of teaching, particularly the teaching of physical education, which integrated the knowledge into a practical application, similar to that of coaching. Although the complexity of developing expertise and then contextualising it under time constraints symbolises

coaching at the highest level, this must be qualified by stating that elite level coaching does not necessarily equate to quality provision.

Study 1 utilised life history as a methodological tool to explore how elite sport coaches viewed their practice. The purpose of this study was to gain a better understanding of how these coaches of football, hockey and swimming developed expertise. Due to the comprehensive nature of this study, a pluralistic approach was adopted (Krane, Anderson, & Streaan, 1997) to draw from and integrate various developmental theories. In addition, the notion of grounded theory was incorporated (Corbin & Strauss, 1990) as it relates to the life history methodology. These interactions and personal introspections helped form the basis of this research, which focuses on the coach's ability to reflect on their lives. Specifically, the concept of how they see themselves as elite coaches was explored through focussing on their identity development and the processes that they went through in early life that helped shape them and guide them to become the coaches they are today. The outcome of this study suggested that coaches are not aware of what makes them expert, more importantly, they do not perceive it to be the formal coach education courses they undertook.

Accordingly, study 2 was a large-scale investigation examining the respondent coaches' perceptions of their coach education experiences, in particular those aspects of organisation, learning, assessment and value, and eliciting their views of their personal development. This study utilised a questionnaire, adapted from a study conducted by the Australian Sports Commission (2001), requiring answers on a five point Likert scale. Permission to use the questionnaire was obtained from the Australian Sports

Commission. The first section of the questionnaire collected background data, followed by four sections covering issues within coach education organization, course qualification, coach assessment and finally coach learning. The outcomes of this study indicated that there is no difference in the perceptions of coaches, who have just commenced their coaching duties, and hold an entry-level qualification, and those who could be construed as experts in their sport. This prompted re-examination of the development of expertise and the criteria for expertise in the coaching context.

Study 3 utilised digitally recorded semi structured interviews to elicit the views of coaches at all levels of development. The questions for the interview were grounded in the theoretical concepts outlined by a transitional model of learning and suggested by the results of both study 1 and study 2 of this thesis. Interviews were analysed using HypeRESEARCH qualitative data analysis software package (Patton, 2001) enabling me to code and retrieve, build theories, and conduct analyses of the collected data. The findings are presented in three distinct parts; Part A examining the views of novice coaches (Levels 1 & 2); Part B exploring the opinions of developmental coaches (Level 3) and Part C analysing the thoughts of the elite coaches (Levels 4 & 5).

The thesis concludes with a summary of implications, recommendations and suggestions for future research.

Chapter 2. Review of Literature

2.1: Introduction

In the UK, the Coaching Task Force (2002) recently highlighted the importance of the coach within not just performance sport but the wider social agenda of healthy living (PATF, 2003). There are approximately 6.25 million people receiving coaching nationally (SportCoachUK, 2004). Although the coach is integral to the development of performance, many of the studies concentrate on the performers rather than the coaches. This suggests a mismatch between research and practice in coaching. Much debate has surrounded the professionalisation of coaching: in light of the criteria necessary to join other professional bodies in such areas as medicine, law and teaching, this debate is crucial. One of the key benefits of professionalising coach development would be the establishment of a career pathway, affording coaches' similar opportunities and benefits available to other professions (Cassidy, Jones & Potrac, 2004; Lyle, 2002). This would help ensure that effective coaches could develop a career.

From the available literature, it seems that the present criteria (or lack of) to identify expert coaches reveal certain shortcomings. Observation instruments giving a quantitative measure of practice behaviour have previously defined experts (Dodge & Hastie, 1993; Claxton, 1988; Lacy & Darst, 1985). However, this approach fails to appreciate the complexities of the coaching role. The coach, especially if designated a

performance coach, has to acquire many skills e.g. communication, planning, networking as well as develop knowledge in a number of areas such as pedagogy, psychology, sociology. In many situations, the coach has to liaise with a diverse support team, which could include assistant coaches, physiotherapists and strength and conditioning coaches (Mallett & Cote, 2006). The ability to manage all these intricacies successfully should culminate in an effective coaching programme. Coaching expertise is a research focus of the Coaching Task Force (2002) as it has been recognised that the absence of clear criteria to define expertise or indeed to select the best coaches for representative positions is a serious shortcoming. There has been little research undertaken into the coaching process, especially as it relates to performance coaching. Much of the published research has highlighted the practice environment, using a delivery skills approach (Coker, 2005; Alfermann, Lee & Wuerth, 2005; Manos, 2005), whereas research should involve the enhancement of the coaching process, particularly in terms of delineating the role of the expert performance coach. Formal education programs for coaches have only emerged in last 30 years and in most cases are still in the early stages of development (Gilbert & Trudel, 1999b).

The needs and aspirations of coaches are generally neglected in the design of courses, further illustrating that evaluation of coach education programs has become one of the most pressing issues in sport research (Cassidy, Potrac & McKenzie, 2006; Gilbert & Trudel, 2005; Irwin, Hanton & Kerwin, 2005). If quality coaching and guidance are cornerstones in the development of sport, it is vital to educate coaches using methods

that they feel are useful and effective. It could be suggested that the more expert the coach, the more likely they are to improve athletic performance.

2.2: Coach Education Provision

Within the United Kingdom, the coach education provision is jointly offered by National Governing Bodies (NGB) and SportCoachUK (SCUK), formerly the National Coaching Foundation (NCF). Generally, the model utilised is that sport specific content is delivered by the NGBs and the more generic skills are offered by SCUK. This model is not favoured by a number of other countries noted for their coach education provision, for example, Canada and Australia. These two countries have adopted a more integrated model organized and administered by a central body i.e. Coaching Association of Canada (CAC) and the Australian Sports Commission (ASC). This model involves the co-coordinated delivery of pedagogical knowledge, technical knowledge and a period of practical assessment (Campbell, 1993). Research has indicated that this mode of delivery is effective so the question is; why has the UK not adopted a similar mode of delivery (ASC, 2001; Haslam, 1990)? As a result of the conclusions of the Coaching Task Force Report (2002), the United Kingdom Coaching Certificate (UKCC) is presently being tested within a selected number of sports. It is anticipated that the UKCC will become similar to a driving licence for coaches and people will not be allowed to coach without the certificate, similar to the policy adopted in Australia and Canada.

Similar initiatives have previously been introduced within the UK in coaching with disappointing results. During the 1990's a five tier coaching structure was introduced using the Scottish and National Vocational Qualification (S/NVQ) structure. This approach proposed that a series of generic skills associated with coaching could be identified and delivered for each of the different levels, in addition to the sport specific input from the relevant NGBs. This new system did not appear to be popular with NGBs, employers and coaches alike. Much of the course content was only developed at Levels 1 and 2 and there were difficulties associated with coach assessment and accreditation of prior learning (APL). Another more serious factor could be the perceived lack of endorsement by the NGBs. Many NGBs utilised this overview of coach education to evaluate and change their coaching structures; other NGBs did not wish to participate in this process at all.

A further group of NGBs underwent the process but failed to accept the generic coaching skills component as they were not delivered in their own sport specific context. These NGBs required prospective coaches to undertake the generic coaching input in their sport, completely ignoring the theory of the S/NVQ requirements. Another of the main concepts behind this development was the standardisation of coach education i.e. the time taken to gain the basketball coaching qualification at Level 2 was the same as a swimming coach at Level 2. Key to this was the premise that both the sport specific and generic knowledge developed by the coach should be broadly similar. Claims have been made that coaches who attended a 12-hour coach education course

significantly improved their coaching efficacy (Feltz, 1999). This claim was based on the coaches' beliefs in their own ability rather than objective criteria. Although many of their beliefs would have been established through previous participation and experiences, research has concluded that these attitudes are difficult to change through formal coach education courses (Tsangaridou & O'Sullivan, 2003).

Despite a governmental objective calling for mandatory certification of all coaches by 2012 (UK Sport, 2002) and the creation of the best coaching system in the world by 2016 (Department of Culture, Media & Sport (DCMS), 2007), the UKCC is developing slowly. The Bologna Declaration (1999) has stressed the importance of a five-tier structure across Europe. However, reality suggests that the emphasis is placed on levels three, four and five, with levels one and two determined by each country's individual need (Duffy, 2005). Level three is considered to be the level of competency and the ability to develop performance, and in some opinions, the level at which someone should be designated "a coach". Examination of these criteria of competence indicates that the knowledge, experience and craft of the coach are crucial. This is endorsed by the creation of a mythical "complete coach" allowing competences to be determined at each coaching level, with levels four and five reflecting a high performance coach (UKCC, 2004). However, competence does not always equate to effectiveness.

Much recent coaching research has centred on coach burnout (Raedeke, Lunney & Venables, 2002; Price & Weiss, 2000; Kelley, Eklund & Ritter-Taylor, 1999), why coaches leave their sport (Wahl, Bechtel & Cannella, 2005; Cunningham, Sagas &

Ashley, 2001) and various technical and tactical issues particular to specific sports (McNab, 2006; Parker, 2006; Denniston, 2006). Interest and investment in talent identification programmes has grown globally over recent years (Gabbett, Georgieff, Anderson, Cotton, Savovic & Nicholson, 2006; Monsma & Malina, 2005; Helsen, van Winckel & Williams, 2005). The early identification of sporting talent and subsequent development of that talent will not be effective if equal research and investment is not made in the identification, recruitment and development of talented coaches to guide the process. Much less emphasis has been placed on the management of coaches from the recruitment stage to their subsequent development throughout their career. Research has concluded that it takes approximately ten years of training for a talented athlete to reach expert levels. This is called the 10,000-hour or 10 year rule of expertise, which translates to approximately three hours of daily practice (Balyi, 1999; Salmela, Young & Kallio, 1998; Ericsson and Charness, 1994; Ericsson, et al., 1993; Bloom, 1985;). This has resulted in the concept of Long Term Athlete Development (LTAD), which many NGBs are now introducing into their sports and performance processes. The LTAD pathway is designed to develop as many athletes as possible to compete at elite level but also to encourage lifelong sport and physical activity for all (Balyi, 2001). This has significant implications for NGB sport development structures. Does it also follow that expert coaches need ten years of training? If so, this has significant implications for both coach education provision and accreditation of coaches.

2.3: The Role of the Coach

If the role of the coach cannot be clearly defined then it becomes difficult to develop a framework to delineate the differences between levels of coaching. This in turn would hinder effective analysis of coaching competence at these levels. Researchers in this area have concluded that there is a clear differentiation between participation and performance coaching (Lyle, 1999; Cross 1995). The key emphasis within performance coaching is competitive success whereas this is not the case with participation coaching. Does this mean that coaches at the participation level should be qualified at level one or two and when/if they progress to level three; they are re-classified as performance coaches? A case can be made for the role of the expert participation coach – someone who is skilled and experienced in this particular environment. This would also benefit the promotion of LTAD pathways. Experienced, knowledgeable and educated individuals need to be developed to meet the needs of all individuals in sport at all ages and stages. If the joint aims of lifelong sport and competitive success are to be realised then more attention has to be focused on the initial introduction and basic skills of the sport. Many coach educators have suggested that beginner participants should benefit from the most experienced coaches. It would appear that the difference is more of philosophy, for example some coaches are best suited to introduce basic skills and develop these in a fun environment rather than be competition oriented. Philosophies and beliefs of teachers have been linked to both their teaching and learning approaches and their actual practice (Tsangaridou & O’Sullivan, 2003). These decisions and others

reflecting their role within teaching have been made prior to them entering the teaching profession (O'Bryant, O'Sullivan & Raudesky, 2000). This suggests that the hierarchical framework for coach education may not be as valuable as coaches' beliefs would specify them as either a performance or participation coach and no amount of input will change this fundamental principle. This adds weight to the concept of an expert participation coach.

Coaches work in very different environments; some are more controlled than others dependent on a number of factors, for example, type of sport, level of participants, and age of participants and numbers in session. Consider comparing the settings of a ski instructor working with two performers on the ski slope with a basketball coach working with twelve performers in a sports hall. According to Abraham & Collins, "the expert coach is someone who can take account of all of these degrees of freedom (and many others yet to be researched) and still produce a coaching session appropriate to the player or players being coached" (1998, p. 68). Any framework must be able to address the competences necessary at each level but be based on conceptual theory. This conceptual framework should be based on the same principles of LTAD so that the coach is aware of the phases within this development pathway and has the knowledge to deliver the appropriate information. The novice coach and the expert coach have many aspects to consider when selecting appropriate content for a session but is the process of consideration ever explicitly defined?

Quality coaching is now acknowledged as a cornerstone in both player and team development but the role of the coach, and indeed coaching, is very diverse and often not fully understood. The coach may be involved in a multitude of distinct activities but the basic task is to develop and improve the performance of teams and individuals (Lyle, 1996). The coach has to develop a season's plan, improve techniques, skills and tactics for participation/competition, enhance all aspects of mental and physical preparation and manage the individual or team in competitions. In order to do this effectively, the coach must utilise many different types of knowledge to solve problems and ultimately make decisions (Gilbert & Jackson, 2004).

Decision-making has been identified as one of the key roles that define a coach but perhaps the "hallmark" of an expert coach is not simply making decisions but making correct decisions (Nash & Collins, 2006). Coaches are asked to make decisions in a variety of situations for example what practices to include in training sessions, how long to continue with a specific practice activity, whether to concentrate on quality or quantity of training, when to offer feedback to performers and what type of feedback. Coaches also have to make quick decisions in competition regarding tactics, substitutions and positional play often leading to them being characterised as a "master of the instantaneous response" (Lauder, 1993, p 2).

More recently, research has focused on the knowledge of experienced coaches, using a mixture of questionnaires, in-depth interviews and protocol analysis (Cote et al, 1995;

Jones, Housner & Kornspan, 1995; McPherson, 1993). This type of research lacks the capacity to capture the dynamic nature of the coaching situation as it tends to focus on one particular aspect i.e. communication, planning skills, feedback (McPherson, 2000; Bloom, Schinke & Salmela, 1998; Chelladurai & Quek, 1996; Jones et al, 1995; Claxton, 1988). Modern technology has made more sophisticated research possible but the academic study of coaching remains an under-researched area.

The basis for defining coaching, and therefore the job of the coach, must start with the recognition of the various components of that role. Before coaches can be evaluated and designated as expert or otherwise, all dimensions of their performance must be appraised not simply their success, for example, win/loss record (Mallett & Cote, 2006; MacLean & Chelladurai, 1995). Conceptual models have been developed for this purpose within teaching but research has shown that they are not always used in practice. For example, a theoretical model of teachers planning strategies was developed and utilised in academia, whereas the actual models used in the classroom vary considerably (Byra & Sherman, 1993; Griffey & Housner, 1991). The comparison of these models showed different emphases; the theoretical model focused on learning but the actual model concentrated on classroom management.

The academic study of coaching has only recently been the subject of research, mostly as a result of the increased investment in sport, especially at the elite level. It is

imperative that the role of the coach at each level of development is studied, specifically to discover what skills and competencies they acquire at different stages of their career. The derivation of coaching expertise must begin with defining the domain of performance associated with that task i.e. what are the behaviours that constitute an expert coach. According to Abraham & Collins (1998, p. 68) “A coach is someone who orchestrates learning activities and mediates social climate while diagnosing and remediating performance.” This suggests that the coach needs knowledge in many other domains than their sport alone. It implies that there is much more to coaching than merely an in-depth technical knowledge. The coach, as the person in a position of power, must create an environment that provides a structure for learning and is also conducive to open communication, shared goal-setting and collaborative decision-making (Miller & Kerr, 2002). Coaches face the challenge of encouraging learners to be self-directed and intrinsically motivated, while creating an environment that is structured enough to stretch learners into “new domains of complexity” (Larson, 2000).

This infers that coaches need to be aware of learning theory, motivational climate and knowledge construction as well as the technical detail of their sport. Understanding age-related changes as well as perceptions, physical competencies, emotions, social influences and achievement behaviours is critical for the effective coach. They also need to develop communication and decision-making skills along with management and analytical proficiency. This would be very difficult to include within existing coach education programmes for a number of reasons, namely the length of the courses and

the course deliverers. It is difficult, if not impossible, to teach learner autonomy through conventional didactic teaching methods, which most coach education courses are, for the reasons above. A more helpful approach might be to consider the coach educator as a facilitator of learning experiences and opportunities, through which skills can be developed. Skills such as analysis, decision-making, critical thinking and evaluation, all encapsulate the need to reflect and make sense of what has been learned.

Should these areas be deemed essential for coaches this would require much more structured and lengthy initial coaching certificates as proposed by Abraham & Collins (1998). This proposition necessitates the examination of the coach educators along with the current coach education provision. The UKCC appears to be addressing the questions surrounding coach education but as yet, little information is forthcoming concerning coach educators.

As mentioned previously, although most coach education organisations operate a hierarchical structure, often reflecting four or five different stages or levels of achievement, these stages do not appear to reflect skills related to the development of expertise (Gilbert, Trudel, Gaumond & Larocque, 1999; Griffey, 1994; Rutt-Leas, 1993). Experts can derive more information from environmental patterns than novices, for example, in hockey, during a game, a defence player misses a tackle which leads to the opposition scoring a goal. A novice coach may wish to solve this problem by practising tackling in training whereas a more expert coach may note that the problem

occurred, not just because of a missed tackle but also due to a lack of cover and players being out of position. During training, rather than concentrate on the surface issue of one missed tackle, the coach attempts to solve the more abstract problem of poor positional play.

Coaching has not yet been recognised as an established profession, so the issues of continuing professional development and career pathways will be limited in both their implementation and effectiveness (Woodman, 1993). Continuing professional development is viewed as a cornerstone of education policy in the UK (Armour and Yelling, 2004). Schinke, Bloom and Salmela (1995) examined the career structure of expert coaches and identified a potential seven stages within their career. Stages one through three reflected the development of a coaching philosophy, as a result of their involvement in sport as a performer. The final four stages follow coaching development from voluntary positions to international elite coaching level and although the study recognises that all coaches do not progress through all stages, there is no discussion as to what factors limit the development of coaches. The apparent lack of a defined career pathway and professional recognition could affect the selection, employment and deployment of potential coaches.

There has been much research as to the criteria associated with expertise in differing domains as well as developing generic indicators of expertise (Abernethy et al, 2003; Barnett & Koslowski, 2002; Guest, 2001). These propositions are reasonably robust across the different areas of expertise although individual experts in each field do

demonstrate some unique characteristics (Berliner, 1995). Youth sport coaches in most countries typically have sparse formal training and may lack the foundational understanding of the sport and pedagogical concepts needed to make informed decisions when selecting pedagogical content (Gilbert et al, 1999). Within coaching, experts have been defined by observation instruments giving a quantitative measure of their behaviour in practice and competition environments (Chelladurai et al, 1996; Franks, 1986). Lists of observed behaviours have been compiled offering a snapshot of expert coaches' behaviours. Dissatisfaction with behavioural approaches to evaluating coaches led Jones, Housner & Kornspan (1995) to state, "it is imperative that direct observation techniques be supplemented by methods for exploring the thought processes of coaches" (p 203) as these techniques do not address the magnitude of the coaching role. Coaches may be viewed as a manager of the coaching process, a technical advisor, a tactician, and a teacher – is it possible for one person to be expert in all these areas? Many other variables affect the implementation of the coaching process including team or individual sport, age of performer, ability of performer, coaching philosophy, understanding of the coaching process, coaching environment and level of effectiveness. For example, the coaching process utilised with a boys U-12 football team would be markedly different to that used with a mature 21 year old female swimmer. This may indicate that the expert coach is someone who can make appropriate decisions within the constraints of their coaching practice; reinforcing the belief that coaching is a cognitive activity (Lyle, 1999).

2.4: Knowledge Base

A widely cited theory of knowledge content, structure and development was constructed by Anderson (1990), which introduced the concepts of declarative (knowing what to do) and procedural (knowing how to do it) knowledge. Anderson believes that declarative knowledge is acquired prior to procedural knowledge. Procedural knowledge is not merely making the correct decision but knowing how to ensure that the goal of the action is met. It is difficult to argue against a claim that there is a difference between knowing what to do and being able to do it. Many coaches are very good at the former but were not as good as their 'athletes' at the latter (Cassidy et al, 2006). There is, however, no proof that declarative knowledge precedes procedural knowledge in sport (Williams & Davids, 1995). An example of declarative knowledge could be learning the alphabet, a set structure that does not change once learned. Procedural knowledge, also known as conceptual knowledge could be likened to riding a bicycle; harder to explain and requiring constant, minute adjustments (Byrnes & Wasik, 1991). These types of knowledge are hierarchical, with the role of knowledge in expertise appearing to be domain specific. More recently conditional knowledge has been proposed as a third dimension of knowledge - knowing when and where or under what conditions (Eiter & Lukasiewicz, 2000).

If the task of coaching is to progress performance, expert knowledge and its development needs to be better understood and more importantly, applied. In a

knowledge based subject area, education and training to develop skill and expertise is important. However there may be difficulties in using these same experts to raise the knowledge levels in both teaching and coaching as the very components of expertise preclude experts from passing on their skills (Hinds, Patterson & Pfeffer, 2001). This automaticity in accessing relevant information supports the view that a coach who is completely instinctive will not be the most effective at developing novice coaches, as these “intuitive experts” cannot explain their decision-making processes.

Three separate types of knowledge in teaching have been identified – instructional, pedagogical and curricular, which apply to Physical Education (PE) teaching as well as classroom teaching (Kreber & Cranton, 2000). In PE, teachers are assumed to have declarative knowledge regarding exercise, sport and human movement, as well as procedural knowledge on teaching and learning methods (Ennis, Mueller & Zhu, 1991). Experienced teachers are more concerned with managing activities during instruction and providing students with information that facilitate motor skill acquisition, for example, assessment, feedback, demonstrating and focusing student attention on critical aspects of the skill (Griffey et al, 1991). The less experienced teachers tend to try to control activities more closely perhaps due to a lack of confidence and familiarity with the environment. The award of qualified teaching status indicates a general ability within a wide age range. Teachers tend to gain knowledge with a particular year group and this knowledge does not always follow the teacher if they move to a different age group (Berliner, 1992).

The standards required of a teacher of PE are not purely instrumental but they should be viewed within a framework of knowledge based fields such as subject knowledge (foundation disciplines on which subject study is based), process application knowledge (how to teach subject matter) and contextual knowledge (curriculum programmes, their organisation and structure). These benchmarks allow both the student teacher and the educational institution to evaluate performance and knowledge through a mixture of theory and practical assessments (SOEID, 1998). These particular benchmarks, although applicable only to Scotland, are agreed by a number of key agencies and recognised worldwide as an initial standard.

Similarly, coaches should be expected to have declarative knowledge about the specifics of their sport; tactics, training techniques as well as procedural knowledge regarding the pedagogical process (see Figure 2.1 over).

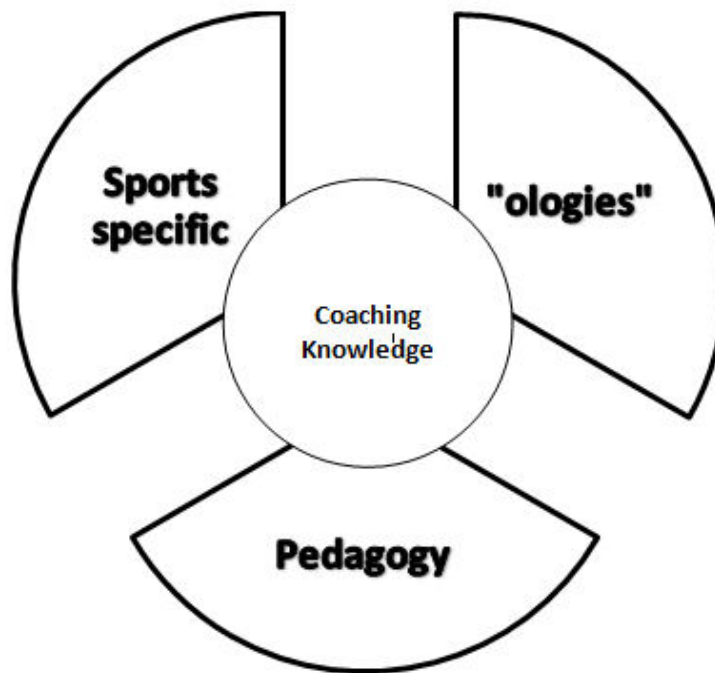


Figure 2.1: Proposed knowledge systems in coaching. Adapted from Kreber & Cranton, 1997.

Coaches must also make use of the “ologies” i.e. psychology, physiology, kinesiology & sociology to improve the performance of their athletes. Again, this model seems to suggest that coaching knowledge “appears” as a result of these three types of knowledge. It does not, however, appear to address the process of how these separate areas of knowledge interact to develop domain specific knowledge in coaching. It has been recognised that “differing stages of development required different skills” suggesting that coach education courses should incorporate more knowledge based activity (Schinke et al, 1995, p. 57).

In a study comparing expertise in both coaching and PE teaching, the indications were that expert coaches do not generally exhibit the same pedagogical characteristics in their teaching role as their coaching role (Hardin & Bennett, 2002). This is an important point as the subjects in this study were PE teachers who were also coaches; perhaps indicating that their approach changed with the purpose. This could relate to their knowledge base, which is of importance, but judgements on expert status are made on how knowledge is utilised in practice, rather than knowledge alone (Kreber, 2002). Perhaps the influence of the different roles, PE teacher and coach, would have an effect on the emphasis of the knowledge base. There are also considerable differences in the training times for PE teachers and coaches, which could account for differences in the knowledge base. It must be emphasised that coaches, like teachers, require knowledge from a number of different domains but the education provision is very different (Gilbert & Trudel, 2005).

The complex relationship between knowledge, expertise and experience is one that has raised many questions. In some situations, the words knowledge, expertise and experience are used interchangeably, but incorrectly. It is an observed fact that people can coach for many years without appearing to learn from their experience (Rutt Leas & Chi, 1993). Many coaches wish to develop knowledge and choose to do so in a variety of manners, including attending coach education courses, reading books, networking, observing other coaches and mentoring (Bloom, Stevens & Wickwire, 2003). This suggests debate as to whether the knowledge learned through these mediums

necessarily translates into expertise or even competence. A number of researchers postulated that the types of cognitive processes that sports performers utilise during competition are linked to their knowledge base of that specific task (McPherson, 2000; Moran, 1998). This would mean that experience of the game is important to the cognitive process of the performer. This implies that as the cognitive processes of coaches' link to their knowledge base they are more able to interpret a game if they have played it.

In a study of teaching, Norris (2000) criticised the view that teachers' personal knowledge, constructed based of teaching experience, is superior to theoretical knowledge on teaching. He proposed that as theoretical knowledge has no real relevance to teachers, it cannot be directly applied to practice. This lends weight to the theory of situated cognition, proposed by Dodds (1994) whereby knowledge is jointly constructed by interacting with the situation in which one encounters a problem. Noice & Noice (2002) reinforce this within acting, stating that the active learning principle is the most effective. In social work, Van der Heijden (2002) advocates the concept of conditional knowledge, suggesting that expertise is defined by knowing what the most appropriate action under differing conditions is. Research on expert knowledge is consistent with this conceptualisation that contextualisation is the key. Experts draw on a well-developed repertoire of knowledge in responding to problems in their respective domains (Abernethy, Farrow, & Berry, 2003; Starkes & Allard, 1993). This knowledge tends to be procedural in nature and to reflect the situation more closely than the

structure of formal disciplinary knowledge (Sternberg, 2003). Saury and Durand (1998) suggest that the expert coaches understanding of professional situations can be based on specific structured knowledge, which can be accessed instinctively or tacitly.

Tacit knowledge has been used to characterise the knowledge gained from everyday experience that has an implicit, unarticulated quality (Sternberg, 2003). It has been referred to in various forms; implicit knowledge, practical intelligence, working knowledge (Vereijken & Whiting, 1990; Wood, Bandura & Bailey, 1990). Tacit knowledge is often not openly expressed or stated, therefore individuals must acquire such knowledge through their own experiences. Polanyi (1983, 1974) pioneered work in this area, recognising the importance of first hand experience during training, for example, student teacher training. Furthermore he also theorised that more complex skills could not be taught through traditional methods. However, if tacit knowledge is instinctive, can it be taught and learned?

Although people's actions may reflect their knowledge, they may find it difficult to articulate what they know and this contributes to the mystery surrounding tacit knowledge. As coaches develop expertise the process appears to become less well-defined, perhaps because these coaches are not aware of the reasons behind their decision-making. "Therefore, as expertise grows, greater reliance is placed on intuitive feeling to guide performance" (Davids & Myers, 1990 p 275). This implies that tacit

knowledge is of benefit to coaching and coach education as it helps to explain the seemingly instinctive actions of expert coaches.

Tacit knowledge is knowledge gained primarily from experience; performing practical, everyday problems. This relationship is built largely by the direct effect of experience on the acquisition of job knowledge and generally increases with experience. It has been assumed that knowledge is transferable but as tacit knowledge is considered unconscious this may be questionable. As previously mentioned some coaches are very good at introducing the game to developing athletes but cannot coach performance athletes. A link has been identified between the instructional styles of classroom teachers' and their tacit knowledge of their childhood play, which assists them in understanding their pupils (Witte, Everett-Turner & Sawada, 1991).

General cognitive ability is considered by many to be the best single predictor of job performance (Dreyfus & Dreyfus, 1986). The relationship between this ability and performance is attributed largely to the direct influence of this general cognitive ability on the acquisition of job-related knowledge (Sternberg, 2003). This correlation has been confirmed by tacit knowledge tests, which consist of problems that are poorly defined and context-specific. In some business environments, group-based tacit knowledge has been seen as the basis for competitive advantage (Berman, Down & Hill, 2002). This relates to Schön's characterisation of reflective practice, as problems are generally not easy to solve and require careful analysis of all components and context (Schön, 1987).

2.5: Stages of Development

Research suggests that to become an expert one must spend years of preparation and practice in a selected domain, which normally follows a series of distinct, identifiable stages (Bell, 1997; Berliner, 1994). The seminal work of Bloom (1985) identified key stages in the development of talent across a number of domains, including sport: early years, where enjoyment was key, middle years, where there was an increased commitment to the talent field and the later years, where talent is refined through hours of practice under the guidance of an expert in the field.

The model for expertise development in medicine is similar to developmental models in other professional areas, comprising of acquisition of biomedical knowledge, practical experience and amalgamation of these two into knowledge encapsulation (Boshuizen & Schmidt, 1992). It has not yet been completely explained how this integration or amalgamation phase occurs, whether as a direct consequence of both knowledge and practice or if there are some other influencing factors. Within nursing studies, assessments regarding competence are underpinned by reference to Benner's framework, which ranges from novice to expert (Cleaver, 2003). This enables behaviour demonstrated during practice to be directly mapped to a model which determines ability, thus establishing the stage of development in nursing.

The influence of psychological theories and perspectives has provided knowledge in areas of teach/coach effectiveness, student behaviour management, academic learning time, student cognition, and teacher decision making (Schempp, 2003). Performance psychology is also a growing area and theories of performance development usually specify three stages of development as novice, intermediate and high level. These three stages of development share similarities to Bloom's model of talent development and Bell (1997) has identified four stages in the development of both teaching and coaching as novice, competent, proficient and expert. This appears to have resulted from a five-stage model within teaching attributed to Dreyfus & Dreyfus (1986). The levels of development; novice, advanced beginner, competent, proficient and expert, show great likeness to many other models whether they reflect three, four or five developmental stages. It should be noted that very few people reach the level of expert (Berliner, 1994).

Few coaches have been recognised as experts from their development as a result of coach education programmes (Jones & Turner, 2006) as many have decided that formal qualifications have little value in developing their knowledge as elite coaches (Cushion, Armour & Jones, 2005). Coaches also develop at different rates and appear to ultimately reach a level past which they cannot progress (Dodge et al, 1994). There does appear to be a number of individual routes to become an elite coach, including interaction with other coaches and mentoring. However, at present generally elite

coaches do not perceive existing coaching awards to be a useful tool for their development (Irwin, Hanlon & Kerwin, 2004).

2.6: The Concept of Expertise

Although the concept of expertise has received much attention in recent years in a number of domains, the definition of expertise in sport coaching is an area that is under researched and at present, it is a role that is not clearly identified. Expertise and experts are important in modern life as many key decisions can be routinely delegated to experts in different spheres of influence (Selinger & Crease, 2002). Much of the debate surrounding expert studies has centred on the definition of expertise or an expert (Nowotny, 2000). Expert statements are routinely questioned by counter-experts, making the designation of “expert” difficult to comprehend. Research suggests that expert predictions may now be surpassed by simple linear regression models (Camerer & Johnson, 1991).

Expertise has been investigated in a variety of domains with a number of propositions being made regarding expertise. This has been tested in a variety of contexts for example chess, music, clinical diagnosis and sport (Westerlund, 2006; Abernethy et al, 2003; Cleaver, 2003; de Groot, 1978). Early research utilised the concept of experience in a domain constituting expertise but more recently it has been recognised that

although experience is a necessary component of expert performance, it does not follow that expertise develops through experience (Krishna & Morgan, 2002; Narhi, 2002; Shanteau et al, 2002). However, experts do appear to derive more from their experiences than non-experts (Selinger & Crease, 2002; Berliner, 1994). Many of these initial expert/novice studies were carried out using areas with a defined structure; where there was a right and wrong answer for example computer programming, physics and chess. It seems that it would be easier to define an expert within these fields rather than in ill-structured, constantly changing environments where speed is of the essence, for example, teaching and coaching (Krishna & Morgan, 2002; Berliner, 1994).

More recent research has suggested that there are two different classifications of expert, routine and adaptive, indicating that those designated as expert in a rote task may not be as skilled as those who adapt to changing or dynamic situations (Barnett & Koslowski, 2002; Guest et al, 2001). Expertise research has been an important testing ground for theories of human cognition, especially skilled memory theory, long term working memory and embodied cognition (Noice & Noice, 2002). Recently it has been proposed that professional expertise consists of five components; knowledge, meta-cognitive knowledge, skills, social recognition and growth and flexibility (van der Heijden, 2002), although other research does not support this (Bereiter & Scardamalia, 1993, Ericsson, 1996). It is also acknowledged that this type of research is in its infancy and still very much domain specific, lacking a theoretical framework. Beliefs regarding expertise have largely been framed within the constructs of cognitive psychology (Billett, 2001).

Experts appear to derive more from their experiences than non-experts perhaps as a result of their superior memory (Selinger & Crease, 2002; Berliner, 1994). Experts form abstract representations and concepts that have been labelled moderately accurate conceptual representations (MACR), which, as experts do not memorise verbatim, allows them more working capacity in memory tasks (Zeitz, 1997). MACRs are also advantageous in domains that involve tasks that are not as well defined, such as livestock judging, where a large number of dimensions of animal quality are integrated into three combined categories of information (Shanteau et al, 2002). This could be likened to a coach judging the quality of a performance.

Experts are also able to recognise patterns faster than novices (Glaser, 1990). The classic examples of expert pattern recognition came from experiments carried out using chess masters and novices, with the conclusion being that experts can not only recall larger patterns of chess pieces but more of them than those who are less expert (Chase and Simon, 1973). This points to highly developed procedural knowledge of these patterns, with little or no need for recall of declarative information of why these patterns occur, which may interfere with the working memory. Chess, however, is a highly structured domain, especially when compared to the ill structured domains of coaching and teaching, although it has been suggested that similar distinctions are observable in novice/experts studies in less structured domains (Shanteau et al, 2002).

Experts generally tend to approach problems in a different manner than novices with studies of medical expertise finding a strong correlation between forward reasoning and accuracy of performance (Patel & Ramoni, 1997). When solving a problem, the individual will look for the easiest solution, the one that involves the least challenge on cognitive resources, using demanding problem-solving strategies only when there is no other option (Anderson & Leinhardt, 2002). Generally, the first step used by people familiar with the situation will be the retrieval of a known solution from long-term memory. If it is not possible to retrieve this solution, then the individual will access a set of cognitive rules, regarding relating to the solution (Vanlehn, 1996).

These cognitive rules, or principles, are applied more by experts than novices (Marshall, 2002). Expert problem solvers tend to work forward from the given information to the diagnosis—the less expert tend to work backwards, using a hypothesis, back to given information (Patel & Ramoni, 1997). Improving problem solving ability has shown students of chemistry to be deriving additional knowledge from their study, and developing skills of reflection (Sutherland, 2002). Recently, in a succession of causal analyses, it was determined that divergent thinking affected creative problem solving in a manner that could not be attributed to intelligence or expertise. However, the contribution of intelligence and expertise to creative problem solving must still be recognised (Vincent, Decker & Mumford, 2002).

Significant advancements have been made in the domain of “teaching scholarship” over the past decade at both the level of theory or model building as well as the level of programme development but there is still considerable ambiguity in the meaning of the

concept (Paulsen & Feldman, 1995). “The purpose of these models ranges from explaining the attainment, development and conceptualisations of the scholarship of teaching to showing how it differs and overlaps with other facets of scholarship” (Kreber 2002, p.6).

Within the artistic field, there is little agreement on the determinants of true expertise in literature, music and acting, especially amongst critics (Ericsson, 1998; Sloboda, 1996; Hagen, 1991). Noice & Noice (2002, p.15) “have proposed that proper training and deliberate practice are the critical elements leading to expert performance, and that if hereditary influences do exist, the locus of these influences is apt to lie within motivational factors” within acting expertise. This is not universally supported as opponents of the practice view believe that creativity cannot be practiced (Sternberg, 1996).

Quality coaching and guidance are two of the cornerstones in the development of sport, therefore it is important to identify the elements that contribute to the development of expert coaches. Successful coaches are those who adapt their behaviour to meet the demands of their particular coaching environment (Jones & Armour, 2000; Potrac, Brewer, Jones, Armour & Hoff, 2000; Lyle, 1996). Expert coaches are thought to operate instinctively but could they be making decisions faster than others as a result of implementing these components of expertise? Is this “gut feeling” decision-making

actually tacit knowledge? Consider the example of the baseball hitter – he has to react to the pitch before the ball is thrown due to the distance and speed of reaction times. Therefore, he has to respond to various cues – the pitcher’s positioning and stance, the position of the ball and glove, the wind up – in order to “guess” where to hit. The hitter has also stored memories/knowledge of thousands of previous pitches, from this pitcher and others. The hitter would probably not be able to explain why the choice was made to swing or not. The hitting coach might also find it difficult to explain the coaching methods used to instil the knowledge necessary for this type of decision-making, if indeed it was specifically addressed.

2.7: Development of Expertise

As expertise increases, mental representations become more abstract, suggesting that experts process information in a more intangible manner (Hinds et al, 2001; Gobet & Simon, 1998). Novices frequently concentrate on irrelevant information when making decisions. It has been suggested that increasing declarative knowledge will increase the learners’ ability to determine the most appropriate information, thus improving their effectiveness (Bromme, Rambow & Nückles, 2001). This ability to access different types of information quickly demonstrates that fundamental analysis may play a part in expert induction (Shafto & Coley, 2003). Experts draw on a well-developed repertoire of knowledge in responding to problems in their respective domains, for example, the sports coach will require knowledge in many areas such as, tactics, skills,

communication, practice organisation, management and development. This knowledge tends to be procedural in nature and the coach is said to respond to the particular situation in an instinctive manner (Sternberg, 2003).

It is generally accepted that expertise is domain specific and performance sport is further subdivided into being a sport specific expert; an expert ice skater can not be expected to be an expert swimmer. In team sports, research has suggested this could also be extended to include positional play; for example midfield, defence & forwards (Janelle & Hillman, 2003; Starkes & Allard, 1993). If this premise is accepted, can domain specific expertise therefore be extended to coaching?

Saury & Durand (1998) concluded that early exposure and prolonged experience were key factors in the development of expertise. They also noted that motivation and social climate as well as the commitment to long-term practice were essential. This correlates well with Ericsson's definition of deliberate practice as "any activity designed to improve current performance, but it is not play, not work and not observing others perform. Practice is always relevant to performance, always effortful, and not inherently enjoyable." (Ericsson, 2005, p.391).

The emphasis is on the role of practice in the development of expertise within any domain but requires the practice to be meaningful before any development can take place. The implications for coaches are twofold – firstly coaches must be able to

organize practice to enhance their performers' skills. Secondly, coaches must be able to undertake activities designed to improve their own coaching practice. This places the sports coach at a considerable disadvantage, as currently the principles of deliberate practice are not included within the mainstream coach education courses.

There are also implications regarding the amount of practice that a sports coach can accumulate as a general rule. Consider that the expert teacher will have spent a minimum of 10,000 hours in the classroom as a teacher, preceded by about 15,000 hours in the classroom as a pupil (Berliner, 1994). This appears to indicate that expert coaches develop from top players. However, other recent research suggests that past experience as a performer does not always enhance learning (Salmela, 1995). Expertise in teaching can also develop through knowledge of students in a number of ways. Knowledge of the cognitive abilities of students allow the teacher to gain insight regarding the level at which they teach (Ennis et al, 1991). Personal knowledge of students enhances the expert teacher's classroom management skills, allowing them to concentrate on the learning environment (Berliner, 1996). The students' knowledge of the teacher expectations enables clear learning outcomes to be set (Siedentop & Tannehill, 2000). The types of knowledge the expert teacher accumulates is similar to that of the performance coach, that is knowledge of the sport, knowledge of the learning environment and knowledge of the performer, highlighting the close bond between coach and athlete in this situation.

2.8: Nature of Decision-Making

If one of the primary roles of the coach is to make decisions then surely one of the primary aims of coach education programmes would be to develop effective decision makers (Abrahams & Collins, 1998). When a problem is presented, basic elements are identified and a solution is created from knowledge stored in the memory. In studies comparing experts to novices, experts' knowledge is structured to allow easier recall from memory, experts sort problems into categories according to features of their solutions and experts develop routines to allow processing capacity to be focussed on constantly changing situations (Kreber, 2002; Guest, 2001).

The questions which then have to be asked are how does a coach develop decision making skills and when these skills are developed does the subsequent decision making then appear to be spontaneous? "The experts can't tell you how he does what he does" so does this suggest that the decision-making is instinctive? (Vickers, Livingston, Umeris, Bohnert & Holden, 1999, p 28). Decision-making is said to be a cognitive activity, selecting the most appropriate course of action, from a repertoire of alternatives, given the specific situation. This would appear to contradict the concept of "gut feeling" decision-making. Think of the difference that a coach can make to the outcome of a game by calling a time-out, seemingly based upon intuition. According to Etringer, Hillerbrand and Claiborn (1995), experts differ from novices in both coding and use of information. This corresponds with Anderson's (1990) concept of problem

representation, where experts are able to recognise the most relevant information in, and attach deeper meaning to, problems that are encountered. This would then “...raise the issue of whether mental processes and movement skills are activated by features of the environment and operate outside of conscious awareness, or whether people consciously control nonconscious processes.” (Singer, 2002, p366). Rather than being bound by rigid criteria, experts can utilise MACRs, or problem schemata, to get a best fit to context, which could be a different approach than novices (Zeitz, 1997). In the coaching context this could be the coach calling a time out as in the example above or making a substitution. This concept of situated learning, which recognises the contextualisation of practice, is considered central to coaching according to both Sullivan (2005) and Nelson et al (2006).

In less exact sciences which best describe coaching there may not be one decisive rule with which to solve problems – several broad problem-solving rules may be needed to solve the overall problem. Coaches may also utilise MACRs, the abstract concepts both allowing more working memory to be utilised and contributing to the notion of automaticity (Nash & Collins, 2006; Zeitz, 1997). The way in which experts use these rules is termed a breadth-first approach. Due to the expert’s problem-solving approach, it would appear that not only do experts have more and better organised procedural knowledge but also better-organised declarative knowledge (Bromme et al, 2001). However, this expertise is not a function of increasing or decreasing certain behaviours. Rather it is the knowledge of making correct decisions within the constraints of the

session. Thus coaching is not a behaviour to be copied but a cognitive skill to be taught (Lyle, 2002).

Along with this specific knowledge, the on-the-job experience of coaches appears to be one of the main sources of their expertise (Gould, Guinan, Greenleaf, & Chung, 2002). As with expert teachers, coaches may form contextualized procedures of problem solving and organizational acts allowing complex situations to become more manageable. The coach would appear to act appropriately, not necessarily based on deductive reasoning and rational thinking, but by having dealt with similar situations in the past and recalling solutions to enable an apparently intuitive remedy. Many coaches have admitted to learning some difficult lessons by using a trial and error approach and generally, this approach is not encouraged (Bloom et al, 2003). Tacit knowledge can be developed using a problem-solving approach, so should this be considered as an integral part of coach education provision?

Coaching is a very complex and dynamic task, often carried out in an ill-structured, constantly changing environment. The expert coach can operate effectively within this context, making decisions, solving problems, and operating on an automatic level. Many of the coach's actions appear instinctive but are actually based on a complex interaction of knowledge and memory of similar situations, honed by years of experience and reflection (Schön, 1987).

2.9: Reflection & Reflective Practice

Reflective practice has come to be recognised as a core element of professional expertise and has been particularly prominent in education, healthcare and social policy professions (Christie & Kirkwood, 2006; Lindsay, 2006; Heron, 2005). Reflective practice can refer to the ability to analyse one's own practice, the incorporation of problem solving into learning by doing, or application of critical theory to the examination of professional practice. The importance of reflecting on what you are doing, as part of the learning process, has been emphasised by many investigators (Argyris, 1998; Crisfield, 1998; Schön, 1987).

Recent literature has established the importance of reflection in ongoing professional development (Cronin & Connolly, 2007; Mamede & Schmidt, 2005; Boud & Walker, 1998). Schön (1985) develops this argument further by claiming that reflective practice is one of the cornerstones of a profession. Although coaching is not currently viewed as a profession in the traditional sense, there are considerable attempts to address both initial education and ongoing accreditation and reflection should play an integral role in this development. Indeed reflective practice is a benchmark in many established professions, for example, teaching and law and the ability to reflect on professional practice is one of the traits of developing expertise (Mamede & Schmidt, 2005). One of the key benefits of professionalising coaching would be the development of a career

pathway, affording coaches the opportunities and benefits available to other professions, ensuring that effective coaches could develop a career.

Although it has been demonstrated that attendance at coach education courses increase the knowledge base of the coach, research suggests that merely attending such a course will rarely improve the overall effectiveness of the coach (Abraham & Collins, 1998). These aspiring coaches need to make contacts within coaching environments, network, set goals for their development, gain valuable experience and reflect upon that experience. “Perhaps even more central to adult learning than elaborating established meaning schemes is the process of reflecting back on prior learning to determine whether what we have learned is justified under present circumstances. This is a crucial learning process egregiously ignored by learning theorists.” (Mezirow, 1990, p. 5). Dewey's (1933) philosophy has influenced the development of several theories of how individuals construct knowledge through experience (for example Kolb, 1984; Schön, 1983). The common thread among these theories is that knowledge and learning are fundamentally embedded in the activity and context. Furthermore, knowledge construction is dependent on reflecting on problems encountered in the activity. Schön's theory highlights the construction of domain-specific knowledge in the context of professional practice, an essential aspect in coaching, where coaches construct coaching knowledge through coaching experience.

Studies have indicated that when coaches have been exposed to the principles of reflective practice they are more likely to consider their coaching practice in a wider context and the use of coaching portfolios encouraged coaches to exchange ideas with one another and pursue professional development goals (Knowles et al, 2005; Hubball & Robertson, 2004). The majority of these studies have been carried out in the context of higher education rather than coach education, where engaging with the reflective process and completion of logbooks are assessed (Nash, 2004). Investigations out with educational institutions have shown that there are difficulties associated with the implementation of reflection within coaching practice. These difficulties are not related to the act of reflection but more with the organisation and professionalisation of coaching, for example, short term contracts and a lack of professional accountability (Knowles, Tyler, Gilbourne, & Eubank, 2006).

Coaches must continually strive to become more effective and an essential element of improving coaching practice and developing expertise is the process of self-reflection. Self-reflection can be utilised when solutions to professional problems are not immediately obvious requiring the capacity to reflect on the best possible solution to individual situations (Eraut, 2002; Schön, 1987). Within the practical coaching situation, it can be used as a tool for the coach, enabling them to learn by relating theory into actual coaching environments (Crisfield, 1998). The mentor can be instrumental in helping to develop the skills of self-reflection.

2.10: Mentoring

Mentoring is acknowledged to be a dynamic, reciprocal relationship within a working environment, generally involving an individual with more experience in a specific field, the mentor, and a less experienced individual, often a beginner in that field (Wright & Smith, 2000; Weaver & Chelladurai, 1999). The relationship between the two individuals should be one based on mutual trust and respect and should allow both to develop their respective skills while the mentoring arrangement exists (Bloom, Bush, Schinke, & Salmela, 1998). Initially, however, the mentor has the relevant experience and generally more power, or influence, within an organisation. The success of any mentoring relationship relies on the mentor allowing the beginner to extend their knowledge and play a more dominant role than at the outset. In some organisations and mentoring situations, the idea of the mentor relinquishing authority, especially to a beginner, is a difficult concept to introduce (Fagenson, 1992).

Many businesses and organisations introduced mentoring programmes in the 1980s with the aim of enhancing the quality and productivity of their employees (Healy and Welchert, 1990). More recently academic institutions have followed their lead and it is now accepted that becoming a mentor can enhance career development (Scandura, 1992). Many have mentor-training programmes in house that allow potential mentors to network across the institution. This interaction can benefit the mentors as it allows them to widen their circle of influence and be recognised as contributing to the organisation

as a whole. It has also been demonstrated that successful mentoring programmes have a positive effect on the participants, specifically those involved tend to be more loyal to the organisation, experience more job satisfaction and become higher achievers than those not involved in such schemes (Fagenson, 1992; Newby and Heide, 1992).

Coaching involves a practical element and in order for the coach to become more effective, they must be able to apply the knowledge gained from courses specific to their coaching environment (Douge, Alexander, Davis & Kidman, 1994). Many organisations in different countries have identified that the most appropriate method of developing effective coaches is through some form of apprenticeship or mentoring programme (Bloom et al, 1998; Thomson, 1998; Tinning, 1996).

Mentoring is a process that covers many different types of environments and relationships, ranging between informal and formal (Galvin, 1998). A formal approach may involve developing effectiveness within a structured programme, which tends to be more widely used within the business environment (Wright and Smith, 1998). Informal mentoring may consist of a more casual relationship. Regardless of the type of approach, it is important to regard mentoring as a process, as this reflects the ongoing nature of the relationship, irrespective of the environment (Schweitzer, 1993; Newby and Heide, 1992).

Many other countries, such as Canada and Germany, are further developed than the UK in that they have already have mentoring programmes fully integrated with their coach education process. The Coaching Association of Canada (CAC) recognises three approaches to mentoring; supervisory, informal and facilitated. Supervisory mentoring implies that the mentor also has some authority over the beginner, often in a manager/worker type of relationship, while informal mentoring suggests that the mentor is often a friend or acquaintance. Facilitated mentoring is a formal relationship based within an organised structure and extensive utilisation within their programmes has led the CAC to believe that facilitated mentoring is the most effective approach for the Canadian coaches (Thomson, 1998). The German coach education system, after unification, has encouraged and facilitated mentorship opportunities from participant to elite levels (Kozel, 1997). Coach education level 1, 2 and 3 courses are administered by the DFB (German Sports Council) and offer the opportunity for both formal and informal mentoring (Campbell, 1993).

Mentoring programmes can help establish a pathway for coaches, to enable them to develop key skills in a form of apprenticeship programme. In order to understand the transitions that coaches have to make to continue to develop along this pathway a more holistic approach should be adopted (Gilbert, Cote & Mallett, 2006). Career transitions are cyclical and continuous and based on ongoing learning and development (Boshuizen, Bromme & Gruber, 2004).

The UK Sport Council's plan to develop coaches also considers the close link between mentoring and apprenticeship by exploring opportunities to link mentoring schemes to coaching degrees or diplomas (UK Sport, 2002). So far, this type of programme has not been introduced in any organised fashion within the coach education structures although some local authorities and national governing bodies have attempted to introduce the concept of mentoring. Examples of this include a programme administered by South Lanarkshire Council, targeting a small number of coaches in specified sports (South Lanarkshire, 1999) and another larger scale project in Manchester.

2.11: Continuing Professional Development

Continuing professional development (CPD) describes any activity, whether a formal course or personal study, that helps further many types of careers by increasing skills, knowledge and understanding. CPD is common in a number of professions and mandatory in many, for example, teaching and law. CPD activities include lectures, seminars, workshops, practical activities, videoconferences, online learning, congresses, conventions, in-house company training and other forms of face-to-face and distance learning programs.

Professional bodies use ongoing programmes of CPD for the maintenance of professional standards, for example, lawyers are required to complete a minimum of 16 hours of CPD per year; at least 25 per cent must consist of participation in accredited training courses (The Law Society, 2007). Teachers must demonstrate an ongoing commitment to maintain their professional expertise through an agreed programme of

continuing professional development. As a principle of educational policy in the United Kingdom, teachers will be developed in a logical and structured way from the moment they enter the profession until retirement (Armour & Yelling, 2004). Teachers in the UK are currently expected to meet the full commitment of 35 hours a year fulfilling CPD requirements. Benefits of CPD programmes are said to be improved retention, enhanced learning and raised standards (Whitmore, 2002).

Research, undertaken by Skills Active in 2007, identified the potential to both increase participation in sport and physical activity as well as in creating sustainable career pathways for sports coaches. This will also meet the acknowledged coaching workforce needs within the UK. Currently there are clear and consistent signs of skills shortages and gaps but, through developing coaching skills and creating the cross fertilization of coaches between sports, this will generate more opportunities for career development and employment (Sport Coach UK, 2007). This would tend to suggest that the needs of coaches who are working at the participation level may be addressed but does not engage with the process of developing performance or expert coaches. The development of a career pathway would be a beneficial advance towards the professionalisation of coaching, whether this is aimed at the coaches working with full time athletes and teams or those working at the introduction to sport level. Should this happen, there will be an identified need for ongoing training and development of coaches in the form of CPD. Presently there seems to be an acceptance of the demands of CPD by recognised professions but will busy coaches, often not full-time and voluntary, take time out of

their demanding schedules to attend when the benefits may be deemed intangible (Gauthier et al 2006)?

2.12: Summary

2.11.1: Main Finding of Existing Research

Coaching is a very complex and dynamic task, carried out in an ill-structured, constantly changing environment. The expert coach can operate effectively within this context, making decisions, solving problems, and operating on an unconscious level (Lyle, 1996). Many of the coach's actions appear instinctive but are actually based on a complex interaction of knowledge and memory of similar situations, honed by years of experience and reflection (Schon, 1987). Expertise can be defined as “a fluid configuration of knowledge, information and situated experience, all of which are apt to change in response to questions arising in highly specific and localized contexts” (Nowotny, 2000, p. 12). This demonstrates the diverse nature of coaching but also implies that not all coaches, no matter how long they remain in sport, can become experts. More knowledgeable coaches, who are able to prepare and conduct programmes effectively, would enrich sport and the development of elite performers.

The effectiveness of generic coach education, although fulfilling many aims, has been questioned (Gilbert & Trudel, 1999; Woodman, 1993). Undoubtedly it has been utilised

in many countries, by differing organisations for a number of sports (Campbell, 1993), but is this method of delivery the most appropriate to meet the needs of the coaches and coaching or to cope more effectively with the increasing demand in a cost-effectiveness manner? This is especially relevant as the perceptions of US coaches are “the two most important knowledge sources that helped coaches to develop their own coaching style were their own experience and other successful coaches” (Gould, Guinan, Greenleaf, & Chung, 2002, p233).

The requirements and ambitions of coaches are usually not considered in the design of courses, further illustrating that evaluation of coach education programs has become one of the most pressing issues in sport science research. If quality coaching and guidance are cornerstones in the development of sport, it is vital to educate coaches by using methods that they feel are useful and effective. It could be suggested that the more expert the coach, the more likely they are to improve athletic performance. There is a vast amount of expertise research in many domains but there is a lack of fundamental insights into how it is acquired and how it can be taught (Van der Heijden, 2002).

2.11.2: Areas for Investigation

Coach education courses, traditionally sport-specific in presentation, are often considered synonymous with the passing of coaching awards but many of these

certificated courses do not deal with education in the accepted sense (Lyle, 1992). Different levels of coaching require different skills from the coach, and these should have their basis in learning theory (Schinke et al, 1995). If coach education programmes are only one part of the development of coaches, how should this integrate with other learning opportunities to enable coaches to learn throughout their coaching careers? Athletes' needs cannot be served if coaches are not able to reflect or do not have the knowledge base to question themselves (Kidman, 2001).

The earlier diagram (Figure 2.1 p.24) proposed that there were three components of coaching knowledge, yet it did not address how this knowledge was gained or, more importantly, how the components interact. Development models are often displayed in a hierarchical structure, suggesting that knowledge development is merely a cumulative function. If Figure 2.1 is unrolled to form Figure 2.2 below, it certainly follows that there is a hierarchical structure but it is proposed that coaches must build a solid base in all of these areas.

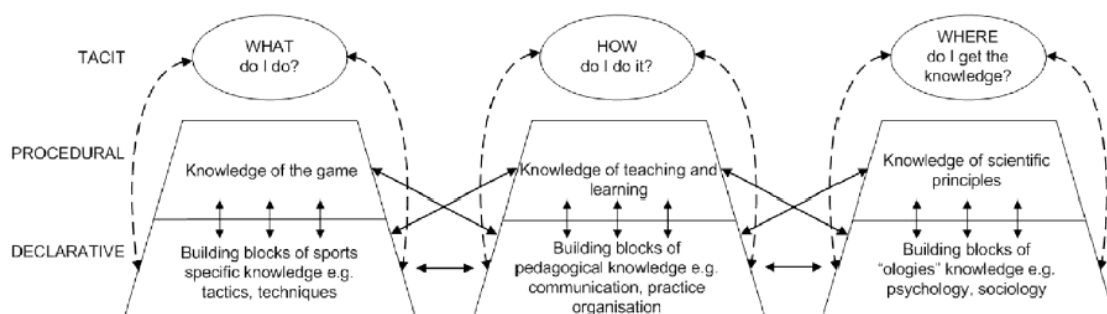


Figure 2.2: Interaction Model of Coaching

Coaches must also gain experience in applying this knowledge within their varied coaching environments. However, many coaches gain knowledge and experience within their sport but still do not display the automaticity associated with expertise. Instead of this knowledge necessarily developing hierarchically over a period of time, it is proposed that the currency of transfer is the base of declarative knowledge and the linking and interacting of information at this base level in order to make appropriate decisions. In the design of coach education courses, much more time should be allocated to developing this procedural knowledge base, which coaches require to improve their athletes (Abraham & Collins, 1998). Unfortunately, many of the existing coach education courses produce coaching parrots, as the evaluation criteria require mimicry of the course tutor, without any recourse to independent thought (Nash & Collins, 2006). If expertise in coaching is to be developed, then this must change to allow and encourage coaches to question their mentors and peers. It would then follow that the knowledge base of the coach must be sufficiently enlarged to enable them to work out the answers, i.e., enhance their reflection and problem-solving skills. Some sporting environments may more readily encourage this approach more than others. Unless coach education can change fundamentally, enabling coaches and coach educators to embrace all the elements of coaching, the old system where some coaches succeed through luck, and even more fail to fulfill their potential, will continue.

Chapter 3. Methodology

3.1 General Methodological Approach

The subject of sport expertise has been widely researched with models developed in a number of key areas, e.g. sport psychology, motor or skill acquisition and more recently, long-term athlete development (Vallée & Bloom, 2005; Balyi, 2001; Hyllegard, Radlo & Early, 2001; McPherson, 2000). The academic study of sport coaching has lacked the attention given to performance and participation sport and as a result, there has been little conceptual development of the area. Perhaps this is because sport coaching has only recently been accepted as an area deemed worthy of study, similar to sport physiology, sport management and sport sociology (Gilbert & Trudel, 2004). Historically, researchers have studied only the direct intervention role of the coach i.e. what the coach does at practice, how the coach motivates, communicates and leads (Lyle, 1996). Most attempts at theoretical explanations appear to have some shortcomings, such as only investigating the coach in a specific context. The published sport coaching literature limits attempts to theoretically understand and operationally define sport coaching. Historically, much initial research was carried out in the USA where coaching is closely related to teaching. Models of teaching effectiveness and leadership have been likened to coaching but there is a need to develop a distinct representation of coaching expertise from general psychological theory and sport related literature, to construct a model of coach education (Cushion, 2007). Theoretical

foundations for the study of expertise in sport emerge from two opposing views; those of talent and nature and those of practice & nurture (Ericsson, 1998). This has led to the emergence of the “interactionist” theory (Starkes & Ericsson, 2003). This theory suggests that both these elements of nature and nurture ‘interact’ to construct the expert in sport. In the past, many studies of expertise were carried out in structured domains e.g. chess, (Chase & Simon, 1973) mathematics, (Shoenfeld, & Herrmann, 1982), physics, (Chi, Feltovich, & Glaser, (1981), law, (Weaver & Carroll, 1985), computing (Adelson, 1981) and medicine (Patel & Ramoni, 1997). Many of these initial studies utilised an experimental approach and revealed “it is possible to identify a set of representative tasks that can elicit superior performance from experts under standardised conditions” (Ericsson & Charness, 1997, p.8). Most studies addressing the issue of expertise in medicine tended to use the same basic experimental paradigm in which subjects are shown a written description of a clinical case and instructed to read the case notes for a specific period of time (Patel, Groen & Arocha, 1990; Patel & Groen, 1986). The notes are then removed and the subject asked to recall details of the case and then offer a diagnosis. This is similar to the seminal work of de Groot in chess, demonstrating that experts in chess could recall positions on a chessboard and propose a superior tactical move to continue (1978). This research may hold parallels to sport coaching, with expert coaches able to make better tactical decisions, solve problems and demonstrate superior performance within their sport.

Personality traits were originally considered to be determinants of excellent performance both in sport and other domains (Miller & Kerr, 2002). Bloom continued investigations into expertise with long-term studies investigating the development of talent in music, art, sport and physics (1985). This research utilised interview techniques, involving some form of retrospective recall, which has the benefit of making categorisation easier, but the disadvantage of relying on memory, often stretching back into childhood (Helsen, Starkes & Hodges, 1998; Hodges & Starkes, 1996; Bloom, 1985). One study, involving actors, has used both concurrent and retrospective recall using groups of novices and professionals to mitigate criticisms surrounding this method of data collection (Noice & Noice, 2002).

Drawing on cognitive psychology, particularly information processing (Swanson, 1990) and schemata theory (Nickles, 2000), researchers have generally analysed expertise, studying how people develop expertise and the nature of the differences between experts and novices. This examination of expertise is characterised by comparison of the behaviours and cognitive processes employed by experienced and inexperienced performers as they perform domain-specific tasks (Griffey & Housner, 1991). This data collection has also included talk aloud protocols which are considered to be methodologically sound (Ericsson & Charness, 1997). Within tennis, this technique has been employed to examine the planning strategies of expert players, by analysing their spoken thoughts between points (McPherson, 2000). A key concern with this method is the amount of information the think aloud protocols of experts contain about the mediating cognitive processes (Ericsson & Charness, 1997). However “traditional

theories of expertise and skill acquisition could not fully account for the new and emerging evidence on complex mechanisms of memory and perception that mediate expert performance” (Starkes & Ericsson, 2003, p.53).

Constructivism is about constructing knowledge: engaging learners in investigating, reasoning, predicting, inferring, inventing, and problem solving is the core of constructivism (Marlowe & Page, 1998). The constructivist paradigm operates with an ontological perspective of "multiple, intangible mental constructions, socially and experientially based . . . elements are often shared among individuals" (Lincoln & Guba, 2000, p. 110). Since all learning, except for simple memorisation, requires the learner to actively construct meaning, not accumulate bits of information and isolated skills, the process of transferring a novice coach to expert seems less than clear, and in some respects under-researched. The role of the coach educator should be as co-creator of knowledge about teaching and learning, as well as sports specific knowledge. The focus of the coach education courses should be to provide opportunities for coaches to construct knowledge--not just receive it (Hubball & Robertson, 2004). In describing a route for developing coaching expertise, Salmela and Moraes (2003) suggested formal coach centred training and education, in a range of settings alongside interaction with peers. This seems to reinforce the experiential approach recently advocated in the literature (e.g., Gilbert & Trudel, 2005; Cushion et al., 2003) and specify a 'situated learning' approach (Lave & Wenger, 1991). By situating learning within social and

cultural contexts, the individual is less involved with objective de-contextualised knowledge acquisition, but is constructing knowledge through direct experience of coaching practice (Gilbert & Trudel, 2001). This can be viewed as an active process, with coaches seeking out information related to the task and the given context, and testing this within the context formed by the task and the environment. Situated cognition theory suggests knowledge is jointly constructed by interacting with the situation in which one confronts a problem (Lave & Wenger, 1991). The role of coach education, and therefore coach educators, within this process, is to facilitate construction of knowledge through experiential and contextual practice in coaching environments (Nelson et al, 2006).

The concept of metacognition consists of two basic processes occurring simultaneously: monitoring progress during learning and making changes and adapting strategies if necessary (Winn & Snyder, 1996). It includes self-reflection, self-responsibility and initiative and "Metacognitive skills include taking conscious control of learning, planning and selecting strategies, monitoring the progress of learning, correcting errors, analyzing the effectiveness of learning strategies, and changing learning behaviours and strategies when necessary." (Ridley, Schutz, Glanz, & Weinstein, 1992, p. 295). As complexity increases more expertise is necessary to detect changes in the environment and this detection is usually intuitive in nature (Smilek, Eastwood, Reynolds & Kingstone, 2007).

The action research strategy is a useful approach for studying a situation that is both practical and interpretative. In this particular study, it was used for identifying the sport coach's process of knowledge formation: the forms of knowledge they applied and produced, in and from their practice. One basic hypothesis in action research is that people are capable of learning and creating knowledge by observing their own concrete experiences, by reflecting and by conceptualising these experiences (Narhi, 2002). One aim of this action research was to support the development of practitioners' own theory formation. Learning is a process of knowledge construction, as opposed to knowledge absorption, and is knowledge-dependent, i.e. learners use existing knowledge to build new knowledge (Mayer, 1998). This would suggest that coaches require an existing body of knowledge on which to develop more knowledge, as well as understanding how to transition between stages of coaching development on the route to potential expertise.

Over the past two decades, research studies have closely examined how experts in a growing number of fields, including mathematics, physics, music and chess, learn and then are able to apply what they have learned (Donovan, Bransford, & Pellegrino, 1999). There is now strong evidence to suggest that experts do not just know more facts, nor do they necessarily have better memories than others (Bransford, Brown, & Cocking, 2000). Rather, they have developed a more complex, richly structured knowledge base related to their field (Pellegrino, Chudowsky, & Glaser, 2001).

Experts with a strong knowledge base, generally exhibit the following characteristics;

- Expertise is domain specific and developed over a prolonged period of time;
- Experts organize their knowledge around core concepts;
- Experts recognize patterns faster than novices;
- Expert knowledge is structured to allow easier recall;
- Experts sort problems into categories according to features of their solutions;
- Experts initially are slower to solve problems than non-experts but are faster overall;
- Experts apply cognitive strategies to select and remember information that is relevant and eliminate what is unimportant;
- Experts are more flexible and are more able to adapt to situations;
- Experts use metacognitive strategies to “contextualise” their knowledge by knowing when certain concepts are useful and fluently retrieving the information necessary to solve a problem at hand;
- Experts use more stored schemas and self-reflective techniques;
- Experts develop routines to allow processing capacity to be focused on ongoing environments; and
- Experts take deeper meanings from cues than novices.

(Kreber, 2002; Guest et al.; 2001; Berliner, 1994; Glaser, 1990).

Much of the difficulty experienced in expertise research is the definition and subsequent identification of experts. The study of experts in any field is difficult. Experts engage in a process automatically and likely “do not know how they know what they know”

(Bromme et al, 2001, p.318). This “loss of awareness” phenomenon has been described as the “paradox of expertise,” which refers to the experts’ inability to describe a process in which they engage without conscious thought (Lundeberg, Bergland, Klyczek & Hoffman, 2003, p. 3). Further, because experts are often unaware of their own cognitive processes, they use these processes automatically and therefore they cannot describe what they are doing because they feel it is overly obvious to mention.

Expertise claims to rest upon objective scientific knowledge, yet being contested has almost become an essential characteristic (Novotny, 2000). Over the years, two apparently contradictory views have arisen in research that focuses on sport coaching and research related to coach education and practice. Those in the quantitative faction espouse experimental research, based on the very narrow areas of sport science where the aims are achieved by the measurement and quantification of observable data. This does not appear to be the best approach as “coaching, as opposed to being a reductive, knowable process that can easily be followed, is instead problematic, multifaceted and fundamentally intertwined with teaching and learning at the micro-interactive level within given situational constraints” (Jones, 2007, p. 159). Research is now shifting towards the applied focus demonstrating that sport psychology can bridge the gap between research and practice. This research should be conducted in authentic settings and sport-simulating lab situations (as opposed to the entirely artificial environment of the traditional laboratory), and that there will be a shift toward the educational model, as

opposed to the clinical model (Williams & Straub, 2001; Silva & Weinberg, 1984). Dale (1996) states that although qualitative research is slowly becoming more accepted as a form of inquiry, most qualitative research is still conducted using various interview methods.

Qualitative research designs are those that are associated with interpretative approaches, from the emic point of view, rather than etically measuring discrete, observable behaviour (Mead Niblo & Jackson, 2004). Qualitative methodologies are strong in those areas that have been identified as potential weaknesses within the quantitative approach, e.g. the use of interviews and observations to provide a deep, rather than broad, set of knowledge about a particular phenomenon, and the appropriateness to investigate cognitive and affective aspects of both coaching and coach education (Lee, 2004).

Qualitative methods are more usefully seen not as a discrete set of tools and techniques, but as complementary methods which can be adapted along a continuum of overlap with quantitative and participatory methods (Thomas & Nelson, 1999). A number of methodological problems have been identified in the study of expertise. These include difficulties distinguishing between expertise, experience and effectiveness, identifying the relevant criteria to define expertise, expertise relying largely on tacit, implicit or unconscious knowledge and the varying names given to experts in both differing and similar fields (Sternberg, 2003; Kreber, 2000; Dodds, 1994).

There is a vast amount of expertise research but there is a lack of fundamental insight into the concept in general. How is expertise acquired and how can it be developed is of concern not just within coaching but in many other domains (Van der Heijden, 2002). There have been several recent studies (Nelson et al, 2006; Rynne, Mallett & Tinning, 2006; Vallee & Bloom, 2005) examining aspects of expert coaching, however none have examined the role of coach education in this process. Abraham, Collins & Martindale (2006, p.105) state that “a model of coaching is required that has at its heart sound theoretical and research foundations, which are applicable to all sports, coaches and age groups”. Coach education courses presently do not have the structure or processes in place to encourage the development of expert coaches.

3.2: Specific Methods

3.2.1: Participants

Participants were coaches, not all practising at the time of the research, but who had undertaken or were about to undertake some form of recognized coach education course. Due to the nature of the study, some of the participants were more involved than others. Some participants only completed a questionnaire, whereas others contributed by participating in in-depth interviews. Informed consent procedures were conducted with all participants interviewed. The studies conformed to the British Psychological Society’s (2000) ethical principles for conducting research with human participants.

Ethical approval was obtained from The University of Edinburgh Postgraduate Research Committee. Ethical awareness was continually discussed and integrated within the research validation process ensuring that the British Psychological Society's ethical guidelines were followed.

The coaches who participated in the initial investigation (Study 1) were chosen for their acknowledged coaching expertise in their chosen sport of football, hockey and swimming. These nine coaches were considered to be key informants for the purposes of this study, sharing the recognised characteristics of this role (Lincoln & Guba, 1985). Further information on these participants is contained in Chapter 4 (p.84). Their role within the coaching community meant they should be exposed to the relevant information, utilise this information/knowledge to perform their job, should be willing and able to communicate this knowledge and be generally impartial (Greaves & Farbus, 2006; Marshall, 1996). Potential weaknesses of the key informant approach have been identified as the potential to only give current politically correct views and the unlikelihood of key informants knowing the majority view (Kim, Elliot, & Hyde, 2004; Denzin & Lincoln, 1994).

The coaches (n=621), who completed the questionnaire (Study 2) were from a variety of sports, the numbers from each sport varying considerably (see Appendix 1). The procedure for identifying these participants initially focused on specifying characteristics relevant to sampling, in this case coaches undertaking coach education

courses. Specifying these characteristics helped to set the boundaries of the sample, there were few restrictions as gender, age, ethnicity, education or employment status were not limiting factors (Bryman, 2004). After this, a list of possible locations where these participants may be found was identified. This included a representative mix of coaches attending National Governing Body (NGB) courses, Sport Coach UK courses and students at both further and higher education institutes studying sport coaching. Further information on these participants is contained in Chapter 5 (p.121). Questionnaires were then distributed to participants along with an informed consent. The completed questionnaires were returned on completion of their course. The questionnaires also contained a section where coaches could add their contact details should they wish to participate further in the study.

Those (n=21) who participated in the in-depth interviews (Study 3) were also from a variety of sports. Some of these coaches were recruited from Study 2, having indicated on the questionnaire that they would be amenable to further participation. Participants were also recruited purposefully because they were particularly suited due to their current level of coaching (Cresswell, 2002). Two procedures were used to recruit specific individuals: firstly, certain individuals, e.g. NGB Development Officers, suggested certain members who were thought to be appropriate for the study (i.e., meet the inclusion criteria and have the ability to complete an in-depth interview). These Development Officers then asked each person for consent to give the investigator the

individual's name; then the investigator contacted the individual. Secondly, the investigator addressed a number of coaches, explained the research, and then approached those coaches who met the study inclusion criteria to request their participation. Concerns about final sample size, the geographic distribution of the participants and the heterogeneity of clientele within the sample all played a role in participant selection. A table indicating the characteristics of the participants in this sample is contained in the Chapter 6 (p.158).

3.2.2: Justification for Methodological approach

The research was guided by principles of constructivism. Within this approach, learning is viewed as a process of activating prior knowledge related to a topic, questioning, interpreting, analyzing, and processing new information and concepts in light of past experiences. These information and thinking processes are used to monitor, develop and alter understanding, while integrating current experiences with past experiences (Cromley, 2000; Larochelle, Bednarz, & Garrison, 1998; Mayer, 1998). Studies in this area are closely linked to cognitive psychology research related to the development of expertise (Glaser, 1992). This approach was selected because although it permits analytical techniques, it also allows a richer and deeper framework for understanding the complexity of expertise in the dynamic field of coaching. The main concept of a constructivist approach to coach education lies in recognising that building expertise is a complex developmental process (Pellegrino et al, 2001). Coaches' learning can be

likened to a “changing of perceptions”, as they learn from different sources that change their cognitive structure (Werthner & Trudel, 2006 p.201).

Vygotsky (1978) found that new abilities in a novice are first developed during collaboration with an educator or more competent peers and then internalized to become part of the individual’s mental model of the world. He described the gap between what an individual can accomplish independently and what they can accomplish with the help of someone who is more competent as the zone of proximal development. He believed the role of education is to provide learners with experiences that are within their zone of proximal development. In the context of coach education, this would suggest that a more knowledgeable coach provides scaffolding or supports to facilitate the learner’s development. Scaffolding instruction helps learners to develop their fluency, independence, and range of performance as they move along a developmental continuum from novice to expert (Shepard, 2000).

This approach has the benefit of being holistic e.g. the coach’s development is seen as an interconnected process with many different dimensions. A key focus of this investigation was not the different dimensions in isolation, but understanding the inter-linkages and tensions between them (Mascolo & Fischer, 2005). Whereas quantitative methods within sport generally tend to separate and simplify indicators and impact processes in order to measure them, qualitative methods seek to understand the complexity as a more accurate reflection of reality. The focus in qualitative methods is on understanding

different perceptions, aspirations and interests and how these influence accounts of events rather than attempting to reduce them to one version of reality (Mahoney, 2002). For example, how do coaches make the transition from novice to expert, taking into account individual differences in background, environment, education and ambition?

This method allows the research to be heuristic, interpretative and inductive, enabling it to constantly evolve rather than be restricted to predetermined questions or hypotheses. Any investigation starts with a rigorous familiarisation with the context, institutions and policies to be assessed and progressively builds up a comprehensive understanding of the processes involved (van Manen, 1998). As a result of the emphasis on understanding complexity, the scope and focus of the research are continually redefined as understanding of different parts of the process increases and new issues arise (Kelso, 1995). Consequently, the coaches are not the only focal point of the research - all the contributing aspects to coaching performance and development are considered.

In this research there is a focus on information from individuals. Although qualitative methods may be used to compile case studies or observe groups and communities, there is much more of an emphasis on individual information. This makes it possible to ask much more sensitive, probing questions which people may feel uncomfortable about answering in a public forum (Lincoln & Guba, 1985). Semi-structured interviews were considered most appropriate, where the questions are more open and answers recorded in more detail, and where allowances are made for unanticipated issues which arise in the course of conversation (Patton 1990). A distinguishing feature of these interviews is their

continual probing and cross checking of information, with a cumulative building on previous knowledge rather than adherence to a fixed set of questions and answers (Woodhouse, 1998).

Many of the potential limitations of this approach were addressed through enhanced use of the methods themselves. These included continual probing, reflection and refinement of hypotheses, establishing a good rapport and detailed recording of information (Denzin & Lincoln, 1994). The process of interview analysis was also assisted by computer analysis using the programme called HyperResearch, which makes analysis of large amounts of qualitative data more systematic. Computer data basing simply refers to the use of computer software, as opposed to paper and pencil methods, to code and organise qualitative data so that they can be more easily be viewed and compared (Lofland, Snow, Anderson, & Lofland, 2006). As Gibbs, Friese, and Manabeira (2002) observed, the development of information technology has created new methods of data collection, such as digital recordings used in Study 3, as well as assisting with the qualitative data analysis.

Other inherent shortcomings in qualitative research were addressed through triangulation with other methods to further address the concerns of subjectivity, lack of transparency and difficulty of replication (Bryman, 2004; Denzin & Lincoln, 1994). According to Denzin and Lincoln (2005), qualitative researchers must confront three crises; representation, legitimation, and praxis. The crisis of representation refers to the difficulty for qualitative researchers to adequately capture lived experiences. The exact

nature of validity, with particular regard to qualitative research, is a much debated topic as the traditional criteria for validity is grounded in the roots of positivism (Maxwell, 1992). Qualitative researchers have argued that, on this basis, the term validity is therefore not applicable to qualitative research. However, Winter (2000) recognises that, despite this, qualitative researchers require some means of scrutinising their own work.

Interpretivism promotes the value of qualitative data in pursuit of knowledge (Kaplan and Maxwell, 1994). In essence, this research paradigm is concerned with the uniqueness of a particular situation, contributing to the underlying pursuit of contextual depth (Myers, 1997). However, while interpretive research is recognised for its value in providing contextual depth, the results have to be viewed in terms of validity, reliability and the ability to generalise, referred to collectively as research legitimization. Therefore, the underlying philosophy of this research dictated an iterative process of data collection and data analysis (Walsham, 2002), which were tested and modified through cycles of additional data collection and analysis until an adequately coherent interpretation was reached (Glaser & Strauss, 1967). Consequently, the researcher sought to overcome the temptation to convert qualitative data into numbers once it had been collected, in order to preserve the richness of the data and give a holistic view of the research context, in this case, coaching practice.

The link between reflection or analysis and action is better known as the concept of praxis. The practical importance of praxis is that it suggests that one should move between reflection and action as a means of increasing critical consciousness in an iterative way. Sullivan and Porter (1997, p.26) see praxis as "a kind of thinking that does not start with theoretical knowledge or abstract models, which are then applied to situations, but that begins with immersion in local situations, and then uses epistemic theory as heuristic rather than as explanatory or determining". After much consultation in the field of coaching, the approach adopted is to conceptualise it as critical, reflective, investigative praxis. This involved the critical and inextricable bonding of theory and practice.

Mixed methods researchers have repeatedly described the benefits of mixing quantitative and qualitative designs as enhanced triangulation, a more robust development of theory, and the potential to more comprehensively understand the research situation (Borkan, 2004; Creswell, Fetters, & Ivankova, 2004; Glaser & Strauss, 1967). Although mixed method designs have been used in many domains, for example, nursing, (Sandelowski, 2000), its adoption in sports research is less obvious.

Quantitative research designs are characterised by the assumption that human behaviour can be explained by "social facts", which can be investigated by methodologies that utilise "the deductive logic of the natural sciences" (Horna, 1994, p.121). Study 2 utilised a survey approach, seeking "distinguishing characteristics, elemental properties and empirical boundaries" (p. 121). This technique was offset by concentrating on the

individual coaches in Study 3, where the subjects were not merely chosen for the purpose of comparison — each coach was chosen because of their intrinsic and unique value to the study and were considered to strike a balance between obtaining substantial description from each case and comparative explanation from each (Stake, 2000).

Although this research is investigating the place of coach education in the development of coaching expertise, there are a variety of factors that contribute to this development. The development of expertise in sport has a variety of ecological and environmental issues, involving biological, psychological and sociological aspects (Baker, Horton, Robertson-Wilson & Wall, 2003). Qualitative research is needed to deal with emergent issues and can make a strong contribution to the evidence base in coaching science (McKenna & Mutrie, 2003). This approach has the advantage of encouraging participants to consider a holistic account of their own development from their own perspective.

Chapter 4: Study 1

Career Histories of Expert Coaches

4.1: Introduction

In recent years there have been attempts to professionalise sport coaching, with the involvement of many agencies and educational institutions. Much of this has been attributed to the emphasis on sport and physical activity as part of an active lifestyle (PATF, 2002) and as a result, there has been considerable demand for appropriately qualified and skilled sport coaches (MORI, 2004). Careers in coaching are a relatively new phenomenon and have not yet been the subject of extensive research. However, it is clear from the scant research that is available that high levels of mobility and unclear career paths stigmatize coaching careers. Quality coaching and guidance are key elements in the development of sport therefore, it is important to identify the fundamentals that contribute to the development of expertise. Successful coaches are those who adapt their behaviour to meet the demands of their particular coaching environment (Jones & Armour, 2000; Potrac et al, 2000; Lyle, 1999). As coaches develop and work with high performance athletes, their role also changes, requiring more management skills (Lyle, 1997). There is a paucity of information as to how coaches make these *transitions*.

The academic study of sport expertise is concerned with describing and then interpreting both the factors and processes that distinguish the expert, the stages through which expertise is achieved and whether these aspects are considered in the design and presentation of coach education courses, and importantly, how people acquire knowledge.

4.2: Learning Theory

A number of learning theories have been developed for a variety of differing situations and environments, for example, experiential learning as proposed and developed by Schön (1983; 1987). This view highlights the importance of reflection in constructing meaning from actions in the workplace, which is currently topical in the area of sport coaching. More recently Wenger (1998) developed a model of situated learning, known as the Communities of Practice (CoP) model. Consistent with a constructivist approach this representation purports that learning and activities do not exist in isolation but instead are part of a broader framework, in other words, in order to learn, participation is necessary (Azzarito, 2003). It has been suggested that “the knowledge of experts is an accumulation of experience – a kind of ‘residue’ of their actions, thinking and conversations – that remains a dynamic part of their ongoing experience “(Wenger, McDermott & Snyder, 2002, p. 9).

Within sport coaching Gilbert and Trudel (2005) studied how coaches transform their experience into learning in order for them to develop as coaches. This model was based on reflective practice and contained six stages; coaching issues; role frames; issues

setting; strategy generation; experimentation; evaluation. This exemplar highlights the importance of the reflective conversation within the coaches' development but still does not clarify how this transformation occurs.

Learning can be viewed as idiosyncratic, as is the final learning theory presented in Figure 4.1.

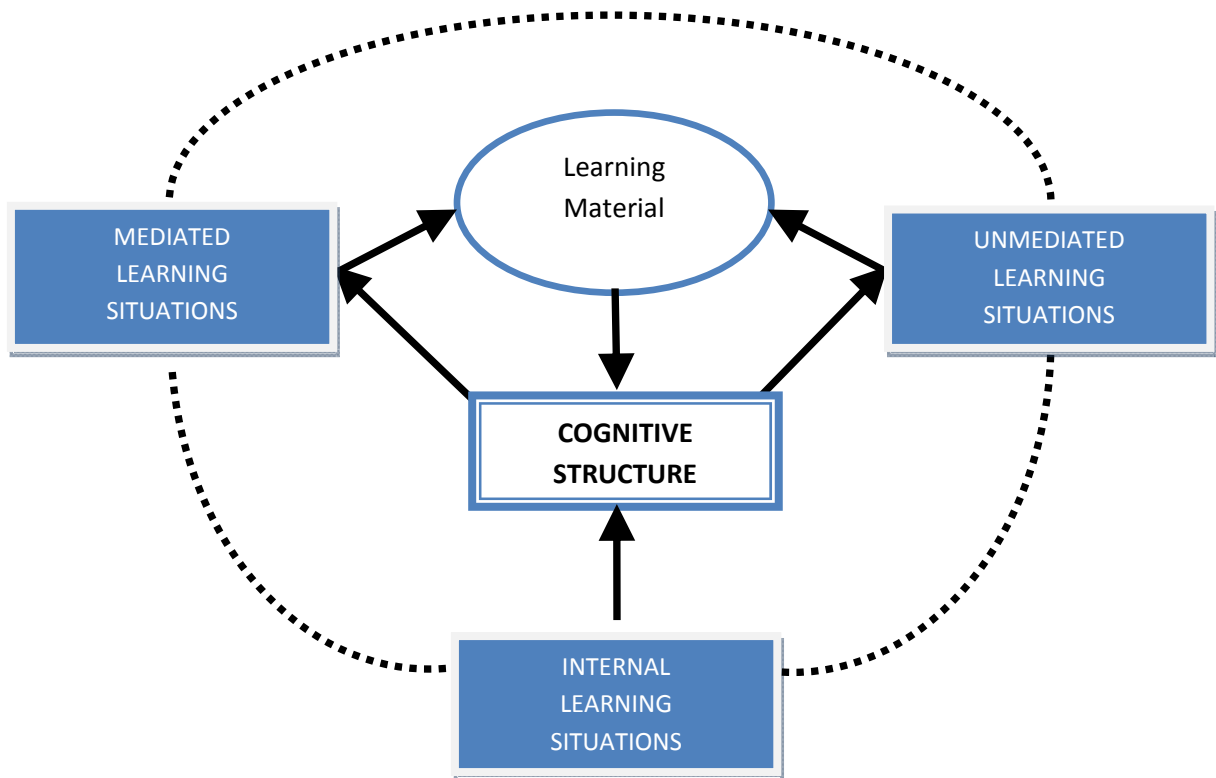


Figure 4.1: Werthner & Trudel's Representation of Coach Learning (Werthner & Trudel, 2006)

It highlights three key components within learning, the formal learning environment, which can be any recognized educational setting, the informal learning, which could be

the CoP referred to earlier and lastly the internal reflective processes, where learning is considered and reconstructed (Werthner & Trudel, 2006; Moon, 2004).

4.3: Coach Learning Experiences

Experience is a very important element in the coaching process, enabling coaches to interpret their coaching practice and develop knowledge through this authentic learning environment (Jones, Armour & Potrac, 2004; Gilbert & Trudel, 2001). However, “it is evident that experience plays a key role within coaching performance due to the limitations of coach education” (Bates, 2007, p.115). Research has also shown that successful coaches accumulate thousands of hours of ‘pre-coaching’ experience while competing in sport as athletes (Gilbert & Cote, 2003). This adds to the coach’s knowledge base as non-formal learning.

According to Vygotsky (1978), subject-matter concepts are transformed into personal concepts through, in this case, the coach’s ability to use them in daily life. Situated learning theory proposes that connecting learning to student interests will further the contextual relevance of knowledge (Lave & Wegner, 1991). Wilson (1993) contends that gaining skills and knowledge and then constructing meaning within situated learning settings require cognitive processes in authentic contexts as opposed to the artificial simulations that are often found in coach education courses. Exponents of situated learning argue that through social interaction, authentic activity, and participation within communities of practice, students are better able to construct

meaning in practical ways so that knowledge can be applied outside of formal learning settings (Kirshner & Whitson, 1997; Lave, & Wenger, 1990).

This approach suggests that coaches need to be aware and have knowledge and understanding of learning theory, self-reflection, motivational climate and knowledge construction as well as the technical detail of their sport. Consideration should also be given to the pivotal role of the coach in creating this learning environment, or motivational climate, for athletes (Pensgaard & Roberts, 2002). They also need to develop communication and decision-making skills along with management and analytical proficiency. This requires the construction of knowledge, a principle where learners make sense of their knowledge with emphasis on a quality-supporting environment, reliance upon scaffolding, necessity for self-organization and promotion of deeper learning structures (Jones, Armour & Potrac, 2003). How some coaches construct their knowledge apparently is a determining factor in their development and subsequent recognition as expert or otherwise. In general, “little explicit mention has been made regarding the coaches’ need for continual learning and their professional development has been largely ad-hoc and driven by the individual coach” (Rynne et al, 2006, p. 224).

4.4: Apprenticeship

The concept of apprenticeship is still prevalent within sport coaching – learning from a more experienced and effective exponent. This viewpoint may have merit in the early

stages of career development but much depends upon the ‘master coach’ and their ability to pass on relevant information (Thomson, 1998). Equally critical to this is whether the apprentice understands and processes the relevant information. According to experienced coaches, learning from successful coaches is still considered an effective method of achieving the development of expertise (Gould et al, 2002). Vygotsky’s (1978) socio-cultural theory proposes that a more knowledgeable coach provides scaffolds or supports to facilitate the learner’s, in this case the coach’s, development. However, this does assume that the coach has the knowledge to be able to appropriately challenge the learner in a productive manner.

Music education is based on the apprenticeship tradition that teachers deliver their musical expertise using pedagogically relevant methods that help them to have effective mastery and control over the process of learning (Bennett, 2004; Bloom, 1985). Now it has been suggested that, in line with situated learning theories and research on expertise-based learning, garage rock bands and their informal ways of learning can exemplify how to develop knowledge-building communities and musical expertise in formal music education (Westerlund, 2006). This decentres the traditional notion of expertise and pedagogy but it has to be noted that the role of the teacher is not redundant (Duke & Simmons, 2006). The developmental process of effective coaches has been studied by a number of researchers (Gilbert & Côté, 2003; Gilbert, Niino, Wahl, & Conway, 2003; Gilbert, Kulikov, Niino, Trudel, & Côté, 2002).

The view of Siedentop (2002) is that recently qualified PE teachers are skilled in delivery methods i.e. pedagogy but lack sufficient subject content to teach activities beyond a basic level. Judging by the content of many initial level NGB awards this would be the opposite to coaching, where subject content is considered paramount but many coaches lack the pedagogical skills and techniques to deliver the content effectively i.e. content knowledge is not enough to be an effective coach. Should it be recognised that the role of the coach changes throughout their career underpinned by a transitional model of learning? (Study 3).

4.5: Other Learning Environments

Of particular relevance to the constantly changing coaching context is the model of intellectual skill acquisition proposed by Van Lehn (1996) in which the development of problem solving skills provides the context for learning. Research into the development of expertise in problem solving has shown that experts access a greater knowledge of the domain; organise their knowledge in ways that make information more accessible; perceive domain related information and patterns faster and effortlessly; make use of more complex strategies and contemplate a wide range of alternatives; and make better use of metacognitive skills, for example, monitoring the progress of their problem solving and allocating effort appropriately (Ericsson & Lehmann, 1996; Ericsson & Smith, 1991). The major finding in expert-novice research is that expertise consists

mainly of the acquisition of a large repertoire of knowledge in schematic form. As the novice becomes the expert, the novice gains both knowledge and experience, and develops patterns or frameworks, called schemas, to integrate and structure that knowledge more effectively.

King (1990) suggests that the process of constructing new knowledge or the process of transforming previous knowledge into new formats is actually enhanced through peer interaction. Additionally, Bleed (2000) reports on the importance of socialisation in the learning process. So, promoting learning partnerships and peer tutoring opportunities within online environments may be useful strategies to enhance greater academic understanding in adult learning environments. This online environment may be especially useful to sport coaches, given many coaching environments are solitary. It however does not preclude other learning communities that coaches may be a part of, for example, conferences, competitions. Another important aspect in the overall spectrum of knowledge acquisition is that informal learning which is deliberate and sustained. This learning can take place either alone or collectively.

4.6: Purpose of Study

The purpose of this study was to better understand the processes involved in learning, from the perspectives of nine expert coaches. The primary question asked of the

coaches was how they had learned to be an expert coach. This was accomplished by examining what they felt had helped develop them as coaches as well as considering life experiences in their evolution into expert coaches. The epistemological foundation is that knowledge arises from many sources. It is not just an intellectual exercise but involves emotions, the senses and physical activity, in this case coaching. There is no single way to acquire knowledge; it is complicated and complex (Davis and Sumara, 1997).

4.7: Method

Although expertise is an area that has been extensively researched across a diverse range of domains, within the realm of sport the emphasis has been on the performer. This preliminary investigation examines the development of expert coaches and relates this to the educational and training opportunities that are currently available. This study analysed the views of coaches in three different sports; swimming, hockey and football.

4.7.1: Participants

What is an expert? "Expert" is a term that must be defined for a particular purpose. If it is not, the term assumes a global definition and attaches biases to the research. The selection of the expert coaches for this initial study was based on the following four criteria, which have been used in other expert studies in sport coaching (Vallee & Bloom, 2005; Durand-Bush, & Salmela, 1996; Ericsson et al, 1993):

1. they held a minimum of Level 4 Coaching Award from their NGB;
2. they had a minimum of 10 years continuous coaching experience;
3. they were coaching at a representative level, for example, national or district level;
4. they had developed national performers over a number of years.

More detailed information regarding the participants is contained in table 4.1 below.

Coach	Sport	Sex	Age (years)	Level of Award	Highest Educational Qualification	Years in Coaching	Number of Performers Developed
F1	Football	M	29	5	HND	12	4
F2	Football	F	41	5	Postgraduate	18	6
F3	Football	M	36	5	HND	14	3
H1	Hockey	F	37	4	Degree	14	8
H2	Hockey	F	44	5	Degree	16	6
H3	Hockey	M	47	4	Degree	21	11
S1	Swimming	M	43	5	Postgraduate	17	7
S2	Swimming	M	54	5	Degree	22	14
S3	Swimming	F	42	5	Degree	15	6

Table 4.1: Participant Details (n=9)

The decision to use life histories as a method to document processes of integration into coaching was based on defining features of life history research described by Cole and Knowles (2001). Life history research is intended to "advance understanding about the complex interactions between individuals' lives and the institutional and societal

contexts in which they are lived" (p. 126). These life stories that are elicited as a result of the life history approach are 'reconstructions of [a] person's experiences, remembered and told at a particular point in their lives, to a particular researcher/audience and for a particular purpose: all of which will have a bearing on how the stories are told, which stories are told, and how they are presented or interpreted' (Etherington, 2006, p.234).

4.7.2: Coach Interviews

In total, nine separate, semi-structured individual interviews were conducted, one with each of the coaches involved in this study (Gratton & Jones, 2004). The purpose of the interviews was to investigate how they considered they had become expert coaches, focussing on their backgrounds within coaching, coach education and their career pathway. The questions for the interviews were constructed by the lead researcher in line with the main purpose and gathered from a life history approach (Etherington, 2006; Weiss, 2003; Guest 2001). This resulted in the development of four main areas of questioning: life experiences; educational experiences; coaching experiences; and, development of expertise (Appendix 2). The questions associated with each area were then given to a second researcher for discussion. Both researchers agreed that the questions were appropriate in terms of their potential to elicit responses to the topic under investigation. All of the interviews for Study 1 were undertaken in a place of the coaches' choosing at a time that was most convenient to them. The interviews were carried out and recorded in an area free from distraction. These semi-structured

interviews provided all participants with the opportunity to answer the same set of questions in each interview and to pursue personally relevant issues not included in the interview guide (Podlog & Eklund, 2006). The ordering of questions was flexible to make the interview conversational in tone and to help build rapport. At the end of each interview, the researcher provided a summary of the coach's response to verify understanding and accuracy (Bench, 2007). This summary afforded the main researcher the opportunity to highlight the most salient points raised by the coach at that point in the interview and to ensure congruence between the researcher's interpretation and the coach's intention. Each interview lasted between 120 and 130 minutes.

4.7.3: Data Analysis

These interviews were inductively analysed, using grounded theory. This allowed for depth and "richness" of response to be reflected in the results. A life history approach provides a method for documenting these experiences over time, placing them in proper social and cultural contexts, and executing a research project that helps answer questions about how a coach may develop expertise.

A selective thematic analysis (van Manen, 1998) was undertaken through which categories/patterns/themes that contributed to the core theme were identified. That is, each transcript was read repeatedly and significant statements relating to and illustrating the various dimensions of the essential theme, were identified and marked. The

identification of key themes within each interview and across interviews was conducted through the constant comparative method of analysis (Maykut & Morehouse, 1994). Labels were then assigned to these categories, patterns and themes and when no new categories emerged, it was assumed all had been identified. The names for these provisional categories were developed intuitively to reflect their content. Within each transcript, these categories were examined for their interlinkages. A comparison across transcripts was undertaken to highlight similarity in the patterns and their linkages across participants. This analysis process entailed constant comparison between the individual transcripts. Next, across transcripts, those categories and patterns that dovetailed together in meaningful yet distinct ways were developed into five major themes. These themes were knowledge, experience, personal qualities, networking and philosophy. Finally, these core themes and their constituent themes were joined into a text that captured participants' lived experience in its completeness.

Following Miles and Huberman's (1994) recommendation, causal networks were then developed for each transcript to depict the linkages between components of the core themes. Networks were developed and compared at the ideographic level (i.e., at the level of the individual participant, focusing on particularities) and through the creation and use of uniform labels across networks, a level of generalization across individual occurrences was achieved across participants. This allowed for the creation of a conceptual map to illustrate the core themes (Figure 4.2), which is presented in the findings section.

4.8: Findings

The coaches in this study generally were able to recall details from their backgrounds relatively easily. Perhaps this demonstrates their reflective skills, although not explicitly considered as part of their development as a sport coach. All of the information contained in this study is self reported by each coach. For example, the level of coaching award and number of performers developed is based on their recollection and understanding.

Each of these coaches was heavily involved leading a minimum of five coaching sessions per week, very often with competition participation in addition to the coaching sessions. They all had support personnel, for example, assistant coaches, physiotherapists, strength & conditioning specialists, who supplied varying input in terms of time and commitment.

There were considerable similarities to report both from the background and current practices of these sport coaches. All of these coaches had been introduced to sport at an early age by a close family member, usually a parent. They had all positive memories of their early sport involvement, being able to identify at least one individual who made an impact on their participation, for example, a coach or a physical education teacher. The

majority of these coaches (n=7) had sampled a number of sports before concentrating on their main sport(s), for example, athletics, tennis, golf, martial arts and rugby. Although they identified family support as a key element of their initial involvement and continued interest in sport they perceived this support to be positive and non-aggressive.

All of these coaches started coaching while they were still playing or participating in their sport, on a very limited basis, which follows an already established pattern in other studies (Dupuis, Bloom, & Loughead, 2006; Gilbert & Jackson, 2004). They all made a conscious decision to move into coaching more formally when they finished playing, albeit at different ages and stages of their lives. It was something that they wanted to spend more time doing and at the time of the interview they viewed themselves as sport coaches rather than being engaged in any other professional activity. This was not however, how all of them earned their living as some (n=6) were employed full-time in other work.

All of the coaches stated that they were interested in and concerned for their athletes as people rather than merely as competitors. This viewpoint manifested itself in many different ways, for example, concern about external pressures, school, jobs, exams, relationships, time management issues and many more. They considered that if the

participants were to concentrate on their training then the coaches had to facilitate them being able to do so.

Elements of a typical practice/training session were compared both within the three sports and across the three sports of football, hockey and swimming. These results are contained in Table 4.2. The coaches of the different sports were generally in agreement on both the elements contained within their practice sessions and also the breakdown on the amount of time spent on each element.

Activity	Football	Hockey	Swimming
Length of Practice Session (minutes)	90	90	120
Warm up (% Practice Duration)	9%	10%	15%
Conditioning Activities (non-specific) (% Practice Duration)	0%	6%	outwith
Conditioning Activities (sport-specific) (% Practice Duration)	0%	7%	26%
Specific Skill Drills (Maintenance) (% Practice Duration)	33%	23%	23%
Technique (Improvement) (% Practice Duration)	22%	25%	29%
Game Related Practice (% Practice Duration)	6%	19%	0%
Input to Individuals (% Practice Duration)	ongoing	ongoing	ongoing
Game/Event Simulation (% Practice Duration)	30%	10%	7%

Table 4.2: Elements of Typical Coaching Sessions for 9 elite coaches (3 football; 3 hockey; 3 swimming).

Most of the coaches (n=8) made the point that although they considered this to be a typical practice session, they did not actually encounter many typical sessions. These coaches believed that although generally they had a format for their practice sessions, things arose that they had not prepared for or anticipated and this resulted in changes to their format.

The coaches considered many aspects of their practice activities to be no different from that of other coaches, although they acknowledged that their success measured by results, player development and coaching appointments, was better than other coaches. The coaches were not able to suggest reasons for this success but through analysis of the interviews the core themes of knowledge, experience, personal qualities, networking and philosophy were identified. Various sub-categories were also determined, which allowed for the creation of a conceptual map (Figure 4.2).

4.9: Discussion

The purpose of this study was to ascertain how coaches viewed coaching expertise and how they had developed to become successful coaches. The interviewed coaches displayed a number of similar characteristics: knowledge, experience, personal qualities, networking and philosophy. Each of these characteristics contains a variety of subcategories and associated concepts which allowed the development of the conceptual

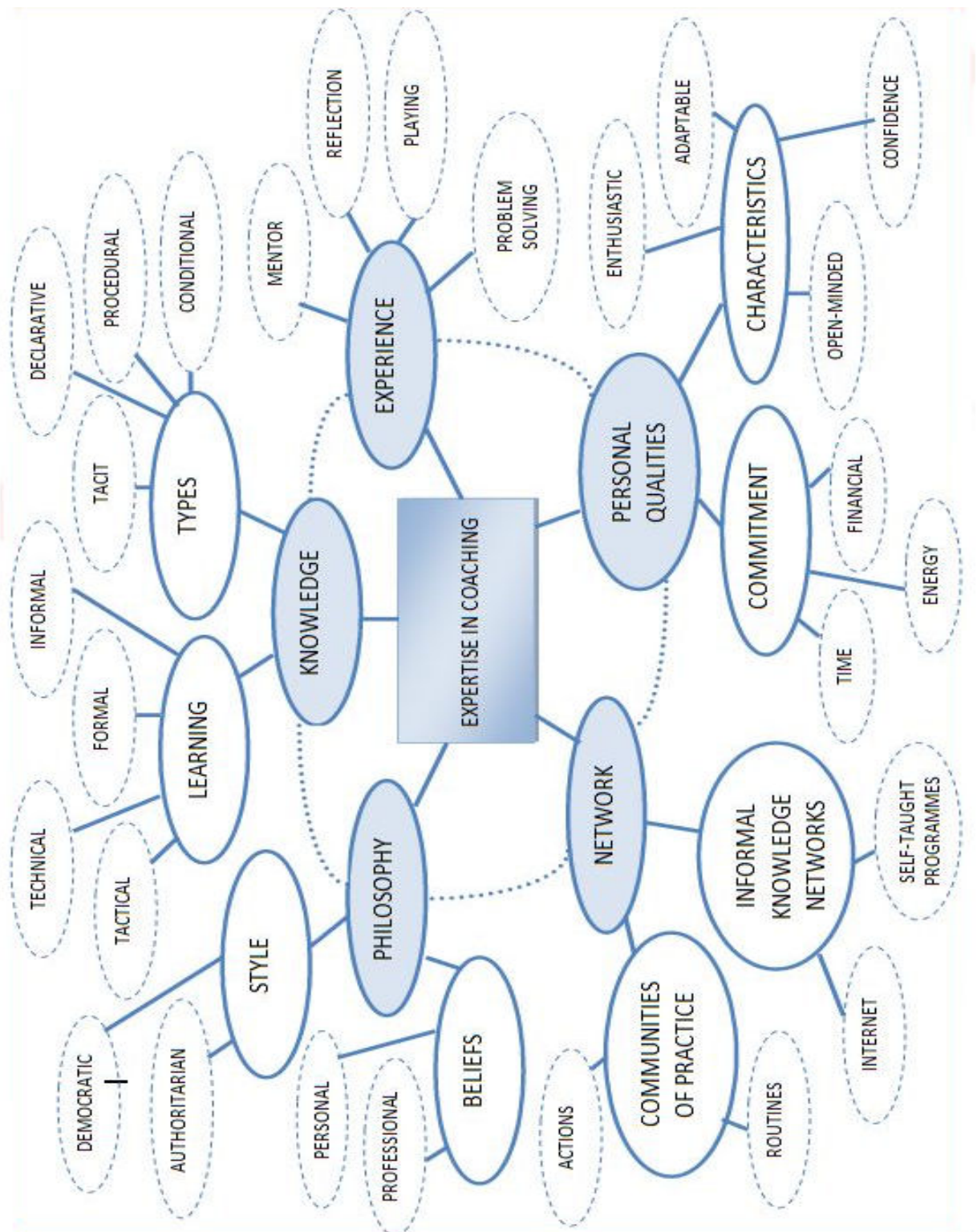


Figure 4.2: Conceptual Map of Expert Coaching

map (Figure 4.2). The detail contained in this map, along with the inter-relationships between characteristics emerged from the interviews with the designated expert coaches. What also became apparent from these coaches was the emphasis placed on their contextualisation of all characteristics to suit their own personal authentic coaching situations. The conceptual map and the inter-relationships are explored in light of current research literature.

4.9.1: Knowledge

Knowledge is represented by these coaches as having two sub-categories: learning and the type of knowledge embodied within the conceptual map. Coach education and development are considered to be keys to quality coaching. Research has suggested that 36% of coaches considered coach education courses very important to their development (Irwin et al. 2004). In terms of formal coach education courses all of the coaches in this study did not appear to share this view, with Coach S3 stating:

“I have a very busy schedule, training, competition and work – I do not feel that coach education courses are useful enough to make time for.”

Coach F2 also thought:

“I felt like I knew, or thought I knew, what they were telling us on the course and it was things I had already been doing. Perhaps I had just picked up the best way from other coaches, perhaps it was just coincidence, I never really thought about it before.”

Coach H2 agreed with this characterisation of his experience of coach education courses but also highlighted the informal learning mechanisms that she found had helped her development over her coaching career:

“I’m not sure how I develop new ideas about my coaching – certainly I don’t think it’s coach education courses because I haven’t been on any for years. I think a lot about what I do and get ideas from other coaches, watching what they do and also talking to them.”

Other aspects of formal learning were considered helpful by some coaches, with Coach H3 reflecting:

“My thinking has been transformed from a rather simplistic one towards a more critical thinking as a result of my degree study – it’s helped my coaching too.”

Seven of the nine coaches interviewed had attained a degree, with one obtaining a postgraduate qualification, a Masters degree in Public Health. All of the coaches had experienced higher education, but only two in the sport domain and two others had not completed their degree study. However they had all experienced the independent learning philosophy which underpins learning at this level. Coach F1 considers that:

“I learned to think about coaching in a much wider context when I was at college. It wasn’t just about what you did at the session – everything fits together and I suppose I had never considered it that deeply before.”

Coach education courses were generally considered to be of little relevance to these coaches at their particular stage of development. One of the coaches (S2) who was also involved in coach education, as well as coaching made the point:

“I’m not sure if I am the best person to be delivering these courses, especially at the introductory level. It has been a long time since I did that type of coaching.”

Recent research has shown that coaching courses rely heavily on the coach educators who deliver the courses to be both knowledgeable and able to present the information effectively both theoretically and practically (McCullick, Belcher & Schempp, 2005). Coaching at the introductory level is very different from coaching at the more elite/expert levels which is not always reflected by the coach educator (Dickson, 2001a).

The coaches also thought that despite various changes and restructuring of coach education courses delivered by NGBs there was still little recognition of how coaches develop and expand their knowledge. All of the coaches within this study felt that as they developed as coaches there was little provision of any education or training within the sport environment. Initially, provision of coach education courses had met some of their needs, especially expanding their knowledge in sport-specific areas of drills and techniques, but none of these coaches had attended a coach education course recently. Cote’s (1995) model suggests that athlete development involves a number of differing areas, often very disparate. Therefore, coaches’ knowledge across many domains would be beneficial to their performers. This knowledge should be reflected in course content within coach education programmes. A swimming coach (S1) declared:

“I find that I have to concentrate much more on the quality of the strokes and repetitions during training. At this level, quality reps are much more important than quantity – I try to insist on this during training but this point was not made during my coaching courses.”

Although these coaches were generally recognised as expert by both their peers and their NGB within their field they had never been asked to evaluate or contribute to the development of coach education courses in their chosen sports. It has also been suggested that the available coach education courses are presented and assessed in a format that does not encourage learning to take place (ASC, 2001; Gilbert & Trudel, 1999b). The football coaches especially highlighted the sport skill specific nature of their training opportunities and the “false” nature of the attendant assessments, Coach F2 adding:

“The coaching situations in the assessments do not represent the coaching that I am doing – the kids all behave, or we coach one another. You also have to coach according to a formula to pass the assessment.”

The question was also posed by a hockey coach (H1) as follows:

“Why do we bother having coach education courses with assessments. We never fail anyone and the technical and tactical knowledge that I now use is never assessed anyway.”

Recent research has suggested that as coaches fulfil very different roles, there is no one definitive method of developing coaching knowledge (Nelson et al, 2006). If coach education is to be of benefit to practising coaches, then it has been recommended that the components and variables are significantly changed as coaches develop to better meet their needs in the developmental continuum (Cote, 2006). Perhaps these formal courses need to adapt their approach incorporating changes in course delivery, taking into consideration the time pressures of potential candidates and reviewing assessment procedures to focus on learning (Dickson 2001a; 2001b).

Examining the different types of knowledge that expert coaches have constructed throughout their lives considers many aspects. Coaches identified a number of ways of enhancing their knowledge, gained from both sport and other life experiences. None of the coaches were able to identify the types of knowledge that they routinely used or how this knowledge made them more effective as coaches. Coach S2 explained:

“My background wasn’t in sport – I was in the Navy – but a lot of the stuff I learned there helps. I find that all my life experiences can help with my coaching – not necessarily the swimming related information but the other things that you need to be successful – the rapport, knowing when to push and when to back off, how to spot the kid who’s got not just the strokes but the internal drive to make it.”

Coach F2 also highlighted the importance of the cognitive processes involved in the competitive element of coaching, stating:

“I don’t know why I’m getting the results. I don’t know that I do anything different from other coaches. I have the same issues with players, practice time, equipment and money. I’ve had a lot of experience, I think I know the game inside out. I mean the games are where you show what you know – one team against another – it’s kind of a battle of wits – one coach against another. You have to know your players inside out and it helps if you know the other players and the team’s style of play. It’s a bit like chess.”

As “sport expertise is extremely difficult to characterise with a succinct list of requisite aptitudes,” It must also be presumed that the same is true of sport coaching (Janelle & Hillman, 2003, p.20). The experiences of these coaches “raise the issue of whether mental processes and movement skills are activated by features of the environment and

operate outside of conscious awareness, or whether people consciously control nonconscious processes.” (Singer, 2002, p.361). Coach H3 considered that:

“I’m not sure how I make decisions about my coaching – sometimes I just decide to try things and sometimes they work. It’s not planned, it’s just a reaction to something happening on the pitch.”

Coach S2 added

“I find it easier to react to situations now. It’s like I’ve been there before and I know what’s worked in the past. I go on automatic pilot sometimes – not really thinking, just reacting.”

Sternberg (2003) considers that tacit knowledge, which is what these coaches appear to be utilising, generally increases with experience. Studies have noted that declarative knowledge, taught in a breadth-first manner rather than a depth-first, forward reasoning manner, produced subjects who performed better in problem solving situations (Jones & Turner, 2006; Fung, 2004; Abraham & Collins, 1998). Perhaps this should be an approach adopted in the design of coach development packages?

4.9.2: Experience

According to Saury & Durand, (1998) the experience of expert coaches has been measured in three ways: the length of time in coaching, practical experience and practical knowledge. These coaches feel that proficiency is acquired more through practice, early sports experience and encounters with mentors. They could also identify a key individual who helped or mentored them in the early stages of their coaching career. Coach S3 felt that:

“I was very lucky when I started because I had such great support. It wasn’t anything formal but Jim performed the job of a mentor to me and really made it easy for me to ask him anything. I suppose I just thought that every other coach had someone like him.”

Coach H1 had similar thoughts regarding his early days in coaching, saying:

“I am sure that Hugh played a huge part in making me the coach I am today. He was always around, giving advice, helping me out and generally making me feel useful.”

High level coaches believe that there is a need for a more formalised mentoring programme to allow aspiring coaches with opportunities to acquire hands-on experience and observe mentors during all phases of competition (Bloom, Durand-Bush & Salmela, 1997). The coaches in this study all benefitted from individuals who they considered mentors in the early stages of coaching, but none of them believed that a mentor would assist them in their present situation.

The background of each coach demonstrated involvement in sport, some at an elite level and Coach F3 thought:

“I think there are some valuable experiences and insights that I’ve had as a player that perhaps I’ve used to coach. I think that’s very important. I don’t think I would be as good if I hadn’t played football.”

Whereas Coach F1 reflected:

“I never really enjoyed school that much – I enjoyed the gym classes though – that’s why I wanted to go into sport. I guess

coaching is just an extension of that.”

These coaches had clearly identified their own strengths and weaknesses within their present coaching environment but agreed that they had no guidance about how to enhance their skills. The hockey coach (H1) made the point that:

“Most of the time I feel isolated as a coach – all of the emphasis is on the players and the team. If I have a problem I feel I have to solve it by myself. I think that problem-solving is now one of my strengths.”

Problem solving is one of a number of skills that develop through experience but only if the coach has the knowledge to question themselves and their programmes through reflection. Coach F2 explained:

“I now use myself as a resource, my own source of knowledge. I’ve been a player, a coach, a spectator, an organiser, I’ve seen the game from a number of perspectives over the years. I question myself but not through lack of confidence but to improve my coaching and ultimately my players.”

Hodges & Franks (2002, p793) felt that “the ‘practice session’ itself can be considered a critical element in the development of skilled athletic performance”. It was the view of Coach S1 that the way in which practice sessions were planned and implemented reflected the knowledge of the coach:

“What you do at training, how you maintain the concentration and intensity of the set, how you insist on quality starts and finishes to each distance – all this goes into competition. If you don’t demand this in

practice, how can you expect it in competition. I never used to think this but when you think about it, I mean really think about it, it's about experience – watching competitions and training and treating them both the same.”

This is the authentic domain where the processes take place in authentic contexts. This coach approached his practices as competition allowing learning to be an active and interpretive process of making meaning (Oliver, 1999). Coach S1 has set up a constructivist learning environment and by including competition reflects the setting in which the swimmers should be able to perform at the end of the learning (Falk, 2004).

4.9.3: Personal Qualities

According to Abrahams & Collins, (1998) there are no formulaic coaching personalities or sets of behaviours which lead to coaching success. However, personality traits were initially considered to be determinants of excellent performance (Miller & Kerr, 2002). Many of these coaches considered that certain of their characteristics contributed to their coaching success. Coach S2 pondered:

“I guess I'm more confident about my coaching now. I don't worry so much because I know I can adapt to most situations that I come across.”

Coach H1 also thought:

“I used to have one set way of doing things – that didn't always work. I suppose I'm much more open-minded now, both to situations and individuals. Everyone and every situation is different so I can't have a one-size-fits-all approach.”

Coach F3 was still motivated by his coaching, saying:

“I still love going out onto the pitch, even when it’s raining or freezing. I still get that buzz and the players respond to that.”

These coaches all displayed characteristics which demonstrate their commitment to both their coaching and their athletes. This commitment has been shown to be an integral component within effective coaching as shown by Cote et al’s Coaching Model (1995) and in a broader context, The Sport Commitment Model, developed by Scanlan, Carpenter, Schmidt and Simon (1993). This can also be demonstrated by the commitment of the coach to provide high quality training programmes for their athletes, as Coach H3 showed:

“The team really motivates me to continue – I feel that if they are willing to put the time in to improve then I have to show the same commitment to their training. I have to make sure that the programme is right – and spend the time making changes after practices – I tinker with it all the time just trying to find that one small thing that will make all the difference.”

Expert coaches of team sports have been shown to invest a great deal of time and energy preparing both themselves and their team for a competition (Bloom et al, 1997).

Coach H1 maintained the realities of the situation for her:

“I put a lot of time and effort into my coaching – I spend more time preparing, thinking about and worrying over my coaching - more than I do in my actual job.”

This is reinforced by coach S2, who stated:

“Although I’m involved in sport as part of my job, it’s not the same as being a full-time coach. I mean there is so much more I could do – I can see that – but I don’t have the time or resources to do all the things I want to.”

The team sport coaches maintained that an integral part of their role was the effective deployment of resources and that this consumed a large quantity of their time, especially organising the various support mechanisms at their disposal. The swimming coaches stated that although the organisation of sufficient training time was a factor they tended to be more reactive to situations that arose. “Athletes face the challenge of overcoming resource, motivational and effort constraints in their quest for exceptional performance. Consequently, coaches play a crucial role in orchestrating the environment and removing constraints for athletes to endure intense, high-quality training.” (Durand-Bush, & Salmela, 1996, p.101). Coach F1 explained how he developed:

“I remember starting out – it was when I was still at school. Looking back, I was clueless but I didn’t know that at the time. What I really remember is wanting to do everything, be everywhere, be involved, ask questions, find all sorts of new things that I could do. I guess I caught the bug but well.....I’m not that haphazard now.”

Coach S1 contemplated:

“Do I have a structure to my training - yes absolutely but at certain times of the year there are meets every weekend. You have to sit down with your swimmer and prioritise and also work out when you are going to fit the training in. It all depends on what’s going on and what’s important at that time.”

Coach H3 added more detail about his training regime, saying:

“Macro cycles, micro cycles, testing and all that sort of thing helps you plan a yearly programme but if you look at it in isolation you’re constantly changing things. There has to be progression, there has to be a goal but things change and you need to be able to deal with that.”

The coaches in the present study had a vast array of information about their athletes, detailing many aspects of training, competition and performance, along with personal details, differentiating the individual athletes. None of these coaches were paid as full-time coaches, although, as previously mentioned this was how they viewed themselves. They understood both the effort and investment on the part of their athletes to achieve elite status and were prepared to commit themselves to this challenge. Coach S1 summed up this perspective:

“I’m prepared to do whatever it takes to help them reach the top. If I have to spend more time on the poolside or in the gym, I’ll do it. If I have to find out more about lactates, about biomechanics, about anything they need, I’ll do it. I’m committed to taking them however far they want to go.”

4.9.4: Networking

Many coaches attribute their development of coaching knowledge to their own experiences and observing experienced coaches (Gould et al, 2002). The coaches in this present study agreed with this, but indicated that forums for sharing information and experiences were not encouraged by their sports organisations, and that any developments were generally informal and tended to be amongst friends and close colleagues. Coach S2 evidenced this, as follows:

“I suppose it just developed over time – there’s a lot of time at meets spent hanging around. A number of coaches are at all of the meets so I guess we just found ourselves chatting more, going for coffee, eating lunch together and naturally from there we just started talking about swimming. We all had a lot of similar problems and it helped to talk about them.”

One of the hockey coaches (H1) explained their situation:

“We’ve tried to set things up on a more formal basis in the Institute with all the coaches but it didn’t work for a number of reasons – difficult to schedule with everyone’s coaching commitments, also it seemed staged, you know with an agenda. These things should be spontaneous and deal with real issues.”

These situations generally tend to be unplanned and generally haphazard, but if considered in conjunction with reflective practice can be exceptionally important and useful to the coach (Ollis, Macpherson & Collins, 2006). This random approach is typified by Coach F3:

“I’ve got some close friends in coaching and it’s great to meet up and natter over a beer or two. It’s like putting the world to rights but also sorting out some things in coaching. It’s not even about the sport – some of the people I talk to are involved in other sports but that all helps too.”

Situated learning depends on interaction among people (Lave, 1988) within socially and culturally constructed settings (Wilson, 1993; Lave & Wenger, 1991). Certainly, all learning, and arguably all human interaction, involves situations, contexts, and activities. However, Wilson (1993) argued that gaining skills and knowledge and constructing meaning within situated learning arenas require cognitive processes in authentic settings as opposed to the artificial simulations that are often found in coach education courses. A CoP’s life cycle is determined by the value it provides to its members as “conditions for improving teaching and learning are strengthened when teachers collectively question ineffective teaching routines, examine new conceptions of teaching and learning and engage actively in supporting professional growth” (Little 2002, p. 917).

Throughout the interview process these coaches both explicitly and implicitly highlighted the importance of these informal CoP. This impinged on their own knowledge development and coaching practice and they appreciated the enormous benefits they gained from these networks, as summed up by Coach S3:

“It’s great to be able to pick up the phone and have someone on the other end who’s got similar problems. You have to develop that trust but we’re all working towards the same goal and the very thing about talking about it is having a sounding board. I mean I make my own decisions but to have someone else listen to your thoughts and your reasons and question you really helps.”

The coaches, perhaps as a result of their dissatisfaction with formal coach education courses, deemed themselves self taught at this stage of their development. This dissatisfaction is not confined to the UK but is prevalent in both Canada and Australia, despite recent radical reviews of their coaching structures (Dickson, 2001; Gilbert & Trudel, 1999). Coach S1 thought:

“There’s so much information available now on the Internet. You can download programmes geared towards specific swimmers, clips of the top swimmers technique, nutritional information and lots more. I think the trick is knowing what to use and what not to. There’s so much that you can’t possibly take it all in, never mind use it.”

Coach F2 further described a situation concerning warm ups, when stating:

“I could never get the information that I needed from the NGB, so I found a course at the local college concentrating on warm up games. I got so much from that course that I went to xxx university and did the course on Basic Moves because I realised I didn’t know as much about that as I thought.”

It seems reasonable to assume that coaches will not always be able to access all the information that they need from their sport, especially at the elite level. A variety of

methods and opportunities of gaining knowledge have been presented previously but coaches need to be able to access the data they need quickly and easily, given their other commitments.

4.9.5: Philosophy

Research evidence has suggested a relationship between philosophy or beliefs and actions (Kirk, MacDonald & O'Sullivan, 2006). However Ennis (1994) suggested that “an individual’s beliefs often must be inferred from their actions. They reflect a tacit understanding of personal, social or professional truths that have been constructed over time through enculturation, education or schooling” (p. 164). This would suggest that a coach’s philosophy would be developed prior to them commencing coaching and their very act of coaching could reflect their philosophical stance. Coach H1 considered her philosophy, thinking:

“I guess the way I coach has a lot to do with the way I enjoy sport – it’s hard work but there has to be a reason to keep coming. My motivation and enjoyment are part of the reason I keep going and it’s got to be the same for the kids. I want them to have a positive experience like I did but I also know that a lot of them are not going to achieve the levels they want to – so it’s also about managing their expectations.”

Coach F2 remembered back to her childhood, declaring:

“My dad was the one who really encouraged me in sport. I guess my mum was interested too but she stayed at home with my brother and sister while my dad took me to the games. He always wanted me to enjoy football but also wanted me to

put the effort in – I guess that was where I got my ideas about coaching from – you know, it's not always about the best players but sometimes the ones who give you 110% are the ones who make it in the end.”

Coach H3 added his views of the culture of sport in the UK, reflecting:

“I wish that people had a better understanding of what we do, and recognised the time and the effort that goes into any sporting performance – that needs a big culture change but would probably help getting more people involved, both in sport and coaching. I guess that's not going to happen in my time so I just have to get on with it.”

Coaches start coaching from a wide variety of backgrounds which implies an equally wide continuum of beliefs. The teaching profession has shown a similar broad diversity of backgrounds but research indicates that exposure to teacher training programmes does not appreciably change these beliefs (O'Sullivan, 2005). Previous studies examining expert coaches indicated they had developed clear philosophies regarding the organisation and delivery of high-quality training sessions ((Durand-Bush, & Salmela, 1997). Coach S1 agreed with this, stating:

“I like to vary things in practice sessions. I mean I've seen coaches who were so by-the-book that their warm up never changed – what is the point of that? If the kids know what to do all the time, why is the coach needed? You can vary things but still get across the main points, insist on quality, everything that you want them to do has to be done the way you want it.”

Coach F2 made a compelling point regarding the practice environment created by coaches and how important this is in determining quality, stating:

“I'm so fed up with seeing coaches set up practices, using lots of cones and grids, then standing back and watching. You need to get in there and make sure everyone is concentrating, knows what they're doing and more importantly, why they're doing it.”

The beliefs of coaches play a part in their long term development but generally the coaches in the present study found them difficult to articulate. Although they clearly had well developed philosophies regarding their coaching practice, they did not consider them to be important in framing both their role and their practice. These beliefs have also been shown to have an impact on both learning and the approach to learning (McCullick, 2001).

4.10: Conclusion

There is an apparent need for cooperation between education providers and sports organisations to meet the needs of coaches. For sport coaching to develop and become established as a profession barriers need to be removed. Many of these barriers appear to be situated within the organisational structures of the sports themselves. Coaches need to be recognised for their abilities and educational opportunities that meet the needs of coaches at the performance end of the spectrum need to be addressed as a matter of urgency. This may involve coaches and the NGBs moving away from sport specific delivery and seeking input from external experts to cope with the increasing demands of high performance sport. For example, research on ways of enhancing coaching knowledge found that expert coaches acquired knowledge in a variety of methods, including attending coaching clinics and seminars, reading books, networking, observing other coaches and mentoring (Bloom et al, 2003). This study found that

expert coaches did not value their formal coaching clinics but did consider their informal networks to be of immense benefit. In their developmental pathway, mentoring and observing other coaches had also played an important role.

Abraham et al, (2006) make the point that much research carried out into expertise in coaching has not always used the most appropriate participants. The coaches selected for expert studies possibly are elite coaches but not necessarily expert. Perhaps more attention has to be paid to the determination of expertise and a further examination of currently accepted criteria is warranted. The UKCC intends to raise the standard of coaching by considering “kitemarking” both coaches and coach education courses. Before this happens genuine expert coaches need to be identified, who demonstrate coaching practice that withstands scrutiny (Gilbert & Trudel, 2004)

There is need for the support and nurturing of CoP among coaches at local and regional levels and appropriate connections with other professionals across organizations as needed. Coaches in these communities of practice must be supported and encouraged to share their expertise, organise and plan around common goals, generate a stronger voice to influence quality experiences for young people in competitive sport. More studies dedicated to coaching, similar to the CoDE programme initiated in New Zealand, where coaches considered this approach did deepen both their knowledge and expertise are warranted (Cassidy et al, 2006).

According to these coaches, coach education courses in their current form do not enable coaches to meet the need of high-level performers. The question that has to be asked is are the NGB's the most appropriate deliverers of this type of information to these already practising coaches? The key themes identified by these experienced coaches of knowledge, experience, personal qualities, networking and philosophy are not currently reflected in formal coach education courses. The detail does also not appear to be included in the higher levels of the UKCC, although much of this has not been confirmed at this time.

The main purpose of this study was to ascertain if expert coaches could explain their process of learning to perceived expert status. The interviewed coaches could offer no real insight into their designation as experts. They did raise some questions regarding the value of current coach education provision, especially as it related to their current role as coaches of elite athletes. Their methods of development were considered to be informal, with networking with other coaches of like mind believed to be essential to their progress.

Chapter 5: Study 2

Coaches Perceptions of Coach Education

5.1: Introduction

Coaches within the United Kingdom tend to be volunteers and this raises many questions around both the undertaking of coaching qualifications and the associated knowledge to be developed (MORI, 2004). Coaches perceive their coach education courses in an idiosyncratic manner, often deciding to pursue further qualifications for arbitrary reasons. Research indicates that coaches undertake coach education courses for reasons of career satisfaction, necessity, development of knowledge, intrinsic value or promotion/money (Gauthier, Schinke & Pickard, 2005; Robertson, 2005; Stumph & Sagas, 2005; Mario, De Marco, Mancini & Wuest, 1997). The view of coaching as episodic and short term is shared by the majority of the population but is detrimental to coaching. Hopefully, the introduction of the United Kingdom Coaching Certificate (UKCC) in 2006 will ensure both the relevance of coach education courses and ultimately the professionalisation of coaching within the UK.

From the available literature, it seems that the present criteria, or lack of, to identify expert coaches reveal certain shortcomings. Observation techniques giving a quantitative measure of practice behaviour have previously defined experts (Douge &

Hastie, 1993; Claxton, 1988; Lacy & Darst, 1985). This approach fails to appreciate the enormity of the complex coaching role. The coach, especially if designated a performance coach, has to acquire many skills e.g. communication, planning and networking, as well as developing knowledge in a number of areas e.g. pedagogy, psychology, sociology. In many situations, the coach has to liaise with a support team, which could include assistant coaches, physiotherapists and strength and conditioning coaches (Mallett & Cote, 2006). The ability to manage all these roles successfully should culminate in an effective coaching programme. Coaching expertise is a research focus of the Coaching Task Force (2002), as it has been recognised that the absence of clear criteria to define expertise or indeed to select the best coaches for representative positions is a shortcoming in the UK. There has been little research undertaken into the coaching process, especially as it relates to performance coaching. Much of the published research has highlighted the practice environment, using a delivery skills approach (Alfermann et al, 2005; Coker, 2005; Manos, 2005), whereas research could involve an enhancement of the coaching process, particularly in terms of delineating the role of the expert performance coach. Formal education programs for coaches have only emerged in last 20 years and in most cases are still at a formative stage of development with their effectiveness in producing expert coaches yet to be established (Siedentop & Tannehill, 2000; Gilbert & Trudel, 1999). Furthermore, recent research has suggested that these formal courses have little impact on coach development (Nelson et al, 2006).

5.2: The Coach Education Process

Similar to research into both coaching and coaching expertise, the coach education process has been neglected until recently (Lyle, 1999). The education of a coach has grown organically, through many ad hoc routes, often driven by individuals within organisations rather than organisations themselves (Werthner & Trudel, 2006). It has received far less attention than other occupations, for example, medicine, nursing and teaching, perhaps as a result of the volunteer status of many of the coaches. Coaching is not perceived as a profession with a career structure, so the education process is overlooked as a result, or is it the reverse (SportCoachUK, 2007)? Coaching does not have an education process so therefore it is not viewed as a profession. Whatever the perspective, attention needs to be focussed on the education of coaches so that participants and ultimately sport can benefit.

Coaches who understand different learning styles and preferences tend to be more effective which has implications for coach education content and presenters (Cassidy et al, 2006). Coaching behaviours are also seen to be important to the implementation of the coaching process (Price & Weiss, 2000). Athletes perceive coaches who do not give sufficient instructional feedback to be less effective; similarly, positive reinforcement was viewed as a positive behaviour from coaches (Smith, Smoll & Barnett, 1995). Course structure and content needs to reflect more of the dynamic and contextual nature

of the coaching process. This could allow coaches to understand the principles behind the process of coaching and apply them in their own coaching environment. Presently, there seems to be too much emphasis on sport science and not enough on pedagogy. This tendency to focus on fitness and conditioning because it is easier to monitor than other aspects of practice and instruction again could be reflected in course content (Williams & Hodges, 2005).

If performance expertise is multidimensional (Ollis & Sproule, 2007), then it should follow that coaching expertise is also multidimensional. Coaches need to develop knowledge in a variety of domains, not just in their sport. Knowledge regarding tactical problems in sports to enable participants to use this knowledge in game play is important to the team coach (Henninger, Pagnano, Patton, Griffin and Dodds, 2006). French & McPherson (1999) “suggested decision making was an important component of performance and decision making was related to underlying knowledge of the sport” (p 178). This is further reinforced by Farrow (2004), who relates this to coaching practice, stating, “coaches who provide their players with game- based training opportunities rather than stereotypical drills with minimal decision-making requirements are likely to develop more competent decision-makers (p.13). Again, if the coaches are not aware of the many factors involved in decision-making how are they able to involve their participants in decision-making activities – a key aspect in the development of expertise? Unless these decision-making skills are introduced, developed, extended and synthesised during coach education courses, coaches cannot be

expected to make authentic decisions during sessions or in competition (Lyle, 2002a). There is also a “need to develop coaches with a more objective approach to skill progression development and a greater understanding of the controlling mechanisms inherent in such practices” (Irwin, Hanton & Kerwin, 2005, p 1089). Coaching should be recognised as a cognitive activity, with coach education programmes acknowledging this in terms of content, presentation and assessment (Smith & Cushion, 2006; Lyle, 2002b). It is imperative that any coach education programme contextualises the knowledge presented and highlights the practical application (Cushion et al, 2003). This reinforces the notion of ‘holistic coaching’ and suggests that this could be the end result of the coach education process (Potrac et al, 2000).

There has been little research on how coach education courses are perceived by coaches and the existing reports are very subjective. Many of the courses are not evaluated by NGBs and those that are apparently have no vehicle for feeding this information into the evaluative process. Sport Coach UK undertakes course feedback after each course but the majority of the information collected is coach demographics and organisational data, although they also have an evaluation section regarding the course delivery. Coach education programmes need to become more of an item on the research agenda (Gilbert & Trudel, 1999). When questioned coaches have indicated that practical coaching experience and observing other coaches are the preferred methods of coach learning (Jones et al, 2003; Bloom et al, 1997). The perceived lack of importance placed on formal qualification processes poses some important questions. Should the development

of coach education courses be seen to concentrate on the learner rather than the coach as is currently the case (Cassidy et al, 2006)? A recent MORI survey indicated that the majority of coaches would participate in coach education courses if funding were available (MORI, 2004). Is this a key obstacle to development? Appropriate subject knowledge needs to be developed, however this still does not presume coaches are able to apply this knowledge in practice. Mentors have long been seen to benefit coaching development but there are associated difficulties, both in terms of access and approach, which needs to be open and non-restrictive (Robertson & Hubball, 2005; Nash 2003).

Frequently, coaches are entering coaching with little actual knowledge of the expectations that will be placed on them, in both the coaching environment and the continuing development of their knowledge and practice (Reimer, Park & Hinsz, 2006; Irwin et al, 2005). How do coaches identify gaps in knowledge and subsequently gain knowledge to plug these gaps? Learning occurs effectively when the demands match both intellectual and psychological skills, which suggests that coaching education courses need to integrate learning theory into the process (Wein, 2001). A coaches' knowledge base must develop in conjunction with research into both theory and practice. However, in the current climate is the novice coach even aware of what they do not know (Fairweather, 1999)? For example, much science-based research can be presented as fact but it is important for coaches to understand that scientific knowledge is never absolutely certain. It is the role of the coach to carefully consider and evaluate

the latest scientific knowledge before both adapting and adopting it into their coaching practice (Probst & Lawler, 2007).

It appears that coaches teach an activity based upon *how* they were taught – not from coach education experiences (Nordmann, 2006). Perhaps this occurs as the current structure of much coach education does not suit the adult learner through the methods they utilise to develop knowledge and understanding (Bagnell, 2005). Standards for Qualified Teacher Status (QTS) have been established in teaching courses for professional values and practice, knowledge and understanding, and teaching (planning, monitoring and assessment, teaching and class management). However, it has been noted in England that subject knowledge is weak for student PE teachers (OFSTED, 1999). The view of Siedentop (2002) is that recently qualified PE teachers are skilled in delivery methods i.e. pedagogy, but lack sufficient subject content knowledge to teach activities past a basic level. This would appear to be the opposite of coaching where there are no standards for qualified coaching status in coaching, for subject knowledge, for example. This has considerable implications for coaching with the lack of sufficient depth of subject/sport knowledge resulting in participants not being challenged and repetition of similar material/sessions. This will have considerable impact on the commitment and motivation of participants, particularly at initial levels. Coaching students trained in problem-based learning (PBL), instead of traditional delivery methods appeared to consider their coaching from a different perspective (Werthner & Trudel, 2006). Coaches tend to learn “as a result of their PBL experience, in addition to

developing a better appreciation of the inherent complexity of coaching which relates to the many interrelated knowledges needed to excel at the activity” (Jones & Turner, 2006, p 78).

During their development, expert coaches appear to spend most of their time in three key areas; practice, competition, and personal reflection, although research has still not discovered what coaches reflect upon during this personal reflection (ATFCA, 2006). Reflection can be defined “as an active and deliberate cognitive process involving sequences of interconnected ideas which take account of underlying beliefs and knowledge. Reflective thinking generally addresses practical problems, allowing for doubt and perplexity before possible solutions are reached” (Edwards, 1999, p70). Further, student physical education teachers are required to engage in formal reflection (Gower and Capel, 2004). Could a similar system be introduced and formalised for developing coaches? Schön (1988) suggested that reflection assists the learning process by synthesising both experience and knowledge – a key skill for expert coaches. He also viewed practice as a blend of theory and experience that has been reflected upon rather than the usual view of practice being the application of theory.

5.3: Purpose of Study

The views and opinions of coaches are generally neglected in the design of formal coach education courses, further illustrating that the evaluation of coach education

provision has become one of the most crucial issues in sport research (Cassidy et al, 2006; Gilbert & Trudel, 2005; Irwin et al, 2005). It could be suggested that the development of the expert coach is more likely to occur when they are able to see the long term benefits of their learning process. This, in turn, could lead to an improvement in sporting performance, a key objective for London 2012. This study examines coaches' perceptions of their coach education experiences and elicits their opinions of their personal development. It explores their beliefs of knowledge, assessment, learning, decision making and reflection and the impact of various sporting organisations in that process. It also investigates the development of expert coaches and leads to discussion of existing criteria for defining expertise in coaching.

5.4: Method

5.4.1: Participants

The participants (n=621) in this study were sport coaches from a variety of backgrounds. For the purpose of this research, the definition of 'coaches' will be that used by MORI when carrying out their research for *Sports Coaching in the UK* (MORI, 2004). This covered all coaching activity, from informally organised to elite: "*Any individual that is involved in providing coaching.*" As this was an inclusive definition of coaching there were not inclusion or exclusion criteria, except that all of the coaches had previously undertaken or were currently undertaking a formal coach education

course. All coaches reported themselves as currently active within their particular sport, although the level of that activity varied considerably. The coaches also self-selected their current level of coaching qualification, ranging from no formal qualification to Level 5. The coaches completing this questionnaire were from all countries of the United Kingdom. The participants were not required to give any personal information, however there was the opportunity to record contact information for a follow up study should the participants wish to be further involved.

5.4.2: Questionnaire

The questionnaire used was adapted from a study conducted by the Australian Sports Commission (Appendix 3). Permission to use the questionnaire was obtained from the Australian Sports Commission. The adaptations made were in areas of language, where terminology may vary between Australia and the UK. The first section of the questionnaire collected background data, followed by four sections covering issues within coach education organisation, course qualification, coach assessment and finally coach learning. The final section examined the coaches' perceptions of their critical thinking. Section 1 of the questionnaire requested demographic data in a variety of question formats, for example, ticking boxes or providing an answer in the space provided. The next four sections all gathered information using a five point Likert scale.

5.4.3: Procedure

Questionnaire survey data were collected over a period of ten months from three main sources;

1. Coaches attending a coach education course run by a National Governing Body;
2. Coaches attending a coach education course run by another body e.g. SportCoachUK.;
3. Coaches attending a coach education course run by an educational authority.

Questionnaires were distributed to participants along with an informed consent by the course coordinator. Respondents did not need to provide names and contact details unless they wished to participate in Study 3. The completed questionnaires were returned by the end of their course. It was emphasized that participation was voluntary and they were not required to complete the questionnaire. By using this face-to-face method of distribution and collection, the 78% response rate was higher than reported in similar studies (37%) (Barclay, Todd, Finlay, Grande & Wyatt, 2002).

5.4.4: Statistical Analysis

5.4.4.1: Questionnaire: Section 1

The participants' demographic data, as well as some sport related background is presented descriptively as means, frequencies, ranges and standard deviations. As in the original Australian study, this provided the most appropriate method of analysing these

data.

5.4.4.2: Questionnaire: Section 2, 3, 4 & 5

Sections two, three and four collected attitudinal data, expressed in the form of 5-point Likert scales. This data was analysed by a Chi-Square test of association, a comparison of two attributes in the responses to determine if there was any relationship between them. The purpose behind this method of analysis was to compare the observed frequencies with the frequencies that would be expected if the null hypothesis of no association/statistical independence were true. By assuming the variables are independent, it is possible to predict an expected frequency for each cell in the contingency table. The main aim was to determine if there was a relationship between key variables, for example, level of coaching qualification and perceptions of learning. Respondents were also given the opportunity to comment on their answers. These comments were used to add richness to the statistical information gathered.

5.5: Results

Demographic statistics generated from the 621 respondents to the survey indicate that the respondent coaches had the following profile:

- 64.6% male and 35.4% female, aged between 16-71 years (mean age 28.2, SD= \pm 11.0).
- Time in coaching ranged from less than 1 year to 42 years (mean time 3.4 years, SD= \pm 3.5)

- Hours per week spent in the coaching task ranged from 1 – 100 hours (mean 13.1 hours, SD= \pm 13.5)
- The breakdown of coaching qualifications as reported by the coaches was 2.9% with no formal coaching qualifications, 32.7% at Level 1, 27.6% at Level 2, 19.5% at Level 3, 10.4% at Level 4 and 7.0% at level 5.
- Time spent at current level of qualification averaged 2.3 years (SD= \pm 1.7).
- Educational qualifications were reported as 30.5% finishing secondary school, 31.8% attending a further education college, 29.2% completing an undergraduate degree and 8.4% gaining an postgraduate qualification.
- 15.5% made their income solely from coaching with 84.5% receiving no payment.
- The majority of coaches worked with wide age ranges, from under 5 years to over 40 years. Level 1 coaches tended to work with more of the under 12 age groups, rather than adults or older children.

There were more participating male coaches than female, almost 2:1 in ratio. When the qualifications between males and females were examined more closely, it was found that the distribution between coaching qualification levels was similar as shown in Table 5.1.

Coaching Qualification	Male		Female	
	Number	% of Total	Number	% of Total
None	9	2%	8	3.1%
Level 1	131	32.8%	70	32.5%
Level 2	106	26.7%	64	29.7%
Level 3	81	20.3%	39	18.2%
Level 4	44	11.1%	20	9.6%
Level 5	28	7.1%	15	6.9%
Total	399	100%	216	100%

Table 5.1: Comparison of Coaching Qualification by Sex

The majority of respondents were football coaches (30.9%), which corresponds to MORI (2004) findings that football is the most coached sport in the UK. A wide range of other sports, both team and individual were also examined (36 in total) e.g. hockey, rugby, basketball, athletics, gymnastics and swimming. Findings show that there is a tendency for coaches of individual sports to attain a higher level of coaching qualification (Table 5.2) than coaches of team sports.

Sport Coached	Level of Coaching Qualification						Total
	None	Level 1	Level 2	Level 3	Level 4	Level 5	
Athletics	1	5	12	7	1	10	36
Badminton	0	5	7	3	3	1	19
Basketball	1	10	7	6	4	2	30
Cricket	0	3	4	3	0	0	10
Football	2	105	42	30	10	2	191
Gymnastics	0	3	3	4	4	4	18
Hockey	1	20	9	11	6	2	49
Netball	1	8	10	3	1	1	24
Rugby	1	13	20	6	4	1	45
Skiing	0	1	6	1	4	1	13
Squash	0	2	4	1	3	1	11
Swimming	1	9	11	15	8	8	52
Tennis	1	2	8	4	5	1	21
Volleyball	1	4	6	7	4	3	25

Table 5.2 : Comparison of Coaching Qualification in Individual & Team Sports (Selected sports with 10 or more respondents)

The results also indicate that more than 50% of the coaches qualified at the highest level (Level 5), also hold a postgraduate qualification. (Table 5.3). Similarly the results show that 91.5% of those coaches with either no coaching qualification or a Level 1 or 2 certificate had completed secondary school.

Coaching Qualification	Highest Educational Qualification			
	Secondary School	Further Education College	Undergraduate Degree	Postgraduate Qualification
None	9	2	1	1
Level 1	118	51	30	7
Level 2	44	68	51	12
Level 3	8	46	54	16
Level 4	7	15	26	11
Level 5	1	14	17	51
Total	187	196	179	98

Table 5.3 : Comparison of Coaching Qualifications and Educational Qualifications

Chi square tests were carried out on the sections covering organizational, course qualification, assessment and learning questions. The purpose of these was to determine if there was a difference between the perceptions of coaches at different levels of coaching qualifications. These results are contained in Table 5.4.

Questionnaire Section	Chi Square (p value)
Section 2: Organisational issues affecting coaching qualification	9.842
Section 3: Course qualification issues	13.049
Section 4: Assessment issues	11.243
Section 5: Learning issues	12.881
Section 6: Agreeance issues	16.562

Table 5.4 : Chi Square Results between Levels of Coaching Qualification

The results showed that there was no statistical difference in perceptions of aspects of coach education courses between unqualified coaches and those at the highest level of

coaching qualification in their sport.

5.6: Discussion

The questionnaire was subdivided into six sections that will be discussed here. These sections are as follows: Organisational Issues that Affect Coaching Qualifications; Course Qualification Issues; Assessment Issues; Learning Issues; Agreeance Issues; Critical Thinking. The answers to individual questions in each section were ranked to highlight the key concerns of the coaches in this study and for the purposes of discussion. As there was a vast amount of information generated by this questionnaire, only the major issues identified by the coaches are discussed in any depth.

5.6.1: Organisational Issues that Affect Coaching Qualifications

This section covered areas concerning NGB's in terms of their organisation, administration and follow-up of coach education courses. It also addressed issues of mentoring, use of technology in coaching and availability of technical equipment. There were no significant differences in the perceptions of the coaches at different levels of coaching qualification ($p= 9.842$), although there were some trends. For example, coaches at lower levels (Level 1) perceived formal coaching courses to be available more often than coaches at the higher level of qualification (Level 5).

Ranking the responses in this section, the key concerns were as follows:

Access to Coaching Organisations

Many of the coaches felt that the NGB's were happy for them to sign up and attend the appropriate courses, especially when this involved payment. This question was significant in that all of the coaches, regardless of their level of qualification, felt that the input and follow-up of the NGB was crucial but not particularly positive. More regular contact and information from the NGB's would allow coaches to make informed decisions regarding their coaching practice and subsequent coach education courses. Coaches, especially at initial levels, did not feel included or involved within the sport or the coaching fraternity as a result of this lack of communication from NGBs.

Access to "mentor" coaches

The coaches, although displaying no significant differences between levels, believe that a mentor coach would be an extremely positive consideration in their development. Problems arise with the access – many coaches, although realising the potential benefits of mentors, highlight the difficulties associated with identifying and enlisting the help of a more experienced coach to act as a mentor. Many schemes in the UK have attempted to assign mentors to coaches, for example, NGBs and local authorities (DCMS, 2002; SFA, 2002; South Lanarkshire Council, 1999). Other countries, for example, Canada & Australia, have a more structured system but only introduce this at the more elite levels of coaching development (Thomson, 1998; Tinning, 1996). Interestingly, all levels of coaches felt they would gain important knowledge from

working closely with a mentor. With the introduction of the UKCC, mentoring opportunities are likely to become more widespread and formalised, as these opportunities are going to be built into the new suite of courses. This still does not address the issues associated with recruiting sufficient mentors with the relevant experience and training.

Access to and use of technology

The coaches were very interested and motivated to utilise recent technologies in their coaching e.g. CDs on technique development. The portrayal of many new technologies as easily accessible and simple to use made coaches' feel that they should integrate many of these tools into their coaching sessions. Coaches at the preliminary levels were not currently using many technological aids, as they perceived them as belonging to more performance oriented coaching. More experienced coaches felt that exploration of available technologies may lessen the need for attendance at coach education courses e.g. some of the content may be accessed electronically. Although these technological advances are easy to access, questions must be asked as to how they could be utilised effectively within coach education programmes.

5.6.2: Course Qualification Issues

The questions asked in this section referred to specific factors either helping or obstructing subsequent qualification. Issues such as mandatory course attendance

requirements, the time involved and associated costs were all considered by the coaches and as before there were no significant differences between coaching levels ($p=13.049$).

Ranking the questions asked in this section, the key concerns were as follows:

Complexity of Sport Specific Content

Many of the ideas presented at the courses were thought to be challenging. There was agreement on this question between levels of coaches, indicating that many of the sport-specific drills were both complex and unknown to the coaches. Problems were also perceived in relating much of this content to individual coaching environments, as no mention was made of adaptations to particular coaching environments or for individualisation to specific performers. Much research has highlighted that expert coaches are able to adapt to changing circumstances (Kidman, 2001; Bell, 1997), although this group of coaches asserted that their coaching courses did not either prepare them for this eventuality or take cognisance that they may have to do so in the authentic environment.

Course Attendance Requirements

Many of the issues surrounding course attendance were actually more concerned with the timing of courses, generally weekends and evenings. This was also the time when the majority of coaches (84.5% volunteers) were involved in coaching, competition or other coaching related activities. The coaches, regardless of level, considered that

attendance requirements were necessary, however a number of more experienced coaches raised concerns that some sessions within courses appeared to be time “fillers”. Coaches have stated that formal coach education courses have little relevance to coach development and the authentic job of coaching (Nelson et al, 2006). If coaches view their education programmes of little importance and consider some information presented to be extraneous to their needs, then they may not wish to invest time into these courses. This could clearly be linked to the technology issues raised above where available tools could be utilised to ease access and to allow coaches to spend more time coaching.

Expense of Coaching Courses

All coaches agreed that the expense of courses was a major hindrance to furthering their certification. This was clearly related to the volunteer status of the large percentage of the sample (84.5%) but also the perceived difficulties in accessing funding. Many coaches felt that although there were avenues to gain full or partial funding for development, the associated difficulties with paperwork and the time required for completion negated many positive benefits. Much of this related to the apparent lack of publicity about funding opportunities coupled with the clarity of information required. There were associations between the perceived expense of coaching courses, volunteer status of the large majority of coaches and the lack of a professional development structure within coaching.

Difficulty Gap between Courses

A number of the coaches highlighted large jumps between expectations at different levels of coaching course. This was mainly highlighted by coaches of individual sports e.g. swimming, athletics and gymnastics. This was coupled with the expenses of these courses – many coaches felt that they would not enrol on these courses unless they were sure they were going to be successful i.e. pass the course. They also stressed that as there were few opportunities to develop outwith the coaching qualifications they had little prospect of anticipating the next level expected of them. This suggests that there could be ongoing programmes, which allow the coaches to keep up to date with recent developments, formative in nature, but enabling the coach to gain more knowledge prior to undertaking the next level of qualification.

5.6.3: Assessment Issues

This section concentrated on factors affecting the assessment of coaches. Issues examining assessment criteria, theory assessment and practical assessment, both conducted during course time and more realistically within the coaches own practice environment. It also considered the quality of the assessors as well as the personal rapport of the course attendees with the assessors.

Ranking the questions asked in this section, the key concerns were as follows:

Quality of Assessors

The quality of the assessors in areas such as presentation, feedback, clarity and knowledge were thought to be important. The perception was that the assessors also had to be both personable and approachable. Some courses had more than one assessor and this led to questions of parity between them, some coaches feeling that there was a certain “luck of the draw” in assessment.

Clarity of Assessment Criteria

Coaches wanted clarity as to the expectations of assessment and they perceived there to be little transparency in both theory and practical assessments. A number of football coaches questioned the purpose of rote practical assessments where they had to mimic the course leader, who was also the assessor. Generally, throughout the responses, there was genuine concern from coaches as to the transparency of assessment criteria.

Practical Assessments during Course Time

The issue surrounding the practical in-course assessment concerned the use of the peer group as participants. The coaches felt that this did not equate with the realities of coaching their athletes in their sport in their environment and as a result did not properly assess practical skills. In addition, a number of the more qualified coaches felt that practical assessments during the course did not allow them the time necessary to reflect on course content and integrate it into their sessions in the best possible way.

Personal Rapport with Assessors

A large percentage of coaches perceived the assessors to have known/worked with those being assessed prior to the course. They indicated that there was a certain bias accorded to coaches who were known as either ex-players or development officers. The majority of the coaches undertaking assessment did feel that developing a rapport with the course leaders was extremely important as it was linked to assessment clarity and likelihood of success.

5.6.4: Learning Issues

This section covered aspects of learning that the coaches deemed to be important. It investigated areas such as learning styles, application of new knowledge, development of knowledge base and decision-making capabilities. There were no associations apparent in the analysis ($p=12.881$).

Ranking the questions asked in this section, the key concerns were as follows:

Working with Others Enhances Learning

As previously mentioned the majority of coaches identified working with others as extremely beneficial to their development. This was accepted on both the coaching courses, learning from other attendees, and in their own coaching context. Clearly, this

was more strongly perceived by the more experienced coaches to be a key component of their development, especially those with more than 10 years coaching experience. Mentors and coaching networks or CoPs were seen to be especially beneficial by these more experienced coaches. Level 1 coaches also felt strongly that group learning was beneficial however this could be attributed to security reasons i.e. these inexperienced coaches wanted to be part of a group rather than have to operate individually, which could be threatening.

Development of Knowledge

Many coaches felt that the courses presented them mainly with new skills and drills as well as emphasising new techniques. At higher levels of qualification, this was not felt to be as appropriate as other methods of delivery were considered more beneficial to the type of coaching e.g. distance learning and individual learning needs analysis. Noticeably, many coaches who could be designated as expert felt that their knowledge development and enhancement was not improved by attendance at mainstream coach education courses.

Application of New Knowledge into Coaching

How much of the information presented at the coaching courses translated into readily useable material is debatable. Some coaches felt that much of the information was easily transferred and used but a number of the more experienced coaches recognised that the content presented needed to be contextualised prior to use. As mentioned

previously, there was little recognition of the necessity to view the new information from different perspectives.

Decision Making

Although this is perceived to be a key skill for coaching by researchers (Vickers et al, 1999), the majority of these coaches did not consider it particularly important. Perhaps this is because coaches are not aware of the many and varied decisions they frequently have to make, often instantaneously. It was also felt that there was little emphasis on decision-making skills during coach education courses. Some felt that it was actually de-emphasised in favour of “performing by rote”.

5.6.5: Agreeance Issues

This section covered issues relating to coach perceptions of development processes and the key aspects that affect them in their coaching role. It includes aspects of learning and knowledge as the coaches view their contribution to their progress through the coaching qualification levels. It considers areas of politics, power, philosophy as well as examining coaches’ views on reflective practice.

Ranking the questions asked in this section, the key concerns were as follows:

Current Qualification Level

Coaches were generally content to stay at their current level of coaching qualification. While this may be expected from coaches at the highest level of qualification, it seems surprising that the coaches at levels 2, 3 & 4 apparently do not aspire to undertaking further coaching qualifications. This may reflect the general perception of dissatisfaction with coach education courses as they are currently presented and assessed.

Knowledge of the 'ologies'

Coaches were asked whether or not coach education courses enhanced their knowledge of psychology, physiology and biomechanics. The majority of the coaches, regardless of level of coaching qualification, were undecided if their knowledge in these areas was improved by coach education courses. Some coaches noted that there was little or no information in these areas presented on their courses. These coaches tended to represent the team sports, with a football coach pointing out that this type of information was accessible through various ancillary modules that were not necessary for all coaching qualifications.

Innovative Coaching Methods

Coaches did not perceive coach assessors to be receptive to innovative coaching methods. Furthermore, the more highly qualified the coach the less accepting they considered the coach assessors. This could indicate that the more qualified and experienced coaches are more likely to use innovative methods within their coaching

environment. It could also follow that those coaches undertaking the initial level coaching qualifications are less likely to have the knowledge base to be innovative and creative at that stage in their coaching.

Assessment Procedures

Although there were a number of statements regarding assessment and assessment procedures, this particular question related to the nature of the assessment. The majority of coaches (73%) considered assessment procedures to be intimidating. The question did not specify the type of assessment, for example practical or theory, nor did it relate the threatening nature of assessment to any actual experiences of the coaches. It is the responsibility of any assessor to make any form of appraisal as comfortable as possible. There are, however a number of coach education courses where there is no formal assessment process, for example, Scottish Football Association (SFA) Level 1 and Level 2 courses. The rationale behind this is to encourage as many people as possible, from varied backgrounds to undertake coaching qualifications (SFA, 2002).

Informal Learning Methods

It appears from these results that coaches at every level are interested in developing their own knowledge and use a variety of methods to do so. There seems to be a clear consensus that informal methods are preferable to attending coach education courses. It is not clear what informal methods are being utilised by coaches or how they are accessing the necessary information. It is also not specified why they feel informal learning methods to be preferable although there does seem to be an exception among

coaches that formal coach education courses are limited in their effectiveness, especially in the development of coaching expertise.

5.6.6: Critical Thinking

Over 93% of all respondent coaches indicated that they reflected at a set time after either training or competition. A similar percentage (94%) revealed that they had a set list of questions designed to evaluate their coaching. Again, there is no detail about the types of questions that the coaches ask, or in fact, what they do with the answers to these questions. A smaller number of coaches (62%) indicated that they had a critical friend to assist them in their reflective practice or indeed just to consult over certain aspects of coaching which proved to be difficult.

Developing routines in certain aspects of coaching, for example, warm up and organisation of groups is said to be an important aspect of expertise (Kreber, 2002; Guest et al., 2001). Less than 20% of these coaches revealed that they used routines as a part of their coaching. Perhaps many coaches do not recognise their way of managing certain aspects of practice as a routine, or they are not sufficiently ingrained at this moment to be accepted as habitual.

Approximately half of the coaches (51%) stated that they not only made intuitive decisions within their coaching but also questioned these decisions on a regular basis (53%). Decision making is considered to be a key element in expertise and “Therefore, as expertise grows, greater reliance is placed on intuitive feeling to guide performance.”

(Davids & Myer, 1990, p. 275). The coach's actions may reflect their knowledge, but they could find it difficult to articulate what they know and this contributes to the mystery surrounding both decision-making and expertise (Nash & Collins, 2006). As coaches develop expertise, the process appears to become less well defined, perhaps because these coaches are not aware of the reasons behind their decision-making. This question does not engender sufficient detail regarding the decision making process of these coaches.

The questioning of decisions would appear to be connected to the practice of reflection, which well over 90% of this group of coaches acknowledged that they observed. This would seem to be a discrepancy but perhaps this could be explained. Although coaches are aware that reflection is considered to be beneficial in their development, many coach education courses organised by the NGBs do not include any instruction or information on the process and implementation of reflection.

5.7: Key Recommendations

This study provides a general picture of how coaches perceive both the NGB's and other coaching organisations. Individual sports will probably recognise that they need to consider ways of ensuring coaches feel supported and valued, especially as the majority are volunteers. Coaching organisations in general need to be more informed about the perceptions and needs of the coaches. Some organisations are more proactive than others, employing staff to specifically liaise with their coaches and keep them informed

of new developments. Coaches tend to work in isolation and any activity to make them feel more included, especially with a development angle could make them more likely to remain in the sport.

Another role of the coaching organisation could be to provide their coaches with access to resource material. As previously mentioned, the majority of coaches are volunteers so should not be expected to provide their own material. SportCoachUK provides local coaching resource centres in libraries and universities. However, this is not well publicised to the majority of coaches and therefore not widely utilised (SportScotland, 2006). This expense, added to the expense of the actual course, could prove to be beyond the financial resources of many volunteer coaches.

The ASC (2001) found that two key barriers to coach education accreditation were the expense of the courses and the criteria specified for course attendance. The third constraint was the geographical distances, which aspirant coaches had to travel, not surprising in a country the size of Australia. The Australian coach respondents thought that a great strength of these courses was the face-to-face interaction with course instructors as well as the later support from mentors (ASC, 2001). These results enabled recommendations to be made to both sporting associations and coaching organisations.

In the present study, although there were no significant associations in the collected data, surely that in itself is significant. This would imply that there is no difference in the perceptions of coaches, who have just commenced their coaching duties and hold an

entry-level qualification and those who could be construed as experts in their sport. It must be argued that coaches with national coaching appointments should view coach education from a different perspective from the inexperienced novice. If the aim of the formal coach education system were the development of expert coaches, it would appear to be failing. This prompts questions regarding the development of expertise in the coaching context and subsequent re-examination of the criteria for expertise.

Coaches have identified that they consider mentoring would make a difference to their development and subsequent realisation of expertise. There are difficulties in the organisation and administration of such a process. For example, at what level should mentoring be included and should it be integrated into formal coach education programmes. Once organisational issues have been resolved, the question remains as to who would be designated as mentors. This raises many problems as the relationship between mentor and mentee has been shown to be pivotal in the success of the process (Robertson & Hubball, 2005).

Coaches' perceptions of the complexity of course material raises questions over the content of coach education courses, specifically as the courses are hierarchical in nature and there are no clear guidelines regarding any intervening study between courses. Perhaps French guidelines could be adopted, which specify a mandatory gap between qualification levels, this time increasing as qualification levels increase (INSEP, 2007). Canada and Australia also require that the candidate coach be recommended by their

specific NGB prior to embarking on higher level courses (ASC, 2007; CAC, 2007). This could help ensure that only coaches who were able to cope with the demands of the courses, would be able to undertake them.

If the issues highlighted above could be addressed, then one of the other key issues disclosed by these coaches, that of assessment, could be resolved. The majority of NGB's do not include assessment of any sort at the earlier stages of qualification. This raises the question of whether these coaching courses can be designated as qualifications if there is no opportunity for appraisal. This then creates uncertainty about not only the education of coaches but the emergence of coaching as a career. Again, using other countries as examples, Australia and Canada have assessment built into their formal courses (Appendix 4) but these countries also recognise coaching as a career and treat the education of coaches more comprehensively than is currently the case in the UK. This may change as the UKCC becomes more widely adopted.

As well as both the content and assessment of coach education courses being reviewed, the presentation could also require reconsideration. These coaches make the point that much of the information presented does not transfer well into their particular coaching environment. Again a key aspect of expertise is this ability to contextualise information and to make it particularly relevant to the individual or situation. This also relates to the decision making processes of coaches. Unless coaches are able to contextualise their

learning, especially under the time constraints of many coaching situations, above all competition, they are not to develop expertise. This is a feature that could be addressed in coach education programmes, if the format was more interactive. This could help resolve the issue raised by these coaches of group working. They consider that group working is beneficial to both their learning and their development as coaches. Many of the attributes of expertise could be developed given a review of coach education courses, taking into account content, presentation, assessment and access to ongoing learning development.

This views expressed by these coaches may not be entirely supportive of formal, organised coach education programmes but value the development of new knowledge to assist them in their coaching role. There appear to be associated issues surrounding the rationale of these coaching courses – are they to demonstrate and develop good coaching practice or simply to enable the coaches to gain the qualification? Coach education has been comparatively neglected in the United Kingdom and coaching appears to happen on an ad hoc basis. This cannot continue if coaching, and therefore sport, is to develop.

Chapter 6: Study 3

Transitions to Expertise

6.1: Introduction

The transition process in sport has recently become topical in sport psychology research (Knowles, Tyler, Gilbourne, & Eubank, 2006; Nelson, Cushion, & Potrac, 2006; Vallée & Bloom, 2005; Cushion, Armour, & Jones, 2003; Gilbert, & Côté, 2003). As with a number of expertise studies in sport much of the research concentrates on the development of the athlete and their transition through sport and subsequently into retirement (Lavallee, Kremer, Moran & Williams, 2004; Durand-Bush & Salmela, 2002; Kerr & Dacyshyn, 2000; Ericsson, 1998). This transition appears to place considerable demands on the participants, particularly in terms of adapting behaviours and cognitive strategies, for example, new tactical roles and decision making abilities.

At present, the coaching system in the UK tends to encourage experienced and more qualified coaches working at the elite level. Within the younger age groups, where the development of physical literacy and general skills is essential, volunteer and novice coaches predominate. Physical literacy includes the “motivation, confidence, physical competence, understanding and knowledge to maintain physical activity at an individually appropriate level, throughout life” (Whitehead, 2006, p.2). This concept of physical literacy correlates to the principles expressed in the LTAD framework, where

performers go through a series of transitions with the end result of performance expertise (Balyi & Hamilton, 2004; Appendix 5). This coaching system can result in the least experienced coaches operating at the stages most critical to long-term sporting development rather than experienced coaches leading well-organised sessions of age appropriate activities. This is further encouraged by the traditional coach education structure where the perceived advantages and recognition are only available at the elite level of coaching. Placing inexperienced coaches at crucial stages of a child's development can result in poor physical literacy and, more importantly, many children being lost to sport possibly as a result of bad experiences, for example, repetition of practice activities leading to boredom of participants. The damage caused by inappropriate coaching practices at this stage may not be fully regained over time and may lead to lack of progress to elite level.

6.2: Future Coach Education Trends

The UKCC (2004) is a new structure for coach education and qualification that developed from a Coaching Task Force review undertaken for the Department for Culture, Media and Sport (DCMS) in England (2002). The development of a UK-wide national coaching certificate at five levels is designed to create parity between NGBs' coaching qualifications (Appendix 6). More recently, sports coach UK (scUK) developed the 'World Class Coaching System' (WCCS) as a tool to help deliver the UK Vision for Coaching. The WCCS aims to "always provide a coach who is fit for purpose

and deliver the right coach at the right place at the right time” (sports coach UK 2005). The UK currently lacks an integrated coach and coach education system, which has left coaching underdeveloped as a profession. In a number of European countries, for example France and Germany, there has been a move towards the professionalisation of coaching. A Europe wide framework with a five-level structure has been proposed, with level three likely to be an important benchmark (Duffy, 2005). The UK system needs realignment to compete against best international practice and to correspond between sports, both between the home countries and across the UK.

The fundamental change that the UKCC aims to make is the professionalisation of coaching and the establishment of a career pathway for coaches (DCMS, 2007). Employment opportunities for coaches should be evident across the player pathway and not just at the elite level. However, the majority of people involved in coaching in the UK do so in a voluntary capacity (UKCC, 2004). With this in mind, the establishment of coaching as a paid profession with a formal career pathway must be very much a long-term goal.

Subsequently, the professionalisation of the training and development of coaches must reflect the voluntary nature of coaching and the value of volunteers to coaching. Sport, as it is structured in the UK at present, will always require voluntary coaches and it is important to have flexible approaches in place to meet the needs of both paid and unpaid coaches (MORI, 2004). This dependence on volunteers and the move towards professionalisation of some coaching positions presents both barriers and constraints for

those involved in sport at all levels and within all settings. This has significant implications for the recruitment, development, employment and deployment of coaches (Lyle, 2002). Unreliable or missing data on coaches and coaching limits tracking and restricts planning. In the UK, coaching performance has fallen behind Australia and France, where cohesive and well-established coaching and coach education structures are in place (INSEP, 2006; ASC, 2003). Central agencies and systems have been established in other countries, for example, Canada (CAC, 2007) enabling central control by one overarching agency.

There has been significant growth in the number of coaching posts available in Scotland since Lottery funding became available (1995). Initially funding supported the appointment of national coaches in NGBs. More recently this funding been used to support the creation of coaching development officer posts for local authorities or a group of local authorities, for example, Sport Tayside, and the emergence of directors of coaching for NGBs (2004). There has also been more coaching input in schools with the appointment of both school sport co-ordinators and active schools co-ordinators. In their role, coordinators are responsible for recruiting people to take school activity (Small & Nash, 2005). The managers of these co-ordinators could be considered a key member of any local coaching strategy group and play a part in identifying coach education needs.

Evaluations of coaching and coaches have become more prevalent as positions have become full time and paid. A number of criticisms have been leveled at coaches, coach education provision and the NGBs with one of the primary concerns being there are not

enough coaches, an observation initially made by the Coaching Task Force (2002). Although there have been a number of initiatives to recruit more coaches there is still perceived to be a shortage (MORI, 2004). While coaches are perceived to have an excellent sport-specific knowledge, they tend to lack in knowledge relating to non sport-specific areas which affect the athlete such as long term programming, pedagogy and strength and conditioning (SIS, 2006). Coaches are attending coach education courses and then leaving coaching (MORI, 2004): this could be a result of the perceived lack of support for coaches. At present, there is no widespread approach to coach mentoring which could help address this shortfall (DfES, 2003). As the process of coaching becomes more demanding and the role of the coach is extended, coaches need more time to carry out administrative duties or require support to perform this remit (SportScotland, 2005). Despite the increased responsibilities that coaches now must undertake, clubs are still not willing to pay for coaching services (DCMS, 2005). Both the quality and quantity of coaches were identified by participants as general concerns, affecting their role in managing or delivering coaching programmes. The NGBs voiced particular concern about the quality of coaches, while representatives from local authorities were focused on the problem of insufficient numbers of coaches to deliver their programmes (Sport Coach UK, 2006; UKSport, 2004).

6.3: Transition Theory

In their seminal work, Bloom and colleagues (1985) interviewed a number of expert performers in their field, including world champion swimmers and Grand Slam winning

tennis players. Based on interviews with these athletes and others, they conceived a general framework for the development of expertise, which systematically progressed through a number of stages. There is no definitive evidence as to how performers progressed through these stages although the input of a coach at the vital stages was considered fundamental to the process.

Ericsson carried out a number of subsequent studies into the development of expertise, initially in music, but ultimately in sport (Ericsson, Krampe & Tesch-Romer, 1993). These studies identified the notion of deliberate practice of which “The most cited condition concerns the subjects' motivation to attend to the task and exert effort to improve their performance. In addition, the design of the task should take into account the preexisting knowledge of the learners so that the task can be correctly understood after a brief period of instruction. The subjects should receive immediate informative feedback and knowledge of results of their performance. The subjects should repeatedly perform the same or similar tasks.” (Ericsson, Krampe & Tesch-Romer, 1993, p. 367).

Schinke, Bloom and Salmela (1995) examined the career structure of expert coaches and identified a potential seven stages within their career. Stages one through three reflected the development of a coaching philosophy, as a result of their involvement in sport as a performer. The final four stages follow coaching development from voluntary positions to international elite coaching level and although the study recognises that all

coaches do not progress through all stages, there is no discussion as to what **factors** limit the development of coaches.

Long term athlete development (LTAD) is a concept that many NGBs are now introducing into their sports and performance processes (Appendix 5). The LTAD pathway is designed to develop as many athletes as possible to compete at elite level but also to encourage lifelong sport and physical activity for all (Balyi, 2001). This pathway consists of seven stages, the first three concentrating on a progressive introduction to sport, ensuring that the FUNdamentals of movement are properly and appropriately inculcated, promoting physical literacy (Balyi & Way, 2004). The next three stages concentrate on the development of excellence or expertise and the final stage considers retirement from sport competition. Understanding age-related changes in perceptions, physical competencies, emotions, social influences and achievement behaviours is critical in terms of developing knowledge base of transitions (Weiss, 2003). This holistic approach to the development of the athlete must also be considered for the long term development of the coach. “Although considerable research exists on sport coaching, our understanding of coach development is limited. To better understand the development of coaches, it is useful to adopt a life span perspective that focuses on developmental paths and activities. According to Bronfenbrenner’s ecological systems theory, coaching development occurs when coaches engage regularly in social interactions and domain related activities that become increasingly more complex over time.” (Gilbert, Cote & Mallett, 2006, p. 70).

The transitional process is cyclical and continuous. This statement is akin to conceptions such as Nicholson and West's (1989), in which the final stage of the model is, in fact, the beginning of the next transitional cycle. Individuals must renew their relationship with the world in order to control their transitions adequately. This obligation to redefine or rebuild a new form of relationship with one's environment is also discussed by other authors (e.g., Schlossberg, 1991). Thus, career transitions, whatever their nature may be, are typically defined as re-examinations of new modes of relationship to be maintained with the world of work.

Wenger's Communities of Practice theory (1998) has been applied to informal adult learning by Merriam, Courtenay, and Baumgartner (2003), who suggested its potential for understanding formal education. Using this theoretical framework, adults' transition to higher education is explored in terms of learning, participation in practices, and identity. Ongoing learning and development plays a role in many jobs as professionals have to maintain and develop their expertise throughout their career and this involves complex learning processes (Boshuizen, Bromme & Gruber, 2004). Furthermore, research on work-place learning and professional development has indicated that learning from errors is an important way of developing professional competence (Bauer & Mulder, 2007).

The transition from student to expert professional can be accelerated when a route for change is plotted and made evident to learners. Trajectories or paths toward expertise

are domain specific, due to the complexities of each domain, and must first be documented and then used within instructional contexts to promote knowledge transitions (Lajoie, 2003). Recent research in medical education has revealed the two distinct transitional phases, namely from pre-clinical to clinical training and undergraduate to postgraduate study, are problematic to a large number of students (Radcliffe & Lester, 2003). Constructivist approaches provide a promising basis for promoting the development of expertise (Bromme, Stahl, Bartholomé & Pieschl, 2004). Ericsson and colleagues suggest that the criteria currently used to identify expertise is not sufficient because “To reach the status of an expert in a domain it is sufficient to master the existing knowledge and techniques. To make an eminent achievement one must first achieve the level of an expert and then in addition surpass the achievements of already recognized eminent people and make innovative contributions to the domain.” (1993, p.365). This suggests that within the area of expertise there are considerable variations of knowledge and capability.

Medicine and nursing have both contributed to the study and development of expertise, utilising frameworks in the training of both doctors and nurses (Boshuisen & Schmidt, 1992). It has been postulated that experts and novices generate diagnostic hypotheses using the same information, subsequently test these hypotheses but do not always make the correct decision. Much of this has been attributed to a lack of competence in the area or an incomplete mastery of these skills. Boshuizen (2004) however, disagreed with this assessment, suggesting that developing domain knowledge and practicing key

skills is the combination most likely to cultivate expertise. The integration and integrated use of information from different domains is important from the start of training (Groothuis, Boshuizen & Talmon, 1998). This process is built in a series of small steps, resulting in a well-integrated knowledge network, allowing the formation of direct lines of reasoning between different concepts (Boshuizen, 2004).

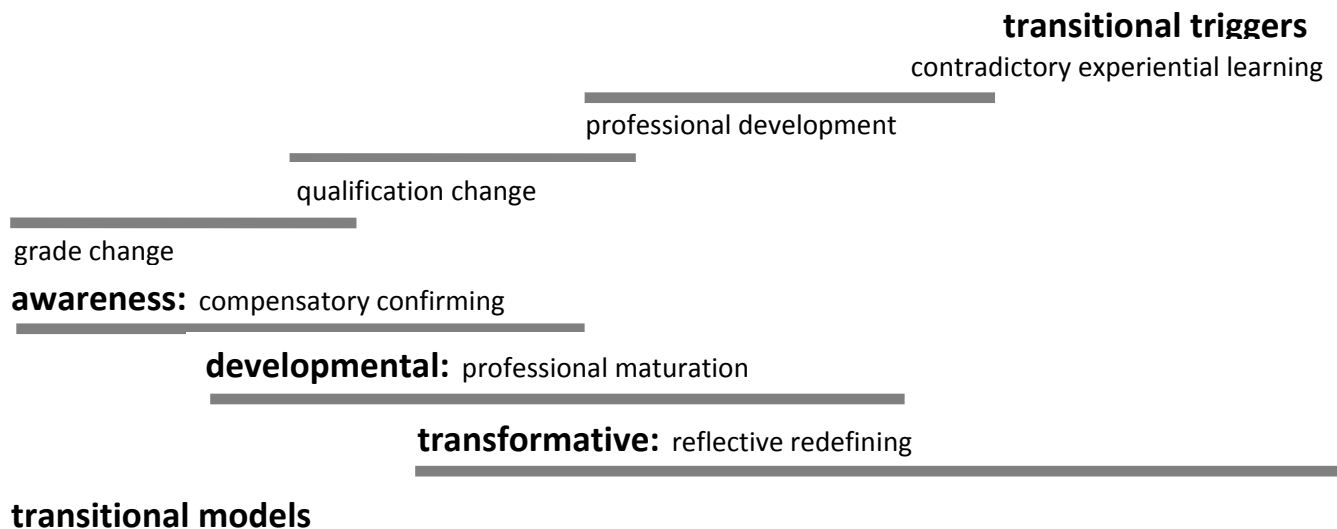


Figure 6.1 : Taxonomy of Professional Transitions (Scholes, 2006)

Transitions are still reported to be problematic as much of the knowledge network is constructed with little flexibility. This flexibility, adaptability and rapid decision-making, which characterises expertise must be developed through practice and social networks (van de Wiel, Szegedi & Weggeman, 2004). The figure above (6.1) shows how these transitions are manifest in the area of critical care (Scholes, 2006).

This transitional model suggests that changes are triggered by contradiction within the workplace, forcing the employee to critically evaluate and reflect on their practice,

requiring both flexibility and adaptability. This ability to transform knowledge and practice and thereby stimulate transition towards expertise is very much dependent upon the context or work environment (Manley, 2000).

Coaching could learn from other areas, such as medicine and nursing mentioned above, or teaching where there are equally well developed frameworks for the development of expertise (Tsui, 2003). It must be considered that medicine, nursing and teaching are well-regulated professions, which require years of training, meeting a minimum level of competence, a period of probation, mandatory adherence to standards set by a professional body and continual updating of knowledge and skills. Coaching is aiming to become a profession by 2012 but unless there is an acceptance of all of the aspects of professional status and considerable political impetus to enable this to happen, it will be a profession in name only (UK Sport, 2002).

6.4: Purpose of Study

The purpose of this study was to examine the transition process of coaches from novice to expert. Transitions are changes that take place throughout life, whether in maturation, aging or in career terms, that move people from one stage to another. Often this process of transition can be very challenging, more so if appropriate support and guidance is not available, and also people are not always aware that they are in the midst of change (OFSTED, 2002). The coaches interviewed in Study 1 were not aware of the means by which they had attained the status of expert. The coaches surveyed in Study 2 were not entirely supportive of the formal coach education process, particularly as they

progressed through the hierarchical qualification structure. By studying coaches at varying stages of development, it is hoped to develop a deeper understanding of how coaches develop expertise in order to inform the coach education process.

6.5: Method

6.5.1: Participants

The participants for this study were all practising coaches, who had completed the questionnaire for Study 2. They were at varying levels of coaching qualification in their chosen sport. More detailed information regarding these coaches is contained in Table 6.1 over.

The code (Column 1; Table 6.1) assigned to each coach will be used throughout the results and discussion. Each code comprises of the initial letter, either M or F, for male or female participant, the second letter signifies their sport, for example, B for basketball and the number represents their current level of coaching qualification in their selected sport.

Coding	Sex	Age	Sport	Number of Years Coaching	Number of Years at this Coaching Level	Highest Educational Qualification
Level 1 Coaches						
MF1	Male	19	Football	1-2 years	1-2 years	Secondary School
FH1	Female	18	Hockey	< 1 year	< 1 year	Secondary School
FB1	Female	18	Badminton	< 1 year	< 1 year	Secondary School
MB1	Male	20	Basketball	3-5 years	3-5 years	Secondary School
Level 2 Coaches						
FI2	Female	20	Ice Skating	6 years	< 1 year	Further Education
FS2	Female	31	Swimming	12 years	6-10 years	Undergraduate
MB2	Male	23	Basketball	6 years	3-5 years	Further Education
MF2	Male	32	Football	< 1 year	< 1 year	Secondary School
MH2	Male	37	Hockey	12 years	3-5 years	Postgraduate
Level 3 Coaches						
MF3	Male	21	Football	5 years	1-2 years	Further Education
MF3*	Male	25	Football	3 years	1-2 years	Undergraduate
MA3	Male	51	Athletics	32 years	8 years	Postgraduate
MR3	Male	27	Rugby	10 years	8 years	Further Education
Level 4 Coaches						
MT4	Male	42	Tennis	25 years	> 10 years	Undergraduate
MS4	Male	37	Squash	20 years	> 10 years	Undergraduate
FL4	Female	36	Lacrosse	21 years	> 10 years	Postgraduate
Level 5 Coaches						
MF5	Male	43	Football	23 years	> 10 years	Undergraduate
MC5	Male	46	Canoeing	27 years	> 10 years	Postgraduate
MF5*	Male	61	Football	37 years	> 10 years	Postgraduate
MB5	Male	58	Basketball	32 years	> 10 years	Postgraduate
MS5	Male	45	Skiing	24 years	> 10 years	Postgraduate

Table 6.1 : Background of Interviewed Coaches

6.5.2: Coach Interviews

In total, twenty one separate, semi-structured individual interviews were conducted, one with each of the coaches concerned in this study (Gratton & Jones, 2004). The purpose of the interviews was to investigate their views on coach education, focussing on their own experiences of coach education and the methods they use to develop and gain expertise within coaching. The questions for the interviews were constructed by the lead researcher in line with Hill, Le Grange & Newmark, (2003) and arising from data gathered from Study 1 and Study 2. Since the semi-structured individual interviews were guided by the responses to the questions posed in Study 1 and the questionnaires in Study 2 the design approach might be described as emergent. An emergent research design allows for multiple realities to be represented (Eloff, Engelbrecht, Swart & Oswald, 2002). This resulted in the development of four main areas of questioning: coach education experiences; beliefs about coaching; coach effectiveness and, development of critical thinking skills (Appendix 7). The questions associated with each area were then given to a second researcher for discussion. Both researchers agreed that the questions were appropriate in terms of their potential to elicit responses to the topic under investigation. The questions were piloted with three coaches with varying levels of experience and qualifications (Weiss & Fretwell, 2005). Coach 1 was male, holding a Level 1 qualification, with four years coaching experience. Coach 2 was female, holding a Level 3 qualification with seven years coaching experience. Coach 3 was male, holding the highest level of coaching qualification from his NGB with twelve years coaching experience. This process ensured that the questions were suitable and the coaches were encouraged to discuss, in detail, their experiences of coach education and the impact on their coaching process and practice. The procedure for the pilot

interviews followed the format of the actual interviews and, as a result of this process some of the interview questions were modified. This modification involved the adaptation of some questions to give their meaning more clarity and the addition of supplemental or probing questions.

All of the interviews for Study 3 were conducted in a place of the coaches' choosing at a time that was most convenient to them. The interviews were carried out and digitally recorded in an area free from distraction. To put the participant at ease each interview session began with an informal conversation between the researcher and participant (Fontana & Frey, 1994). At the end of each interview, the researcher provided a summary of the coach's response to verify understanding and accuracy (Bench, 2007). This summary afforded the main researcher the opportunity to highlight the most salient points raised by the coach at that point in the interview and to ensure congruence between the researcher's interpretation and the coach's intention. The interviews lasted between 19 and 140 minutes. The discrepancy between the times of the interviews reflected the depth to which the coaches were able to discuss and engage with many coaching concepts.

6.5.3: Data Analysis

The purpose of the data analysis was to interpret and attempt to understand the methods by which coaches learn and progress their practice, focussing on the development of expertise in sport coaching. Interviews were analysed using HyperRESEARCH qualitative data analysis software package (Patton, 2001) which enabled the coding, retrieval, theory building, and analyses of the collected data. HyperRESEARCH is a

computer-assisted software program for analysing qualitative data which allow a researcher to generate a theoretical framework inductively from their data (Hesse-Biber & Dupuis, 2000). HyperRESEARCH analysis measures the frequency of words and phrases used by the coaches. This information was collated and presented in tabular form, showing total occurrences of words or phrases as well as minimum and maximum occurrences.

The data were also inductively analysed to interpret the meaning of the phrases used by coaches in response to questions (Cote et al, 1995). The qualitative posture of 'indwelling' was adopted in order to investigate the coaches' responses in a reflective and empathetic manner. The researchers involved in this process were both former PE teachers with coaching experience at national level, as well as researchers of the coaching process with the experience, knowledge and background to analyse coaches' responses in a responsive, adaptive and holistic way (Maykut & Morehouse, 1994). In order to accomplish this, the lead author (who also conducted the interviews) read and re-read the transcripts and (supported by the field notes taken during the interviews) highlighted emergent themes and issues. The lead researcher's interpretation of the themes were then reviewed by the second researcher, thus ensuring investigator triangulation. This also generated a discussion that provided a valuable opportunity for critical reflection of each theme as well as an opportunity for both researchers to agree on the most salient features of each script within the context of this investigation. Following this meeting, the lead researcher re-analysed each interview script according to the questions asked in order to provide a more focussed framework for analysis (Taylor-Powell & Renner, 2003). This involved categorising the emergent themes using the constant comparison method of analysis (Podlog & Eklund, 2006; Glaser, 1964).

Further investigator triangulation was addressed when the lead researcher deductively attached the categories to the 'uncategorised' themes and the second researcher deductively attached categories to a sample of 'uncategorised' themes.

6.6: Results

Each of the coaches were asked the same questions from the interview schedule (Appendix 7) but the depth of the answers varied considerably. Generally the Level 1 coach interviews lasted between 20 and 25 minutes and at the other end of the scale Level 5 coach interviews were between 90 and 140 minutes duration. The results presented below (Table 6.1) are the basic statistics analysed by HyperResearch. There are perceived to be both benefits and issues in using computer-assisted software to analyze qualitative empirical evidence, primarily it can be useful as an organisational tool but can lack the sensitivity to fully comprehend the importance of data (Staller, 2002). The table shows the total number of occurrences of key themes, identified by the researcher, as well as detailing the minimum and maximum number of occurrences per individual case. Although these results illustrate the key points raised by all of the coaches, they fail to adequately represent the richness and depth of the information. The use of a rich description establishes credibility and allows the use of a constructionist perspective to both conceptualise the coaches and provide detail about their practice of coaching (Cresswell & Miller, 2000). For this reason the results displayed in Table 6.1 have been utilised to form a framework for the discussion. In order to highlight the detail of the information gathered, the discussion is presented in three separate parts.

Meaning Units	Total Numbers	Minimum Occurrence	Maximum Occurrence	Mean	
decision making	64	1	5	3.0	0.3
coach education experiences	57	1	5	2.7	0.4
has learning taken place	51	0	5	2.4	0.4
mentor	51	0	4	2.4	0.2
feedback on coaching	49	1	4	2.3	0.4
CPD	46	0	3	2.2	0.3
knowledge	44	0	3	2.1	0.5
role of coach	43	1	3	2.0	0.1
coach assessment	43	1	3	2.0	0.3
why attend coach ed courses	41	1	3	2.0	0.5
session planning	41	1	3	2.0	0.3
do you reflect	41	0	3	2.0	0.2
critical thinking	40	0	4	1.9	0.2
what do you want from CEC	39	0	3	1.9	0.4
creating practice environment	38	0	3	1.8	0.2
critical thinking skills	35	0	2	1.7	0.5
getting into coaching	34	1	4	1.6	0.2
who should assess	32	0	2	1.5	0.4
what form does this reflection take	32	0	2	1.5	0.3
course deliverers	31	0	2	1.5	0.3
importance of coach ed courses	30	0	2	1.4	0.3
philosophy of coaching	27	0	2	1.3	0.5
what form should assessment take	27	1	3	1.3	0.7
does reflection help your coaching	27	1	2	1.3	0.4
instructional approach	25	0	2	1.2	0.3
how do you learn	23	1	2	1.1	0.3
awareness of DM	23	0	2	1.1	0.4
CEC suit learning style	23	0	2	1.1	0.5
professionalisation of coaching	18	0	1	0.9	0.3
behaviour change	12	0	1	0.6	0.5
transferability	5	0	1	0.2	0.2
coach multisports	4	0	1	0.1	0.2
continuous learning	4	0	1	0.2	0.2
Total Numbers	1100				

Table 6.2: Analysis of Interview Results Using HyperResearch

Part A of the following discussion section examines the views of coaches at Levels one and two of coaching qualification, generally considered to be novice or inexperienced coaches. Part B evaluates coaches at Level three, who could be deemed developmental coaches (Lyle, 2002). The final section (C) assesses coaches at Levels four and five, who fulfil the criteria used in Study 1 as determinants of expertise. These four measures, used in other expert studies in sport (Ericsson et al, 1993, Vallee & Bloom, 2005, Durand-Bush, & Salmela, 1997) are as follows:

1. they held a minimum of Level 4 Coaching Award from their NGB
2. they had a minimum of 10 years continuous coaching experience
3. they were coaching at a representative level
4. they had developed national performers over a number of years

The discussion sections are presented in the same format for ease of comparison. They also focussed on the key concerns of the interviewed coaches as identified by the HyperResearch tool. These sections are as follows: the role of the coach; coach education courses; coaching practice; critical & analytical skills. There are also associated issues reviewed in subsections of the four main sections. For example, the section titled critical & analytical skills comprises decision-making, reflection, mentoring and continual professional development.

6.7: Discussion Section A

6.7.1: Level 1 & 2 Coaches

All of these coaches had become involved in coaching through their own involvement in participation in sport, and a number (n=7) were still participating at the same time as coaching. A significant percentage (67%) are under 25 years of age and all of the Level 1 coaches are 20 years or under. Some of the NGBs have established a minimum age for undertaking coaching awards.

6.7.2: The Role of the Coach

Many of these coaches considered the *safety* of the performers to be of paramount importance to the coach and therefore constituted a large part of their role. For example, Coach MF1 thought the role of the coach was:

“to make sure everything is safe and to deliver fun sessions where they're getting a chance to improve their skills, even just learn different sports.”

The majority of these coaches found it hard to contemplate the enormity of the coaching role as many of them had not been exposed to this level of coaching, even some of the coaches with a Level 2 qualification could not express their understanding beyond a limited view as MF2 demonstrates:

“Likes of me, when I'm coaching, I just like to think I'm passing on knowledge, with the skills you're doing.”

However, FI2 was able to develop her thoughts a little further, saying:

“A coach should be a leader, should show people in a certain direction, be a good role model and be enthusiastic, be interested in what they're

doing, be interested in learning new techniques.”

and MH2 had obviously considered his role in a much wider context, as follows:

“The primary role of the coach is to do the kind of sports development part - developing the player for whatever level they're going to play at but one of the things that we kind of value quite a lot in our club is the number of people who come from quite deprived backgrounds. In fact we've got a number of individuals who had they not, they're maybe now international players, had they not had something like that, they may well have ended up, this may sound quite melodramatic, but they may well have ended up in jail or committing crimes. We also find that through the hockey, not only are you developing their skills but it's more about discipline, teamwork, to an extent, nutrition. So the primary goal is the development of the player but there are secondary things that come along with that which might be things like social responsibility.”

It appeared that this group of coaches (n=8) for the most part thought that the role of the coach was to ensure the *safety* of the participants and make their sessions fun. Much of the information presented to coaches at this level does reinforce these two key aspects (SportCoach UK, 2004, Martens, 2004). To a large degree the attitude towards the coaching role is formed by previous experience in sport as a participant and the philosophy of the coach (Kidman, 2005). All of these coaches had been involved in sport as a participant and, as mentioned previously, a number were still taking part as well as coaching. Although many of their attitudes would have been established through previous participation and experiences, research has concluded that these attitudes are difficult to change through formal coach education courses (Turner & Jones, 2006; Gilbert & Trudel, 1999). Similar beliefs were expressed when this group of coaches were asked to explain their coaching philosophy. Some level 1 coaches, for example, MB1 thought:

“I don't really understand the question. I like younger kids to have a laugh and to have a laugh with them as long as they are enjoying it, they are learning as well.”

Coach FI2 had considered this but felt:

“I wouldn't say I have developed a philosophy, I don't think I coach enough.”

MB2 is of similar opinion, saying:

“It varies right now from day to day because I'm learning so much. My basic philosophy is that it is a continuous process.”

Much of this is demonstrating that these coaches, at this stage of their development, are not able to put their experiences into any type of context to allow the coaches to learn from them. At this stage the coaches are building their knowledge base but they are not showing any ability to link the various aspects of knowledge they have. They do appear to be concentrating on the sport specific content i.e. what they need to stand up in front of a group and deliver a session. The development of a philosophy and associated beliefs plays an important part in many aspects of coaching and perhaps aspiring coaches could be encouraged to contemplate this aspect of coaching at an early stage.

6.7.3: Coach Education Courses

How coaches develop knowledge has been the subject of recent research and to date there have been a number of theories offered in explanation (Cassidy et al, 2006; Werthner & Trudel, 2006; Bagnell, 2005; Gilbert & Trudel, 2005; Bloom et al, 1998). This group of coaches displayed differing views on their coach education experiences, deemed to be a key factor in the development of knowledge. Coach FH1 said of her hockey level 1 course:

“It was quite tough - there was a lot of work to get through, lot of stuff to take in. Once you got the hang of it, it was OK.”

Coach MB1 had a different opinion, stating:

“it was alright, actually it was quite good. The Getting Started was very basic - didn't think it was that necessary - maybe for someone who's never had any basketball knowledge or stuff but I thought it was a waste of time. The Level 1 was alright - been waiting on a Level 2 course running for, don't know, six months or so but we're still waiting.”

Coach MF2 reminisced about his last coach education course, declaring:

“It was three Saturdays - 6 hours each day. It was good. I learned new drills and that, like proper drills and the proper way to do a session, you know with a warm up, then skills, activity and a conditioned game. They just showed you the correct way to do it and if you're doing a certain skill to involve it from the start.”

Coach MH2 also remembered his course, held a number of years previously, stating:

“It was quite good, quite intensive, let me think about this, I think it was 3 days, at Largs and the guy that oversaw that was one of the English coach educators and he had been brought up to see there was some kind of consistency across the National Bodies. So we were the first group to go through that level 2, they'd never done a level 2 formally before so there were about half a dozen of us I think. That was quite a few years ago.”

Coach MB2 assessed his experiences as:

“a lot of information but a lot of it was common sense but needed to be said Not a lot of differentiation between players and coaches. Drills were set up and we had to participate and do the lay-up etc but not actually coach it. Very much - this is how to dribble, this is how to shoot - the ethos was if you know how to do it you can show someone else.”

These differing opinions suggest that there are a lot of differences between approaches, NGBs and the coach educators delivering the courses. Again the emphasis appears to be on the actual delivery of a coaching session, rather than equipping the coaches with a knowledge base of drills, practices and skills and the awareness of when to use them appropriately. Not giving the coaches this type of knowledge only allows them to replicate drills and no understanding of the rationale behind these drills and skills. This

suggests that many coaches at this level could be mimics rather than coaches, which does not bode well for their future development. Although these coaches had mixed views on their coach education experiences, there was more consensus about the importance of gaining these qualifications. Coach MF2 considered:

“They're good for the CV obviously, and there's people who are looking for that kind of thing. They're also good for your knowledge, I think. I mean, if a guy's coaching the football team and has no qualifications, he's just doing it off the top of his head. He might just throw in a mix and match but like me I have knowledge of how to deliver a session. People might say you've got to do them to get a job and that but it's not a good way to look at it. You probably do have to do them - if you want to get places, you've got to do it like. You should do them because you want to do them like too.”

Coach FH1 agreed that these qualifications were good when looking for employment, stating:

“I think they're good for your CV, they're brilliant for your experience and for jobs. If people see you've taken the bother to go on coaching courses and get the relevant experience to do with those, I think they're really important. If you get someone who goes for a job and they've got none of these, I think it's a mixture of experience and these coaching courses that helps you get a job.”

Coach FS2 also was convinced of the importance of NGB qualification but for different reasons:

“I place quite a high importance on them because I think it gives you a sense of sport. There's various things you get from NGB qualifications just by attending, it sounds quite a shallow thing but it's networking but I think it's particularly handy because I keep in touch with a lot of people that I'm on courses with and quite often you need their help for various things. You're looking for ideas for things or that kind of thing and they've always come in handy. From that point of view it's good - the courses themselves are good for sharing ideas, they're fantastic for that but in terms of an actual qualification, they're no good. They would get you a small job, working a few hours here and there but they would never get you a professional job, unless you had the experience and the swimmers to back it up really.”

The views expressed by these coaches stress that they feel the coaching qualifications to be important but mainly for secondary reasons rather than the knowledge that they gain from the courses. The benefit to gaining employment and for networking opportunities are clearly important enough to these coaches that they attend coaching courses for what could be termed as ancillary rewards rather than the knowledge gained from the information and ideas presented at the course itself. Coach MB2 did not value the courses he attended, saying:

“I actually don't rate them very highly. I know the SBA has just re-organised all the level 2 stuff so they might have completely changed it but the last time there was not too much link between coaching and NGB stuff. At the time I went through my Level 2 I struggled - not giving enough feedback - I was so busy organising the sessions I wasn't paying attention to what was happening.”

This coach was not convinced by the coach education offered by his NGB but Coach F12 again had a contrary opinion, saying:

“I think they're very important. I think if we didn't have them, people would be given leaflets or books or manuals and people don't really realise how they're meant to be used. I think with the seminars they sort of give you a shot of using it - different things like that are important. I wasn't aware of how much I took in when I first started coaching but looking back at what I did when I first started, a lot of the stuff that they said I do automatically now. So I don't really think about it now, I did back then, but I don't now, I just automatically do stuff.”

The coaches in this study have not really considered their own particular learning style and whether or not the presentation of the coach education courses had enabled them to gain maximum benefit from the information offered. Coach MB1 thought:

“I like to see it done - watching people do it. I went to a coached workshop - with 2 American coaches that were working with the Dream Team - and that was really good watching them coach. You had a handout as well - I prefer to watch it and listen to what

they are saying, how they come across, how they do their drills.”

Coach MF2 was of the same opinion, regarding the practical nature of his own learning style. Instead of merely watching as proposed by Coach MB1 above, Coach MF2 wanted to be more involved, saying:

“I’m not that good a listener, I’m not great at classroom based things, I never have been but the more practical things I’m good at.”

This view was endorsed by Coach FH1, who thought:

“Doing things, I’m a more doing things person. I don’t do well just listening but if I’m doing sports, jumping about, helping other people, physically doing something, I learn it better.”

All of these coaches felt that they were able to take more information onboard when it was either presented practically or they were able to participate practically. They had not considered whether or not the coach education courses attended suited their learning style and did not feel able to comment on this. The majority (n=6, 67%) did not consider that the coach education courses had caused their coaching behaviour to change as a result. Coach FH1 believed that her behaviour had initially changed:

“Yes, to start off with, I think I talked more and did less demonstrations but since I’ve been on the courses, basically a picture paints a thousand words, the more demonstrations you do, the more it helps people to see.”

Coach MB1 had not really reflected on this aspect but conceded that *“I don’t know – maybe”* his behaviour had changed. Coach MB2 had considered changes in his coaching behaviour and supposed:

“I wouldn’t say any major shifts in behaviour it may be things are pointed out to you on the course that cause subtle changes.”

Small but important behaviour change is a key transition in the development of expertise. These changes reflect the thought processes of the coach as they integrate

new information along with existing information and make the decision whether or not to change their behaviour. Coaches have been known to change their behaviour while attending coaching courses but revert to their previous behaviour when they return to their own coaching environment (Schempp, 2003).

6.7.3.1 Coach Assessment

Interestingly, all of the coaches in this study believed that coaches should be assessed. Some of these coaches thought that coaches at the initial levels should be assessed whereas others considered that it was more important that representative level coaches should be assessed. Coach FH1 supposed that:

“It depends on which level they're working at. If they're working with a Sunday league football team or something, just a group of boys who want to come play football, then the difficulty is getting loads of coaches who want to do that. It's really hard and they're not really looking for expert coaches to do that, they're looking for people who know the basics of football, who know how to teach boys to kick a ball around but if you're moving up the scales, like in schools, where you're definitely looking to develop your sport, then I think you need to be assessed so that they know what level you can coach at and what level of kids you're able to cope with.”

Coach MH2 supported this view, looking at it from another perspective, deeming:

“Yes, I think so, I mean if you're looking for people to do national squads and stuff like that, obviously you want to be sure you're getting the right people, perhaps all the right boxes are being ticked. I think for club coaches and folk like that, perhaps the re-assessment they're doing is too rigorous. I mean it's hard enough getting coaches as it is, if you've got to say to people in order to do this job you've got to be a level 1 coach or worse, in order to stay a level 1 coach every 2 years you've got to total a certain number of points - it does make it quite difficult, I would think it probably drives some of the volunteers away.”

Coach MF2 did not share the views of the above coaches, stating:

“I think they should be - yes. Again just to make sure they're doing

things properly.”

Coach MB2 was of the same opinion but also considered that the assessment could be ongoing and more frequent, saying:

“Yes and also more often - maybe once every 6 months. Some sort of assessment adds value to the award.”

There was less consensus from these coaches as to what form the assessment could take, some feeling that a practical assessment was important, whereas others felt that a theory assessment was more appropriate. Coach MF1 thought the assessment should be:

“Once a year or something - just look at them. Watch the coach and assess, just to make sure they're using the correct coaching points, keeping the times to the right amount and not dragging on drills or something like that. Should coaches be assessed at level 1 - I think a wee thing at the end just so they know how to put things into practice. Better to say you passed a course rather than attended it.”

This notion that there was more worth to a coaching qualification if there was an associated assessment appears to be a common theme with this group of coaches. Coach MH2 also compared the method of assessing hockey umpires to a model he thought may work in coaching, asserting:

“That's a difficult thing - if you're looking for a country-wide one it surely must contain some sort of theoretical aspect as well as some sort of practical aspects. Now if you take as a model the way they do umpiring in hockey - what happens in hockey is you have to sit a written exam to be familiar with the rules and then once you've passed the written exam you're assessed. Usually what happens is registered umpires will come and watch you do a game or two games and if they think that you're good enough you come into C band which is the lowest level. After that you can work up to B and A in the same sort of manner. I would imagine that kind of model would probably meet the requirements.”

This model could certainly be effective and is utilised in Canada, Australia and France. In terms of theoretical assessment, rather than just being constrained to testing knowledge of the rules of the game, some technical aspects could also be added.

The views of these coaches as to who should conduct assessment were similarly varied with Coach FB1 thinking:

“The practical side should be assessed by course deliverers, the written paper should be set by NGBs, not course deliverers, so NGBs should be responsible for assessment. I would be happy with that.”

Coach MF2 also thinks that the NGBs should be responsible for the assessment of the coaches, saying:

“Just people at the SFA, people that are fully qualified, people that are experienced, people that are just working at the SFA that have been in the job for a long time and they've been assessed themselves over the years.”

Questions arise as to the definition of experience or fully qualified within the NGB organisation. Some NGBs allow coach educators to be qualified at different levels for assessment purposes, for example, the Scottish Volleyball Association (SVA) allows some assessors qualified at Level 2 to assess candidates at Level 1, whereas the SFA requires a minimum qualification at Level 4 to assess their coaching awards. Coach FH1 suggests that the assessors should be:

“The development officers who are taking the courses. They're the ones who are qualified, if they're qualified to take the course, then they should be qualified to assess the people who are coming on it.”

Many of the coaches considered the development officer or NGB personnel to be the ideal assessors but Coach MB2 thought:

“Ideally the assessor could be anyone - depends on their knowledge

and how much feedback they can give you. Feedback needs to be as specific as possible. Assessments should be carried out in coach's home environment, seeing what the coach does on a regular basis. NGB assessments on courses currently are false - don't know the people, 10 minutes to plan a session, you're working uphill from the start."

6.7.3.2: Development of Knowledge

Coach education courses should be designed to extend the knowledge base of the coach in order to enable them to be more effective in their coaching role. There were mixed feelings from this group of coaches as to whether the coach education courses had achieved this. Coach FH1 thought:

"I learned an awful lot from it, like muscles and skeletal systems and how these relate to different exercises. I found the Introductory quite easy, I learned a lot of practices and a lot of drills from them."

Coach MH2, although coaching the same sport, as Coach FH1, hockey, had a different perspective on his coach education experiences:

"To a degree, I was probably more influenced by the other people, because they do some basic stuff. A lot of the stuff we'd done before, we kind of knew it, so what they would do, they would do stuff with us, sort of exercises. At the end there would be a kind of examination essentially, where they'd observe us, you'd put together drills, you'd coach a few other people. I think it was more interesting to meet the other coaches and to chat with them about what they did and how they found things as opposed to the formal part of it."

Coach FS2 had even stronger views concerning previous coach education courses and her knowledge acquisition and development, stating:

"It questioned my knowledge, it offered alternative ways of training. That's not been my experience of other courses because they're not aimed at my level. They're usually aimed at a lower level - that's part of the problem, there's nothing at the higher level for coaches. This was my second attempt

at the level 3 because I left it too long before going for the final part so I had to restart it again. I'd passed everything, it was exactly the same course but I had to start again. For me, I'd rather do a 3 day intensive course or whatever, an exam the following week and get it over with - I hate this drifting along, this flexible learning because it doesn't suit me, I need something structured. I also found that a lot of it, the logbook in particular, was just ridiculous because you could sit and just regurgitate it out of a book. There was loads of safety issues and stuff like that - you need to know about these things but I think that should be covered in level 1 and level 2."

The two basketball coaches also had differing opinions as to the knowledge they gained from the courses with Coach MB1 thinking:

"yeah - well there were lots of different people - again so you can watch other people's styles, other people's drills. Obviously other people are coming from different clubs, different outlooks so you can see all the different kind of stuff they use. The guy who took it was also involved in wheelchair basketball so it was nice to see that as well. Plus we got a handbook which was 50 pages long or so and when I did summer camp and Easter camp I referred back to that and took some stuff. If I'm stuck for ideas I can always go and have a look at that I don't think you can be taught how to coach as such it's more your own personality. You can't copy someone and say that how I'm going to coach. I think it's more your own choice and your own experience you learn through."

Coach MB2 did not have as much to say on the subject, feeling that there were only a:

"couple of things I picked up that I didn't know. Most of the things, once you have been in coaching for a while, you don't need the workshop to tell you that."

As previously mentioned coach education courses should fulfil certain criteria but the most important point should be the perceived benefit to the coach in their coaching practice. Gilbert and Trudel (2004) maintained that understanding how sport coaches construct coaching knowledge will enable people responsible for the design of coach education programmes to plan learning outcomes that will enhance coaches' knowledge and ultimately coaching practice.

6.7.4: Coaching Practice

The determinant of the effectiveness of coach education provision is the difference made to the coaches' practice. Many coach education courses emphasise certain aspects of practice, for example, planning during their delivery. This group of coaches when questioned had differing views on the planning and preparation process, some taking a longer term view and others an extremely short term outlook. Coach FH1 outlined her approach, saying:

"I've got like a whole load of practices, I've used before and depending on what I'm doing, like dribbling, I'll use a warm up that's using the same dribbling, then I'll use skills that are doing dribbling and I'll have a game that is conditioned, that you have to do 4 steps dribbling before you pass or something like that."

Coach MB1 also had a short term approach, relying on his ability to analyse the games of basketball and select the most appropriate aspects to improve in the following practice sessions, stating that he planned:

"Partly from things that haven't gone well at the games and things that they are struggling on. Things that haven't gone well and things I think they need work on - even in training you see they're not good at their v-cuts. It's more things they're not good at than a long term plan."

Some of these coaches admitted that they were not always able to plan their sessions as they were working to someone else's plan, often the head coach or club coach. Coach MH2 acknowledged that within his hockey club:

"We've kind of got standard exercises that we run through anyway, get people warmed up, things like that, then it will depend a lot on what's happened the week before, what I've seen in games. Quite often what we'll do is focus on what didn't work well that weekend, so for example, there may have been a problem with us getting the ball from one side of the park across to the other very quickly, so we'll maybe do a few exercises on that or there may have been a problem with tracking back or people not tackling with enough commitment - it's kind of quite topical, localised,

what may have gone wrong before or there are some common threads that run through because if we know that, for example, us moving the ball from one side to the other and then getting it up to the right hand corner is a problem the team has, or a specific group of people has, then we might each week work on that consistently till we see some sort of improvement.”

Coach FI2 took this approach even further, disclosing within her coaching environment in ice skating, she had no control over the content of her sessions as there were prescribed moves for each grade. She declared that:

“There's already a set plan for each grade. You need a certain part of the ice for set moves, for example, for crossovers you'll need a circle, so you can split the ice that way. It's already set up and organised by the NGB but say you're doing grade 4, but you've got a couple of kids doing really well, you can introduce some grade 5 stuff, so it's quite flexible that way.”

Coach MF1 disclosed that:

“At the moment [club name] has a sheet of all the different skills they want you to do in each week, so you've got the skill that you're supposed to be doing for the week and you've just got to put down a practice for it. I try and vary it because it's the same kids and there's no point in giving them the same skill again and again. I don't really have a lot of control over what is in the session, just the way I put it over.”

When coaches are not given the opportunity to plan their practices or the opportunity to question the rationale behind the planning they are not likely to develop their knowledge base (Nash & Collins, 2006). Coaches at the introductory levels are more likely to copy other coaches without understanding why specific practices are used in certain situations (Lyle, 2002). If this is the case, coaches at Level 1 and Level 2 will have difficulty in enlarging their repertoire of appropriate practices and how to integrate them into a long term plan or programme. This will also impede them from progressing through the levels of coaching as well as developing professional expertise.

There was an apparent concentration on the actual session with this group of coaches, focussed on safety issues as well as their instructional approach with their participants.

Coach FH1 summarised her approach as follows:

“To start off with, I kind of like to be autocratic. When I first meet a group, when I blow the whistle, they've all got to stand still, quiet, when I talk you don't talk. I'll like do that for the first couple of sessions, then once they realise that I'll be more democratic.”

Coach FB1 also was concerned with the safety of the venue for her players, stating her method during sessions was:

“Safety is paramount – I reinforce do's and don'ts and coaching points – I reinforce throughout. I completely stop it - show them - do it again and if they are still not getting it - completely stop it - show them again – then do it again.”

Some coaches had not considered their coaching style or approach in any great depth.

Whether or not this reflected a lack of thought regarding their approach or a difficulty verbalising their thoughts is unclear. Coach MB1 thought he was:

“Quite vocal - I like to be quite hands-on, I think.”

Despite further probing he was unable to provide any more information or detail. Coach FI2 appeared confused by the question, saying:

“Don't really know - just thinking about it - what do you mean how I speak to them? Just try and make it sound fun rather than you must do this, must do that, sort of enthusiastic, like, right guys, let's go and do this or ask them what they want to do.”

Coach FI2 had however, already stated that her NGB prescribed very set sessions so perhaps she felt there was little opportunity to impose her own style of coaching within a very regimented coaching environment. The question that must be posed is if these

coaches have so little control over the content of their coaching sessions and the manner of their delivery is apparently prescribed, can they be considered to be coaching?

Both Coach MH2 and MB2 had a different approach to the other coaches in this group. They both mentioned problem solving as a key element of their approach. Coach MH2 said:

“It tends to be problem-solving. Again you may tailor that depending on who you've got - there are some people who need to be told, it doesn't matter how much opportunity you give them for problem solving, it has to be no, do that, do that, do that. That's what I want you to do, OK?”

Coach MB2 also revealed that he used problem solving but that had reflected a change in his approach that he was experiencing some difficulties with. His approach changed completely to questioning, declaring that he had been:

“trying to become more question based than I did at the beginning of the year. I used to say we're going to do this, this and this - let's go and when I did actually switch to questioning, the players just stood there blank.”

Coach MB2 indicated that he was going to persevere with this approach, as he had heard this was a style used by more expert coaches. He disclosed that he was not particularly knowledgeable about how he was planning to achieve this as he had never had any instruction or information on this style prior to attempting to introduce this within his coaching.

A problem solving approach could also indicate the type of practice environment created by the coach. Again there was an emphasis on producing a safe surrounding for participants by this group of coaches. Coach FB1 thought it was important to create:

“a safe practice environment.”

Coach MF2 also mentioned the safety theme, asking for more clarity before elaborating:

“what do you mean like, safety? You have to do a risk assessment when you go in, kind of like making sure there's no obstacles, any dangers to the kids eh. You've got to try and make it fun - is that what you mean too?”

Coach FI2 also stressed the safety aspect but added more detail regarding the limitations of the environment that she had to coach in, declaring that she considered the practice session to be:

“Like fun but safe. It's hard because I don't really have a lot of ice at the moment because of the groups so we are quite limited in what we can do. Just now it's just straight up and down this wee pad - just now, this sounds really bad, but there's not much structure but I've got to try and do the best I can with the numbers that I've got and the little space that I have.”

Coach MH2 referred to the safety aspects but had also considered his practice atmosphere in more depth. This coach had been coaching in the same club for a longer time than any of the other coaches and also demonstrated his use of problem solving and questioning, saying:

“Obviously you're looking for a safe, trustful environment - you don't want things to be dangerous. I tend to interact with the players a reasonable amount - I'd say one of my weaknesses is I maybe don't interact enough but that maybe comes from my experiences where I learned a lot myself and I think it's always valuable for them to learn a lot. I'll let them do things, I'll show them the exercises, I'll go through them, I may take one or two of them out and say this is perhaps not the best way to do it, you may want to think about doing it this way. It's more problem-solving, for example they have to get past defenders, I'll say you have to beat this man but leave it up to them how they do it. But then I may take one of them out and say look that didn't work, why do you think it didn't work, what might you have done better?”

This example of a problem solving approach has been considered an important aspect of expertise development in a number of differing domains, for example, medicine, teaching, art and accountancy (Duke et al, 2006; Kreber, 2002; Marshall, 2002; Guest et al, 2001). These professions include this approach in many of their education & training courses. Nursing has developed a framework highlighting the transition process to

expertise in critical care (Scholes, 2006). Although recent research in sport coaching has stressed the importance of encouraging coaches to become more self sufficient and self reliant, there has been little input from coach education courses perhaps as a result of time and money (Jones & Turner, 2006; Kidman, 2001; Campbell, 1993).

A component that coaches can use to gauge the effectiveness or otherwise of their practice is the progression and development of their participants (Lyle, 2002). This group of coaches had difficulty determining whether their athletes had learned anything during their sessions and appeared to have few evaluative tools at their disposal. The most common means was to question their groups as coach MF1 supposed:

“When I take them in, I’ll ask them what they learned today - in the pass – how do you pass and stuff like that - seeing if they tell me how they pass rather than me saying so you pass with the inside of your foot - asking them what part of the foot they pass with.”

This approach was also adopted by Coach FB1 who considered:

“At end of session I sit them all down and ask them all sorts of things - fill in the blanks - have they enjoyed it? You can sort of tell if people have had fun or not.”

Coach MF2 questioned his players as well, stating:

“When I’m done, I ask them, like, if they’ve learned anything. I just say have you enjoyed yourself today, have you learned anything.”

All of these coaches, although they were gathering useful information from their athletes, were not actually ascertaining whether or not the group had learned anything. They appeared to equate learning with enjoyment and while enjoyment is important in sport, especially at introductory levels, it should not be equated with learning or development.

Other coaches within this group used observation as a method of evaluating progress as

Coach MB1 highlighted, saying it was:

“Just from observation - I don't really have tests or such - I think you can always tell if someone has improved in game situations. Some weeks, someone can be brilliant in a game and then not - maybe you're just having a good game or not. Is there any more to it than that? Yes, I'd like to think so.”

Coach MH2 explained how he used observation to determine improvement, stating that:

“I don't use any formal system but you tend to see through observation, for example, if they're doing what they're supposed to. You may also question them, assess whether what you've been saying is embedded. “

Coach MB2 struggled to explain how he concluded if progress had been made, declaring that:

“Sometimes it's by improvement but to be honest it's one I'm not too sure about. I've been struggling a lot with players listening this year and I've been beginning to question a lot how much they learn.”

The training session is the embodiment of the coach's skill, how they bring all the elements of effective practice together and impart the plan appropriately to the group or team. Examination of training sessions using a variety of methods has received considerable attention in past years, attempting to identify correlates of expertise (Bloom, Crumpton & Anderson, 1999; Douge & Hastie, 1993; Lacy & Darst, 1985; Bloom, 1985). A high percentage (70%) of these factors came from information only available during game time and less than a third are connected to prerequisite game information (Trudel, Haughian & Gilbert, 1996). The collection of quantitative data on coaches' behaviours has limited significance if the situational context is not considered, for example objectives, season period and sport culture. In order to better understand coaches' intervention, it is imperative to study the rationale underlying coaches'

decision-making in addition to the coaches' intervention analysis based on systematic observation (Trudel et al, 1996; Jones et al, 1995). This would necessitate the examination of the entirety of the coaching process as well as the coaches' critical thinking skills (Jones & Turner, 2006; Nelson et al, 2006; Vallée & Bloom, 2005).

6.7.5: Critical & Analytical Skills

Coaches are expected to have declarative knowledge (i.e. knowing *what* to do) about the specifics of their sport, for example, skills and tactics as well as procedural knowledge regarding the pedagogical process. This information, necessary for coaches' development, should be available at appropriate stages throughout their career but should be introduced in the early periods (Lavalley, 2006; Mallett & Cote, 2006; Schinke et al, 1995). Coaches' knowledge tends to guide their actions leading to the need for decision making skills. Novices, as these coaches would be considered by virtue of their Level 1 & 2 coaching qualifications, frequently concentrate on irrelevant information when making decisions. It has been suggested that increasing declarative knowledge will increase the learners' ability to determine the most appropriate information, thus improving their effectiveness (Bromme et al, 2001).

6.7.5.1: Decision Making Skills

The Level 1 & 2 coaches in this study were of mixed opinion as to how important decision making skills were to the coach. Many (n= 6, 67%) admitted that they had not

really considered decision making as something they did in their coaching sessions or that it was important in coaching. Coach MF2 summed up this viewpoint, saying:

“I don’t need to make decisions. I always make my session plan before I go so I always know what practices I’m going to do.”

After questioning, some of these coaches deliberated over their use of decision making within their coaching. Coach FB1 thought:

“Yes, it’s important. You can’t just stick to what it is on the paper - it doesn’t run that way - things are going wrong - what am I going to do - I have to decide.”

Despite further inquiry she was unable to verbalise how she made these decisions or any factors that were helpful in her decision making process. Coach MF1 was of similar thought, replying:

“I’d say decision making is quite important because you’ve got to decide what skills you are doing, what practices you want to do. You’ve got to make sure if the practice is too hard that you decide, right, what can I do to change that straight away.”

When questioned, Coach MF1 had a number of standard practices that he switched to if one was not succeeding. However, he could not identify how he determined if the practice was too hard or too easy for the participants and he had also not considered the extremes of the group, for example what he did if some of the group were able to cope with the practice but others were not. He chose to change the practice for everyone, saying:

“It’s too difficult or too simple - are they struggling? I don’t know how I know, but I do.”

Coach FI2 again felt that she was unable to make decisions regarding key aspects of her coaching as she was performing by rote in the majority of the session as her input was limited, reflecting that:

“The only decisions I really can make is what we do, sort of with safety, I can't decide how many I have, who I have. The groups are basically split up with regards to who you are, with regards to your actual grade, so I can't decide very much at the moment.”

Although much of the content for the different grades in the initial stages of ice skating is set by the NGB, there should be scope for a coach to make decisions regarding timing, communication, coaching points and practice organisation within the framework. Some of the coaches (n=3, 33%) mentioned intuition or automaticity when considering their decision making, one of the criteria assigned to expert performance.

Coach FH1 gave the example of this:

“Like if people are having difficulties, I'll say try it this way. If you've got someone misbehaving, you just act automatically and say look you get 3 strikes and you're out or something like that.”

Coach MB2 and Coach MH2 had apparently pondered their decision making in more depth with Coach MB2 revealing that:

“There will be stuff I'll do intuitively, stuff I'll do as a result of other decisions I make.”

Coach MH2 added more detail, using his own practice as an example, indicating that:

“Yeah, I make decisions throughout sessions, what we're going to do, who's going to play where, when you start talking about games there's all these decisions that you make. I think a lot of it, in some ways, is subconscious. It doesn't come to you, you just think this is just not working. Now some of them are obvious, people not concentrating on what's going on, if the outcome is to score goals, or to beat players or to move the ball from one side of the park to the other, you can see it's not happening. But I think you also get other clues, that you probably pick up subconsciously that it's just not working. I mean it's the same thing during the game. If you're standing on the sideline coaching something, if you make a decision and somebody comes up to you and asks why did you do that, it might be quite difficult to justify but you just know when you're watching that this is not the right formation or these people are in the wrong position, whatever it is, you're just thinking to yourself, well it's not working the way I want it to.”

Coaches are asked to make decisions in a variety of situations, for example, what practices to include in training sessions, how long to continue with a specific practice activity, whether to concentrate on quality or quantity of training, when to offer feedback to performers and what type of feedback. Coaches also have to make quick decisions in competition regarding tactics, substitutions and positional play (Nash & Collins, 2006). As coaches develop expertise the process appears to become less well-defined, more intuitive (McPherson, 2000). Evidently, there is a difference between coaches who are able to rationalise the uncertainty behind their decision making process and those coaches who have apparently not considered that they make decisions during their coaching. This difference does not appear to be reflected in the level of qualification that this group of coaches hold, as they are all Level 1 or Level 2. Coach MH2 does hold a postgraduate qualification, a PhD in Information Technology, which could be an explanation for his apparent higher level thinking. It could also be that he is considerably older than the other coaches in this study, has coached with the same club for a number of years although he has not continued to a Level 3 coaching qualification.

6.7.5.2: Reflective Practice

Schön (1985) has promoted the practice of reflection as a form of professional development, emphasising it as one of the cornerstones of a profession. More recent literature has established the importance of reflection in ongoing professional practice (Cronin & Connolly, 2007; Mamede & Schmidt, 2005; Boud & Walker, 1998). This entire group of coaches considered that they reflected on their coaching although the

depth to which they practised reflection varied as evidenced by FH1, who claimed she reflected, saying:

“Yes - if the kids are not in a good mood you could come away having had a bad session. You know it has been tough if you have had to control the class rather than teach the class.”

Some of this group of coaches (n=3, 33%) judged that evaluating their session was the same as reflecting on their coaching. This could be shown by the response from both of the football coaches, MF1 stating:

“Yes - usually I evaluate them.”

And MF2 giving almost the identical answer, saying:

“I evaluate my session.”

Following up with both of these coaches, asking how they felt reflection affected their coaching, they responded affirmatively but again looking at it from a very narrow viewpoint. Coach MF1 thought:

“It makes it written down so you can remind yourself of what went wrong in that one or what went right in that one so you can prepare a better session for the next one.”

Coach MF2 displayed a similar sessional approach, saying of his coaching plans:

“I've probably been guilty in the past of just sort of filling them in and then kind of forgetting about them. Sometimes you can't be bothered and you just kind of fill it in to get it out the way.”

Both of these coaches were from the sport of football and although they were at different levels of coaching qualification, they exhibited certain similar characteristics. Could their approach be as a result of the SFA coach education experiences? The courses each attended were aimed at coaching young footballers, with the Level 1 course of 6 hours duration and the Level 2 course lasting 12 hours. The SFA are only introducing the UKCC through the adult strand of coach education in 2007 so neither of

these coaches were exposed the new format of coach education (SFA, 2007). The Level 1 Early Touches Certificate consists of a practical session and two video presentations named Working with Young Footballers and Basic First Aid (SFA 2007). The Level 2 Coaching Young Footballers Certificate focuses on coaching style and the provision of practices to suit the wide range of abilities with the primary school age group (SFA, 2007). There is no mention of any evaluative or critical skills development within either of these courses. Neither of these coaches had continued to further or higher education after secondary school which they left with Standard Grades (SOEID, 1998). This could explain a superficial understanding of reflection and reflective practice as there would not appear to be any forum for these coaches to develop these skills and practices.

The approach taken by other coaches in this group was varied with Coach MH2 explaining that he reflected:

“Yes, for the 15 minutes it takes me to walk home. You're not distracted by other things.”

He continued to say:

“I probably reflect more if I don't think it's gone very well. I'm very keen when I come away that people have had a good time - it's been enjoyable, it's been exciting. It tends to be thought processes, I mean I don't do any kind of formal, writing down, taking notes. It's kind of thinking about what did work, what didn't work and then hoping you remember it next week when you actually come to do it again. Of course, if I wrote it down, then I wouldn't have that problem.”

Coach MB2 commented on his reflective practice, saying:

“I reflect on games a lot - I don't reflect as much on my practice sessions. It's very easy to reflect on games as they have a win/loss - you can look at it see what happened, break it down statistically. Practice sessions don't have the same excitement. That's something I should look at - something I

should adjust.”

He went on to explain how he felt it helped him in his coaching, as he was very interested and motivated by game statistics and the information it gave him, describing one instance:

“I found this year that the statistics are quite good at helping because there are certain things that I miss. I have a good idea about who is not shooting well but I'm not so good with who is shooting well.”

Reflective practice appears to mean different things to different coaches, by means of different approaches, differing viewpoints as to what to examine and different times and methods of reflection. Self reflection may be general and examine the coaching session in its entirety or it can focus on one particular aspect of coaching performance. Without a structured reflective strategy it can be easy to omit certain aspects, allowing the coach to ponder parts of the session that happen to cross their mind, demonstrating a haphazard approach to reflection. Reflection is not a simple activity, requiring concentration and a willingness to learn from experiences. According to Jarvis (1995) the difference between reflective and non-reflective thought is the essentially pragmatic viewpoint arrived at by intellectual debate and decision making.

6.7.5.3: Feedback

Reflection suggests that the coaches can be a source of personal feedback on their effectiveness as a coach. Feedback is considered an essential skill in coaching, and there are many useful techniques and guidelines for giving and receiving feedback. Usually coaches view feedback as a component of their practice that they impart to their athletes but it can be valuable for coaches to utilise to develop their own practice. This group of coaches all embraced the notion of feedback but the majority of them (n=7, 77%) felt

that they were only able to use their performers as a source of feedback as there was no-one else available. Coach FH1 described her method of gaining feedback as follows:

“At the end of the group, I generally get all the kids in and ask them what they enjoyed most, what they didn't enjoy, what part they might like to do next week and stuff like that.”

Coach MF1 had similar experiences, saying what he did was:

“Try and bring them in at the end and go over what we did today - make sure they enjoyed it and stuff like that. 4 & 5 year olds are generally quite honest.”

The notion that children, especially those under the age of six, could give specific feedback to coaches was prevalent amongst this group. Coach FI2 thought:

“The kids will tell you, first of all, they do tell you. I asked are you bored and they said well that was a bit boring. They're definitely quick to tell you whether they're enjoying it or not and so are the parents.”

Two of the coaches were in the fortunate position of coaching with other people who were able to provide some form of feedback. The level of feedback appeared to vary considerably between the two with Coach MB1 saying:

“Well, kind of because we work in two's so we kind of chat about it - this went well, this didn't go well.”

Whereas Coach MH2 recollected:

“Coaching wise, the people that coach with me will tend to occasionally observe and talk about it. What's working, what's not working - we'll discuss these things. We don't really have a formal feedback system, though it is something we've talked about a lot because we feel within the club we need a more formal coaching plan for the way that we develop the players because we tend to start quite young. Up till now, we've kind of, I don't want to use the term muddled along, but it could do with being a bit more channelled, perhaps even formal in the sense that you should be focussing on these skills at this age and then moving on up like that. We've had a couple of stabs at putting together a coaching plan and getting someone to oversee –

a coaching manager or something like that - to oversee the qualification stages that people are at, how our coaching development plan is coming on but that's kind of misfired a few times, again because we're talking about trying to get volunteers to co-ordinate what they're doing."

Feedback is an essential component of self-development and studies have suggested that when coaches have been exposed to the principles of reflective practice they are more likely to consider their coaching practice in a wider context (Hay, 2007; Knowles et al, 2005). Feedback is critical when contemplating self-reflection and the more sources that a coach can employ to gain feedback the more viewpoints can be considered. The use of coaching portfolios and mentors could encourage coaches to exchange ideas with one another and pursue professional development goals (Hubball & Robertson, 2004; Nash 2004).

6.7.5.4: Mentoring

Within the practical coaching situation, mentoring can be a valuable tool for the coach, enabling them to learn by relating theory into actual coaching environments (Crisfield, 1998). The mentor can be instrumental in helping to develop many skills necessary for self development, for example, decision-making, self-reflection and critical thinking. Within this group of coaches only two were fortunate enough to be able to identify a mentor and three had not heard of a mentor and were not aware of how this could benefit their coaching. Coach FH1 did not know what a mentor was and after it had been explained, she declared:

"I've never had a mentor. I could ask my boss if something went wrong but I've never really been in that situation."

Coach MB1 also had a similar lack of understanding, saying:

“I don’t understand what you mean. The only person I could approach would be my line manager - he’s my employer.”

Coach MH2 understood the benefits of a mentoring system and was actually acting as a mentor to others but due to the volunteer nature of the coaching within hockey felt:

“That was one of the things that we have tried to get off the ground but again it’s been a problem trying to get volunteers. What we used to do was people who were new into coaching were paired up, so for example when we did our youth development on a Tuesday night, I would maybe get the senior group to look after. What would happen is, I would get an assistant coach and that was somebody who was perhaps newer to it. We’d talk about the exercises and I’d say to them, next week I want you to develop the exercise, so we’d do a bit of informal mentoring, not as much as we should do within the club.”

Coach FI2 and Coach MB2 both recalled very positive mentoring experiences with Coach FI2’s experiences being very recent, stating:

“When I first started coaching there, Simon and Debbie kind of took me under their wing. If I needed to ask anything, I could ask - they weren’t my actual mentors but it was the same thing. We did a skating school and just watching them was fantastic.”

Coach MB2 remembered the influence that another coach, who acted as an unofficial mentor, had on his introduction and subsequent development as a coach, reminiscing:

“When I was starting out, it was actually quite good. I had just done my Level 1 and I was actually quite clueless. I was helping at the sessions and I didn’t realise how having someone there really helped. When that was taken away there was rather a steep learning curve. It was really effective but the one thing is you can become rather dependent on them.”

Mentoring is recognised as a dynamic mutual relationship within a working environment, generally where an individual with more experience in a specific field, the mentor, and a less experienced individual, often a beginner in that field work closely (Wright and Smith, 2000; Weaver and Chelladurai, 1999). Many of the mentoring opportunities available in coaching tend to be informal, a casual relationship often

initiated by one of the involved parties (Galvin, 1998). Within the new UKCC structure, a Level 1 coach is only permitted to assist and deliver aspects of coaching under direct supervision (UKCC, 2007). Although there is no direct mention of mentoring at Levels, 1, 2 or 3, it could be implicit within the course content as it specifies ongoing feedback is available throughout the course. The implementation of the UK Coaching Framework will enable, in time, more support of coaches, allowing mentoring and continuing professional development on a more formal basis.

6.7.5.5: Continuing Professional Development

Continuing professional development (CPD) is common in a number of professions and mandatory in many, for example, teaching and law. Professional bodies use ongoing programmes of CPD for the maintenance of professional standards, for example, lawyers in the UK are required to complete a minimum of 16 hours of CPD per year; at least 25 per cent must consist of participation in accredited training courses (The Law Society, 2007). Teachers in the UK must demonstrate an ongoing commitment to maintain their professional expertise through an agreed programme of continuing professional development (Armour & Yelling, 2004). As coaching does not currently have a professional structure, many NGBs do not have any CPD requirements. This difference is reflected in this group of coaches as six of them (66%) had never heard of CPD, never mind participated in it. Coach FB1 did not see any need for this, saying:

“I have no need for CPD. I’m not sure about the necessity for updating in badminton.”

Coach FI2 considered that the ice skating NGB was very proactive in CPD, requiring coaches to update constantly, stating:

“For our coaching, we constantly have to attend these seminars. You have to do so many per year to keep up your coaching and for your coaching you have to do a written examination, an on-ice examination, you have to do an off-ice examination and you have to take a pupil for a lesson as well and a logbook. So there's quite a lot of stuff and it wasn't just come along and pass. I think it's quite hard for people to attend two a year.”

This statement considered CPD and re-certification to be the same, which although in some instances they are connected, they should not assumed to be synonymous. Coach MH2 acknowledged both the differences and similarities, conveying his thoughts:

“I think re-certification and CPD tend to drive one another. Originally, before the recreditation came in, the club was doing it anyway because the local development officer would tend to run courses so the NCF courses tended to come on and the club would pay for people to go on them. So that was a kind of CPD thing we were doing there but now when the recreditation came in it became more formal, I suppose. I think it's every 2 years and a level 1 coach has to get a certain number of points, a level 2 coach has to get a certain number of points, obviously a higher number of points. You get them through various different activities, some of them are coaching sessions, coaching your club, coaching the district, coaching nationally and then attending courses, getting your umpires certification, that kind of thing. So there's a variety of different things you can do in order to get your points total.”

Hockey and ice-skating appear to be more proactive than other sports in this study but this could be due to something as simple as NGBs maintaining an up-to-date database.

Coach MB2 thought:

“I've moved around quite a lot so it's difficult to get in touch. I was on a mailing list.”

Many of these coaches (n=8, 88%) considered that the analytical aspects of coaching discussed in this section were neglected in formal coach education courses. Coach MH2 considered this critical aspect was developed through playing and experience, saying:

“I don't think you get it from coach education as much, I mean I think you maybe get some of it but I would imagine it's more likely it comes from

playing to a degree but also coaching. You know, being in these situations before, thinking this hasn't worked, however the last time this didn't work, we did this. I have to say, I don't find it particularly easy to lead these kind of situations, I mean I'm getting better at them but I do know other people, more experienced coaches than me, who are phenomenally good at it. I've assistant coached with people quite a lot. I kind of prefer doing it that way because I like bouncing ideas off other people, but I've coached with some people, where I've been thinking this hasn't worked but I'm not sure what to do and they go this is what we're doing because they know, they see it and that comes from, for these people 30, 40 years of playing and coaching. They put things in place and it works - seems a bit magical, almost.”

Gilbert et al (2006) established that many expert coaches had competed as athletes for, on average, thirteen years prior to becoming coaches. However, this does not imply that any athlete can become a successful coach if they competed for a requisite period; there are many other criteria involved. Coach MB2 also thought this aspect was not covered in coach education courses, disclosing:

“I think this is something that is really neglected. I found that the course went over here's a selection of drills that you can do, here are situations that you might find in team games and you need to be aware of, now here's how you put it all together. But it neglects a lot of the other areas of coaching. “

Coach FI2 was the only coach who considered her NGB covered these critical thinking skills, declaring:

“I think so, they do make you think about what you're doing and why you're doing it. Probably not something you realise you're doing when you're on the ice but you definitely do.”

Coaches need to be aware of elements of learning theory, so that they can structure and set up the optimal coaching environment for all of their participants, as well as requiring communication and decision-making skills along with management and analytical proficiency. This would be very difficult to include within existing coach education

programmes for a number of reasons, namely the length of the courses and the course deliverers.

6.7.6: Summary

Analyses of the data provided a general overview of the methods utilised by the Level 1 and Level 2 coaches to develop their practice through the adoption of both structured and unstructured processes. It also presented their views of these methods and their understanding of their personal coaching development process.

This group of coaches considered formal coach education courses important but for ancillary reasons, for example, the necessity of coaching qualifications to gain employment or the importance of various certificates on a CV. The majority (n=7, 77%) of these coaches worked on an episodic or sessional basis. This implies that there is little long term planning, little progression of sessions, little opportunity to develop relationships with the participants and, by inference, little prospect of developing key coaching skills. Many of these coaches displayed a very superficial level of thinking and of operating and did not appear to have the support available to explore issues in more depth. These coaches all considered that they learned practically, which corresponds with other research into this area (Gould et al, 2002; Chelladurai & Quek, 1996).

Some of these coaches had demonstrated that although they learned practically they were also reflecting on their coaching. As with other aspects, there was a difference in the level of reflection. Some of the coaches were operating so cursorily that although

they considered that they reflected on their coaching, it did not fulfil many of the conditions associated with reflective practice. There was little appreciation of the effort, concentration and analysis allied with in-depth reflection. Reflective practice may be a buzz word coaches recognise as something they should be performing as an integral part of their coaching. These coaches appeared genuine in wishing to improve their coaching practices, whether by their own efforts or by seeking assistance from others. It could be that they were aware they should be reflecting but were not aware of the steps necessary to undertake reflective practice within their coaching.

This entire group of coaches considered that assessment was a necessary feature of coaching qualifications, giving the qualification more validity. Coach assessment is a feature of a number of recognised coach education programmes throughout the world, for example, Canada and Australia. Not only are coaches assessed in these countries but they are maintained on a register and have to maintain their accreditation by CPD and re- accreditation. They also have to be active coaches, fulfilling a required quota of hours. There was little consensus as to what form the assessment should take or indeed who should be carrying out the assessment. There was a consensus that it should contain some form of practical assessment but reservations were raised concerning the authenticity of current assessments, where there was little correlation to actual coaching environments.

Many elements which have been considered as contributing to coaching expertise have not been demonstrated or discussed by these coaches, for example, knowledge of core concepts, problem solving, flexibility and stored schemas and reflective techniques. When questioned these coaches were not able to discuss these areas or offer any aspects

of their practice that demonstrated their use. Some of them displayed a certain emphasis on safety aspects, mainly concerned with the physical safety of the participants in their coaching environment. There was also an emphasis on group organisation. Both of these aspects are features of inexperienced teachers who have not yet mastered their profession, perhaps due to a lack of confidence and unfamiliarity with the environment (Berliner, 1992). Coaches MB1, MF1, FB1 and FH1, all the Level 1 coaches, demonstrated little that would enable them to progress to expertise. For example, they did not appear to question their practice, search out new sources of learning, and demonstrated little understanding of the wider context of coaching practice (Ollis & Sproule, 2007; Saury & Durand, 1998; Patel & Groen, 1986). Perhaps, few coaches demonstrate potential at this stage of their development. Scholes' (2006) transitions model (Figure 6.1) highlighted the need for contradiction to allow real change to occur. This could conceivably occur once the coaches have gained more experience and had the opportunity to reflect on both the experience acquired and the contradictions faced. Coach MF2 revealed little potential for development, whereas Coaches MB2, FI2 and FS2 showed some elements of thought processes, when considering their coach education experiences and their strengths and weaknesses as coaches. Coach MH2 displayed deeper understanding of the coaching process, coaching context and critical thinking than any of the other coaches in this study. Perhaps this is due to his educational experience, gaining a PhD, which requires analytical thinking, and his ability to transfer this level of thinking from his job, to his part-time, volunteer coaching. He also had more experience, in terms of length of time coaching his sport, hockey, than any of the other coaches in this group.

These results reinforce the necessity of considering the coaching context when making determinations regarding both coaches and coach education programmes. Scholes' (2006) model considers that change can only occur in a supportive, challenging and reflective environment. Many of these coaches did not have that opportunity, either as they were learning or currently. They did not appear to be equipped with the tools from their coach education programmes to enable either independent learning or independent thought.

6.8: Discussion Section B

6.8.1: Level 3 Coaches

All of these coaches had become involved in coaching through their own involvement in sport, but none of this group was still participating in their sport competitively. All of them had participated in the sport they were now coaching but now only recreationally or as part of coaching. Coach MF3 and Coach MF3* have not been at this level of coaching qualification for a long period of time, nor have they spent many years coaching football. Coach MF3 has been involved for five years in total and Coach MF3* for three years. Coaches MA3 and MR3 have both been employed in the coaching industry as Sport Development Officers for gymnastics and rugby respectively. Coach MA3 is also qualified to Level 5 in gymnastics, having coached at major international games, for example, Commonwealth Games, but is no longer involved in gymnastics.

6.8.2: The Role of the Coach

The Level 3 coaches had considered their role in some substantial depth, generally from a much wider viewpoint than that expressed by the Level 1 & Level 2 coaches. They surmised that there was considerable debate surrounding the role of the coach, that it constantly changed and evolved and was dependent on the coaching context. Coach MR3 thought:

“That's a difficult one. The experiences I've had in the role of the coach, you're a jack-of-all-trades, you have to do everything. Certainly being involved with the women's stuff in a team is a lot easier because you have your defined roles. I think that's the ideal and everybody has their own speciality, for example, in rugby you've usually got a backs and a forwards coach, a fitness coach, a defence coach and an analyst and a manager so you don't have to do so much but when you're just doing it in a club environment you have to do all of these things. I don't think there is a definitive role of a coach, I just think it's dependent on how many people are involved in the team that you are part of, if you are part of a team.”

Coach MA3 displayed his experiences of working with athletes at an elite level, saying:

“I suppose it's management of the training, the planning of, the management and co-ordination of training and competition plan. With the athletes that I've got, they're fairly committed, fairly good - the planning bit is the easy aspect - then we've got to start linking in strength & conditioning, getting the massage at the correct time, getting the aqua-running suite sorted, so there's actually a bit of lifestyle planning in their as well because I try to ease the burden because they're under quite a lot of stress, worried about lottery funding, losing sponsorship packages for kit deals and things, so whatever, and it's maybe wrong, but whatever I can do to alleviate that I like to do. It makes their life a little easier but it makes mine a little tougher. It would be nice just to go to the track, make sure you do what you're meant to do and then leave but I don't think it would optimise their performance.”

Within athletics, Coach MA3 worked mainly with middle to long distance athletes and also saw part of his role to run along with his athletes on some training runs. Interestingly, Coach MF3, the youngest and most recently qualified of this group, still

displayed some of the thought processes of the Level 1 and 2 coaches in terms of planning and fun aspects but had also developed more of a long term view regarding the monitoring and evaluation of the long term competitive aspects of football, declaring:

“Well, I think first and foremost you've got to be organised and you've got to plan your sessions out in advance, although that's something I've only found out by experience. At first, I think you could leave it to the hour before you thought about the session but I think since I've got involved with a team, I've actually been more organised because there's goals that you try to work towards, you want to see as much improvement as possible, especially when you're monitoring their games at the weekend. I don't get paid for that coaching but it's definitely the one I feel most motivated by. I think there's so many things, you've got to encourage fun, you've got to kind of care for your athletes, you've got to keep on encouraging them and just look out for what's best for them and encourage them to take part in other sports as well.”

It appeared that this group of coaches were working within a very different coaching context, guided by a competitive element, as all of them were coaching teams or individuals involved in competition, for example, Coach MF3* worked within the Scottish Premier League in football, Coach MR3 was responsible for a Scottish National Women's Rugby Team and Coach MA3 coached both Scottish, English and UK Internationalists within athletics. Coach MF3 was the only coach within the group who was not coaching at this level, as he was currently working with a youth team within a Local Government initiative. Their coaching commitments appeared to link with their philosophy, with Coach MF3 thinking, very simply:

“I feel that my approach to the coaching, is that I think they enjoy it and I feel I've learned along the way.”

Coach MR3 and Coach MA3 both appeared to link their philosophy of coaching with their beliefs about sport and their athletes in a wider sense, with Coach MR3 saying:

“I got asked this in an interview a couple of weeks ago - I'm not really sure how to word it. In a rugby sense, I believe in positive play, I believe

in excitement, it's a tough one, my philosophy is in style of play, I think. I really, really get annoyed with people who play negative rugby and just do things to slow the game down but it can be a beautiful game so I just want to see that. In terms of actually coaching the people who are involved with me, it's to get the best out of them, be very, very positive with them but I think the girls would probably tell you that I don't hand out criticism for nothing. I like to have this sense of pride within them and if I do come down with a criticism, they know that they have to change that. It's this building of the expectation of the girls to perform and it's a self-expectation on their part."

This statement very clearly demonstrates that Coach MR3 has certain expectations of his players and he expects them to approach practice with the same sense of purpose and commitment with which he approaches his coaching. This relates to research which illustrates that the coach can only develop a belief system once they have an established knowledge base (McLean & Chelladurai, 1995). This in turn can affect their learning approaches and their actual practice (Tsangaridou & O'Sullivan, 2003). Coach MA3 had a similar viewpoint, although he highlighted other aspects of his philosophy, perhaps reflecting the individual sport of athletics rather than the team sport of rugby, suggesting:

"I think it's quite athlete-centred and fairly holistic - it doesn't just look at the performance, nor does it just look at one aspect of the performance and I'm not sure whether that includes the fact that I have quite a long-term view whereas some of the athletes may have a shorter-term view. So, for example, in some areas we're looking for technical improvements, particularly in strength and conditioning improvements, we're not going to see the benefits this summer, not even this winter but they'll see them probably a year to eighteen months down the road but right now it's just tiring them. They know why they want to do it but they don't see the benefits just yet and I think that will come with slight technical changes to their running style, general efficiency gains, as well as pure strength gains."

The Level 3 coaches are working in very different environments but key to all of them is the performance of their athletes or teams. They are all involved in the preparation of performers for competition, three out of the four at a high level. This aspect must

influence both their philosophy and coaching approach as both coach MA3 and Coach MR3 demonstrated by reflecting their beliefs about sport in their coaching philosophy. O'Bryant et al (2000) revealed that a belief system is created early in life, based on experiences and learning, and these coaches had developed their philosophies, not just while coaching but throughout their sporting lives.

6.8.3: Coach Education Courses

This group of coaches had undergone a number of coach education courses throughout their coaching careers. Everyone in this group had experience of coach education courses outwith the sport they were currently coaching and two coaches (MA3 and MR3) were involved in the delivery of coach education. Similar to the Level 1 and Level 2 coaches, this group of coaches had mixed views regarding their coach education experiences. Coach MF3* thought:

“It was run by Scottish coaches who went through their badges 30 years ago, which as I've already said, negates embracing the advances in technology. It wasn't covered at all in there. There were 20, 25 of us on the course, these people won't know anything about the advances in technology, simply because they weren't taught. But for the next generation of coaches coming through, which these people were, they're not getting to grips with it and at level 3 level, which this was, it should certainly be covered within this, in my opinion.”

Coach MF3* was very interested in performance analysis and considered this to be a key coaching tool, especially at the level he was working at. He failed to mention any other aspects related to his coach education experiences. While this is an important feature in assisting coaches, it should not form the basis for a coaching course. Performance analysis considers by definition the analysis of performance and coaches must understand how to implement this analysis to make recommendations for the

development of performance. Coach MF3 reflected on his last course, which was a modular add-on contributing to his licence, saying:

“I think it was a physical preparation run by the SFA which was a recent kind of development. It's 12 hours for a start and it gave me a better insight into coaching and ideas. It talked about a lot of areas, rather than just passing, dribbling, shooting and control. So it talked about areas, such as nutrition, recovery, coordination, speed, you know, your basics, and it talked more about that than your SFAs first level 1 course which is passing, shooting, dribbling, control and I think at that time that's what they thought should be worked on. You see with LTAD plans you need to work on the basics first or else you will develop an athlete who can do the skills but doesn't have the basic skills to be a good athlete.”

Although Coach MF3 appeared to see the benefits associated with this course, it seemed to give him cause to question the format and content of some of the other football courses that he had experienced. His references to “passing, dribbling, shooting and control” gave the impression that this was the emphasis of many of the courses, reinforcing the notion that many coach education courses are sport specific in nature, emphasising content knowledge and little else to assist the coach to develop effective coaching practice (Siedentop, 2002; Lyle, 1992).

Coach MR3, was the only one of the interviewed coaches who had undertaken a coach education course which was in line with UKCC guidelines. Rugby is one of two sports in Scotland that was running UKCC certification at the time of the interviews. His view was that:

“It was interesting, it was a pilot course, the tutors were actually learning it as well. They'd all gone through a tutor's course but this was the first one they had to deliver so it was a bit stop and start but in terms of the actual content of it, it was really good actually. It's quite a tough pill to swallow sometimes when you go on these courses and it's a big change and one of the changes, or one of the things that differed from past coach education courses was you were in smaller groups, so you were only in groups of 4 or 5. You had two tutors watching what you were doing and

really scrutinising the way you coached. That was tough to take but once you got over that, it was quite good advice, along the lines of player led and bringing the answers out of them and that's made a massive difference in the way that I coach."

This is the first coach to mention intense scrutiny of practical coaching and the provision of helpful feedback to improve coaching effectiveness. He also referred to the introduction of questioning as a coaching approach which worked for him. This approach has been linked to the development of a holistic style of coaching as well as a characteristic of expertise (Jones & Turner, 2006). Coach MR3 had perceived the effectiveness of the feedback he received, used this approach in his own coaching practice and has seen the improvements as a result. This example could demonstrate that attendance at coach education courses increased the knowledge base of Coach MR3. However, research suggests that merely attending such a course will rarely improve the overall effectiveness of the coach (Abraham & Collins, 1998). Furthermore it has been shown that people can coach for many years without appearing to learn from their experience (Rutt Leas & Chi, 1993). Perhaps this coach reacting to this feedback, making change to his coaching practice and seeing the benefit highlights a transition phase for this coach. He has changed his behaviour and as Scholes' (2006, Figure 6.1) model suggested, change, in this case the coach education course, has forced Coach MR3 to critically evaluate and reflect on his coaching, enabling a transitional change to occur. Many coaches attend coach education courses and do not make changes to either their behaviour or their practice.

Questioned about the importance of their coach education courses, there was again a wide range of opinion from the Level 3 coaches. Coach MF3* thought that:

"I think you have to put a fair bit of importance on them, even simply

because of the industry being what it is. You can go through a Level 3 NGB award which says you are a level 3 coach but I don't think you are a level 3 coach at that stage. I think there could be more emphasis on the actual content of the courses to add that real validity to the structure because I think certainly there's got to be a structure there - a hierarchical approach if you like. I think the content of courses needs a lot more uniformity and a lot more control to give some sort of validity to the whole structure of NGB awards. As it is just now perhaps it's a piece of paper, but I think that's wrong, we should certainly have a set out structure, NGBs should have a great deal of weighting but I think it needs reform as it is just now. In football, you can do a Level 1 course and be in and out of there in 6 hours. They can come in off the street at 16 years old and go and do that and all of a sudden they're a coach - that doesn't sit very well with me at all to be honest. I think there is a fair bit of time required to become a coach. If people could learn to teach and then go on to coaching because there's a huge amount of teaching within coaching. I think the skills in teaching need to be learned by a coach and be able to progress on from that.”

Coach MA3 considered that much of the impact of the course was dependent on the person who delivered the course, the coach educator. He also made the point that without an attendant assessment, there could be little importance placed on coach education courses, saying:

“I don't actually place an awful lot of reliance on them on a technical side. I think the Sport Coach UK courses are very dependent on who is tutoring them and, in general, they have very, very good tutors but there's also some tutors that I don't think are quite so good. That basically surrounds, not their knowledge base, but their experiential base, so I think there is an issue about that. If you look at the Level 1 coaches, who are having to look at other things, peripheral to what I would call real long term coaching but more leadership stuff, child protection stuff, equity things. I think Sports Coach UK deliver them well but I think the worry there's always been about Sports Coach UK is they've never been embraced by every GB and therefore you go to the course but they're never assessed and I think without an assessment they're almost, and I don't want to say meaningless, but for many people they are meaningless. The UK Athletics courses, I got a real criticism about them as well, which has been voiced as well as written about, I think the courses are now too easy, especially at the initial levels. I think that's become apparent in a number of NGBs that level 1, and sometimes level 2, courses don't equate to what they were 15 years ago and harking back to the old days, they just don't have the knowledge and information background that a coach needs. It may be OK at a leadership level but not coaching.”

This coach was of the opinion that people gaining a Level 1 or Level 2 qualification should not be considered as coaches but as leaders. This corresponds to a long held view of Lyle (1986, 1992, 1999, 2002) that there is a clear difference in role and practice of participation coaches, characterised by Level 1 and Level 2 qualification, and performance coaches who prepare athletes for competition. Coach MR3 did not see any advantage in attending coach education courses unless the coach displayed certain characteristics prior to the course, thinking:

“I think coaching is something you've either got or not, whether you've got the ability to get it across. You can go on all the coach education courses in the world but if you don't have that feeling for the pulse of the session, then it's very hard to get. I think they're fantastic, if you do have that talent, do have that ability, then you can go through the stages and learn, progressively learn how to coach, see all the experts opinions on things, which helps you on your way. But if you don't have the ability to coach in the first place, you could almost say no, there's no point. I've been coached by some people and it's terrible, just terrible. They have absolutely no idea of timing, when to stop a drill, when to go and what to say. I don't know, I'd always like to think I have a natural feeling for when things are going well and I'm my own toughest critic when it comes to that. I'll look at myself after a coaching session and go no, I wasn't firing on all cylinders there.”

Much of this feeling was based on his own experiences of being coached. Perhaps the question that should be asked is if the coaching was so bad, why did he continue to play? Perhaps Coach MR3 only realised that the coaching he had received was poor when he latterly understood the principles of coaching.

The views expressed by these coaches suggest that they clearly feel that gaining a Level 1 coaching certificate does not entitle the recipient to be designated a coach. When asked why they attended coach education courses the key responses were as follows. Coach MF3 thought:

“I think you always learn something. I sat and watched about 10-15 minutes

on Sunday of the level 3 and by watching someone else's coaching you can learn what not to do, or what not to be like in a sense. I saw this guy coach and I couldn't believe his manner, the way he'd grab a kid's arm and pull them into position and I was like ' Oh my god that's so cringeworthy ' and I feel that then you think I know I'm not like that and I know how to control that situation.”

This reflected well on Coach MF3, in that he realised what was not acceptable behaviour when coaching, he would not use these approaches when coaching. He also recognised that he was able to organise and manage his coaching sessions so that situations similar to this did not arise. Coach MA3 said:

“I don't want to fill in any more paper, I'm not interested in ticking boxes, I don't want to go on courses any longer, I want to be able to go on courses that interest me and will enhance either my knowledge or background experience, not those that I have to do for boxes to be ticked.”

He continued by stating he was:

“athletics coach level 3 but working towards level 4 not because I want to but because it's expected.”

The coaches in this study had considered their particular learning style but again there was a range of views. Coach MF3* believed:

“I'd like to say by my mistakes and I think a coach does learn by their mistakes but again learning off other coaches as well - there isn't going to be a perfect coach. I think because there are so many things to learn in coaching, whether that be management, technological aspects, the actual content, I think you can always learn things from other coaches.”

Learning by trial and error has been shown to impart some hard lessons for coaches but if combined with a problem solving approach, it can have benefits (Bloom et al, 2003). Tacit knowledge can be developed using a problem-solving approach, allowing expert coaches to form contextualized procedures of problem solving and organizational acts which in turn makes complex situations become more manageable (Sternberg, 2003).

The differences could be that some coaches do not realise when they are making mistakes, as they do not have the knowledge base to either use problem solving techniques or the personal qualities to learn from their mistakes. It has been suggested that coach education courses do not currently include enough information for coaches to establish that knowledge base or utilise problem-solving approaches with coaches (Jones & Turner, 2006; Abraham & Collins, 1998). None of the Level 3 coaches felt that the coach education courses they had attended changed their coaching behaviour.

This viewpoint was summed up by Coach MA3 who said:

“The only coach education course that changed my behaviour as a coach stemmed back 15, 20 years ago. I think I'm no different now as a coach than I was 15, 20 years ago. I may have slightly wider knowledge and experience in certain areas. I wouldn't want to go through coach education course now as I don't feel as enthused as I once was and it's because of the more peripheral parts that's there now, and it needs to be there, but so many health and safety guidelines, child protection guidelines, all of that has got to be bunged in and the real job of coaching has been marginalised, so the knowledge base and the skill base that the coach needs has been marginalised.”

This statement reinforced previous research that coach education courses were not of sufficient duration, especially given the addition of many recent directives, such as child protection guidelines (Abrahams & Collins, 1998). This new material is very necessary in the current environment however, it should not be added in place of coaching and pedagogical knowledge. If certain content is judged necessary for inclusion in coach education courses then courses should be extended to incorporate all compulsory and indispensable information.

These coaches were asked how they learned, given their reluctance to attend coach education courses. Coach MR3 thought:

“It's a range of things. I like to watch coaches deliver but that's not the best

way of learning because my mind wanders and I've got quite a low attention span. I like to be involved in the session as well, I think sometimes I actually learn best from being coached by these people and just talking to them. I was lucky enough just recently to sit down with Frank Hadden over a whisky and have a natter with him about his experiences and what he's done. I mean he's come through as a PE teacher and then taken it abroad to New Zealand and Australia and worked with school XV's over there and then brought it back and become an assistant coach to a professional. He's a great inspiration, in that he's not a great rugby player but he's a fantastic man-manager and a fantastic coach."

Coach MR3 acknowledged that he liked to learn practically. While experiencing different coaching styles and approaches can be of use, it perhaps deflects the coach's attention from the actual practice or drill being demonstrated. Some people do find they learn best by being involved but the involvement, in this instance, should not always require the coaches to participate in the drills themselves (Whitmore, 2002). There are other ways to be engaged within the coach education process, perhaps by the coach educator utilising a problem-solving approach.

Coach MF3 had a different approach, saying:

"I feel I learn best, if I've got a paper to read, I'll read it and, apart from when my mind wanders, say it says to individualise, I'll think about a drill and how I could put that into practice or a game. Then I'll write them out and sit and think right I could use that, then everyone's doing their individual role of what they would be doing at the weekend in a game - that's what I try and do. I feel reading's a good way but I'd like to learn more kind of practical ways of going about it and putting it in."

This preference for learning through reading is one of the least favoured methods of coaches, certainly in the US (Gould et al, 2002). Experience and exposure to other coaches, as mentioned by Coach MR3, were considered the most useful methods of learning. However, this study was examining the preferences of Olympic coaches. Coach MA3 confirmed this approach to learning worked for him as he thought he learned:

“Probably now from meeting other coaches and getting the chance to speak, and I often phone them. I think you can pick up bits over a cup of tea - I might have two pressing questions and I can hit somebody with them and just say ' what do you think ' and ' what ifs ' and I suppose that's one way. The other way, apart from meeting people and chatting to folk I know, is just back to straightforward reading and I don't want to read for knowledge, I want to read for challenge. I've my own ideas, I suppose, my own model of what I should be doing and what the athlete should be doing and how to plan and how to prepare for it but I think at the stage that I'm at just now it's not so much about that but it's more about just thinking 'am I doing it right?' 'are there other ways?' and 'would the other ways be better?' “

Coach MA3 appears to have decided that formal qualifications have little value in developing his knowledge as a coach; an observation in keeping with recent research (Cushion et al, 2005). He seemed to use coach education courses as a forum for discussion, to have specific questions relating to his athletes answered and not necessarily by the coach educators. This could be viewed as Coach MA3 developing his own coaching network or Community of Practice (COP) to benefit both his learning and his athletes' performance. This informal method of learning exemplified how this coach developed his coaching knowledge as part of a knowledge-building community (Kirshner & Whitson, 1997). This approach would allow this coach to construct knowledge appropriate to his particular coaching environment, making sense of his experiences in context (Wenger et al, 2002). This theory views learning as an act of membership in a CoP with the coach seeking to understand both the structure of communities and how learning occurs in them. It reinforces the notion that *knowledge is inseparable from practice*. In the coaching context it is not possible to **know** without **doing**.

6.8.3.1 Coach Assessment

All of the coaches in this study believed that coaches should be assessed at all levels of development. Coach MF3 declared:

“Yes, at all levels because I think you can always pick stuff up - when is your job ever done? If you're coaching at the top level, you can't just say right I'm here now, that's my job done. You should be continually reminded of new ideas and try to still educate yourself and be educated on new ideas because, as you know, coaching never stays the same, there's always a new method or a new idea as to what works better than what was before. I think it would all help, for instance, if they were to change it now and go back and make the level 1 course, not necessarily a pass or fail but more knowledgeable. More than 6 hours would also be a help and analyse them throughout, if they got assessed, continual assessment and watched, I think that would only help them. It would help them so much more than just 6 hours of this skill practice, that skill practice - I'd probably go back and do it as well.”

Coach MR3 reflected back to when he had worked full-time as a Rugby Development Officer (RDO) and had been involved in coach education:

“I think so - at all levels. Most of the people that I've worked with as an RDO are the same, you think very deeply about what you've been told and what you've been given. It's not that you take the whole piece of information, you take parts of it, the best parts of each and sort of put that with your own experiences, whereas a lot of volunteers that come on it, sit down, it's delivered at them, they go out on a Saturday night, they get pissed, they come back on the Sunday, they're hungover, they don't take in half the morning - this is the reality of it. The afternoon session they do a bit, they go home, forget about it and just go back to the way they were. So if they're not being assessed and just being given it - a coaching qualification - then they're never going to improve. If you're put under pressure, to perform under pressure than that makes a change to the way they actually think about things, the way you have to prepare. I'm not sure how often they should be assessed, but I think more than once, it shouldn't be one assessment, then you've got your badge and you just go back to the way you were. It should be over the space of a couple of years.”

Coach MR3 appeared to highlight the differences between coaches who had a professional approach to coaching as they were employed within the industry and the

volunteers , with no real commitment to either coaching or the sport of rugby. Debate has surrounded the professionalisation of coaching and one of the key benefits of professionalising coach development would be the establishment of a career pathway, affording coaches similar opportunities and benefits available to other professions. This would help ensure that effective coaches could develop a career. However there are difficulties associated with a career in coaching, for example, short term contracts and a lack of professional accountability (Knowles et al, 2006). These difficulties were highlighted by Coach MR3's experiences as an RDO. Coach MA3 not only considered the aspect of assessment but also what form that assessment should take. He thought:

“Yes, I think initially they need to be assessed, what form that assessment takes, well I suppose I'm a little old-fashioned, I still think for credibility an exam is needed. It would put people on the spot, it goes back to 'hot action' coaching, which takes place in sometimes a very fraught atmosphere, and I think at certain levels, maybe it more level 3, level 4, but I think anyone who's in charge of a club needs to be put under the cosh, 15 minutes of an assessment isn't going to do that, which is what UKA currently offer. An assessment should really be an assessment because you're being left in charge of children and adults. In terms of ongoing assessment, I suppose I don't mind being assessed by peers but then I qualify that by saying that I also want to know the peer can be objective and is as up-to-date or sort of rationally objective as I am. It's not just that they're there because they've had someone, you know, 'I coached x, y, & z ' years ago, so they've got that job. I want to know that they might not agree with what I'm doing but they can see the rationale for it.”

Coach MA3 not only agreed with the idea of coach assessment at all levels of coaching qualification but raised questions as to who would be best qualified to carry out the assessment. This added to both Coach MF3 and Coach MR3's concerns about what format the assessment should take, as well as how someone would be assessed practically, does provoke questions as to both the practicality and worth of the subsequent qualification. The method of assessment provoked some mixed responses from this group of coaches with Coach MF3* stating:

“Certainly ongoing - the only thing being how, again if I can think about football here, perhaps once you get to a coaching level - certainly practical, perhaps to see if they were keeping up with current practice, new methods, technological methods, you know, whatever it may be. I think by the very nature of coaching it's very practical and to have any written exam or assessment would be very unfair, because, certainly from my experience, coaches learn best from a practical experience. It's very difficult to assess at a higher level, I mean, how do you assess management styles?”

This idea was in direct contradiction to Coach MA3 who considered that an exam was necessary for integrity of the process. Ongoing assessment, although commendable in design, does raise a number of issues for the assessors, regarding the format, organisation and practicality of the process. However this concept was popular amongst these coaches with Coach MR3 saying:

“Practical assessment, so you're being watched. There's a part of me thinks it should be a surprise. ‘Surprise, I'm here - where's your lesson plan?’”

The idea of surprise visits does not appear to be popular with NGBs at present. However, with the introduction of new methods of assessment in the UKCC this could become more acceptable. If coaches are given warning as to when they are going to be observed and assessed, very few should not be able to reach the set criteria. This does not offer any assurances that their usual coaching sessions reach these criteria, if they are not visited. Perhaps ongoing assessment over a period of months would be more revealing to an assessor.

Much of the debate surrounding assessment is concerned with the assessor. When this group of coaches were asked about this, there were a number of passionate replies, for example, Coach MA3 considered that the:

“UKCC will not help - it's another disaster. I actually think they're beginning to do it nearly right but the UKCC, in my view, they need to start at the top

level, level 5, and work their way down. Look at the competences, what the skills were, the attributes, the knowledge base at the top end and then start dropping it down to the lower end rather than getting hundreds of folk through the lower end first then wonder what they are going to do at the top end. I also think that every NGB hasn't embraced it in the same way - it was the one chance to bring together a co-ordinated approach to coaching, a standardisation of approach, a standardisation of curriculum, a core curriculum, if you wanted, and then begin to look at professional coaching. Currently some NGBs are looking at level 5 as a PhD level, Masters level, level 4, honours level, level 3 and others that think that a level 3 or 4 is actually foundation degree level and they're miles apart. Philosophically I think it's a great idea, I just think it's been badly operationalised. The parameters weren't set out - the NGBs were given too much leeway, they weren't told what to do. It's up to the home countries sports councils to say we are politically driven to get a nationally accredited coaching licence.”

This viewpoint encapsulated a number of concerns regarding coach education provision, that the design and organisation of all coaching, and indeed sport, should be controlled by one overarching body. This would be similar to both Canada and Australia, countries noted for both their coach education and sport system, where one key agency has control over all sports organisations, including NGBs and licensing of coaches (ASC, 2007; CAC, 2007).

6.8.3.2: Development of Knowledge

As previously mentioned, this group of coaches did not place much reliance on coach education courses to develop their knowledge so had acquired a number of other mechanisms to enhance their coaching. This point was made by Coach MR3, who said:

“I don't think these courses are meant to enhance your knowledge. I mean, you certainly don't pick up many drills or things like that. I think it builds your own knowledge of yourself and it builds your own knowledge of how to coach rather than the knowledge of what to coach. I think that's more important, to be honest, because you can always look on the internet or look in books or speak to other coaches about what you can deliver but if you can't deliver it then it's pointless. You can get all these great, different, fantastic drills but if you can't teach someone how to do a basic

pass then what's the point?"

Coach MR3 considered that the typical format of coach education courses was too sport specific, concentrating on drills and skills. This approach has been mentioned by other coaches as being not particularly helpful in enabling them to develop the skills of effective coaching. The performance coach has to develop a season's plan, improve techniques, introduce and refine skills and tactics for participation/competition, enhance all aspects of mental and physical preparation and manage the individual or team in competitions (Gilbert & Trudel, 2005; Irwin, Hanton & Kerwin, 2005; Lyle, 2002). The coach must employ many different types of knowledge to be an effective coach but apparently these varying types of knowledge are not taught or even mentioned on formal coach education courses (Miller & Kerr, 2002; Abrahams & Collins, 1998). Coach education courses in this country operate hierarchically, which suggests that knowledge should be built upon and developed with each successive coaching qualification undertaken. The current courses generally do not contain identified elements of expertise and, according to this group of coaches, only addressed sport specific knowledge, with little or no building of a base of either declarative or procedural knowledge, necessary for expertise.

6.8.4: Coaching Practice

The coaches in this study could be designated as performance coaches as they are preparing athletes or teams for competition as part of a longer-term, committed process (Lyle, 1999). As such, performance coaches usually have to liaise with a support team and manage a myriad of factors which culminate in an effective coaching programme (Mallett & Cote, 2006). The indication of this longer-term approach to planning was not

immediately evident when they were asked about their approach to planning their programme. Coach MF3 explained his method:

“What I do is, I take notes during every game that we have and from the notes I take in a notebook during the games, I then write them out onto A4 sheets of paper. After the games I look at what I've put down on certain players, what I need to work on and work on things that I saw at the weekend that need to be improved. I try and think of skill practices that would improve them - that kind of situation but there are times where you come along for a session and well I wouldn't say so much think about a theme but just kind of put a session together that you think would benefit them.”

Coach MR3 was of the same outlook that his approach was mostly reactive to the play or results from the previous competitive rugby match, saying:

“It's usually reactive to what happened in the game - that's something I'm really, really trying to move away from. It's quite tough because you can have all the plans in the world before the season, but when you get into the season, things change and personnel changes so it's usually what happened in the last few games and I'll put that into some form of progressive series of drills. I want to be more proactive and I think it will be easier in the future. With the one women's team I coach, it's the first year so I'm just trying to get a feel for each girl's strengths and weaknesses. I've taken over the U-18s team for women's rugby and I know that I'll be able to sit down and actually plan what I want to deliver to them and what skills I want them to be able to be good at by the end of it but there's a difference in that squad, there's only 13 players involved and it is purely a player development thing, to make them better players for the future, there's no competition element according to LTPD principles. I'd like to be like that with all my teams, know who I've got to coach and put in place stages of development for them so that by the end of the season they can all kick and they can all pass and they can all tackle.”

It appears unusual that a coach working with a national squad, albeit U-18 level, was not working with more of a long term plan. It was useful to note that the players were being developed using LTPD principles but that should require a planning element to ensure that all the criteria for this specific stage were being included in the appropriate quantities throughout the season. Although Coach MR3 acknowledged he should be

more forward thinking, he was realistic about the constraints that he was working under and looking forward to getting to know his players in order to individualise his programme. It should also be noted that at this level, Coach MR3 still had to work on basic skills, which should have been developed by this stage in the players' careers.

Coach MA3 did appear to think more long-term than the other coaches. He thought:

“I think I'm quite fortunate in athletics' terms, certainly in middle endurance athletics terms, my gymnastics background has given me a set of fairly good analytical tools, so I can analyse movement a lot better than most athletic coaches but I also think it's important, most think if the engine's good, then whatever. I work with the English Institute down here and quite closely with Jarryd Deacon on formulating strength and conditioning programmes but also about what I want and when I want it. He puts it in place and gives me advice so we're now at the power phase. With some important races coming up, I've made the assumption that the weights will drop, the power will go up and the speed will go up and some of the plyometric drills will now become more specific. That's what happening but he's enacting it and that's what I would expect him to because it's his job but also because it's the logical progression. I tend to hit off the Institute person quite a bit down here and I find I get more out of that because other than that most athletic coaches don't see the whole picture - they don't see technique, they don't see strength and conditioning, they don't see massage, physio support, getting blood taken, they don't see that as part of their job. The running on the track, on the hills, that's the job but not the sort of big picture and I like to be in control of the big picture in that way.”

Coach MA3 was the only coach within this group who appeared to manage a programme of coaching, involving a support staff and controlling the elements of performance for the benefit of his athletes, as advocated by performance coaching (Mallett & Cote, 2006). He also relied on other expertise, for example, strength and conditioning, to complement his coaching programme. This holistic approach also manifested itself in Coach MA3's instructional approach, as he said:

“They're adults, I tend to treat them like adults. They know what the programme is in advance, it's written 8-10 weeks in advance and all we need to do is go over 'well this is what we're doing, is everybody aware of...'. I always try to leave myself an out, if it's going badly, without making the

athlete feel bad, I can always just say, as I did last week, there was a session where we were doing 600, 500, 400, then 400, 500, 600 and I said that I wanted the 600s to count. I anticipated the 400s being pretty poor because I thought they would be just too tired. So I set that up to make sure that the work was done at the point I wanted it to be done and as it was the 400 didn't go bad but if it had gone bad and they hadn't been anticipating it, I think it would have brought a negative end to the session."

Coach MA3 demonstrated his experience in coaching by anticipating the negative effect that his demands could have on the athletes. Many consider that coaching at this level involves both man-management skills and confidence building for competition (Gilbert et al, 2006; Weiss, 2003). The coach needs to be aware of this and tailor their coaching sessions to facilitate this. Both football coaches, MF3 and MF3*, did not appear to use this type of approach, with Coach MF3* stating he tried to be:

"as positive as possible, I think. There's merits in having a go at people, if they perhaps need it. It's got its time and place but as positive as possible because people are there to again learn and you're not going to learn from any negative session. I think one of the main aspects of coaching is you've got to know how people think. We know where we are working right now that we can bawl and shout at some people and give them stick all day long and they'll take it and learn from it. You do that to one other guy and he'll go away in his own wee huff and learns nothing from the session. So, I think from an instructional point of view, you've got to know exactly who you're talking with, who you're dealing with and how they're going to react to it as well."

This does suggest that the coach needs to know his players, which indicates more of a relationship between coach and athlete, crucial in a competitive environment. The research conducted into this area does not suggest that knowledge of the individual should be used in this manner (Werthner & Trudel, 2006). This is related to the practice environment that coaches attempt to create. However the instructional approach suggested by Coach MF3* and the practice environment he described do appear to be very different as:

“I think generally they're more relaxed - the level that I'm working with right now, players in early 20s up until 35. So they're playing at a higher level and I think they're now at the stage where they know the basics, know what they've got to try and do and I think it's just a case of trying to get across to them 'this is how you do it' and this is what we've got to work on in a more relaxed approach, more laissez-faire.”

Coach MA3 considered the initial part of his sessions to be a time where the athletes were settling down, adapting to the demands of training and preparing to concentrate, saying:

“Mostly quite a relaxed environment - if you take the initial warm up that's quite a jolly time, the minute we get onto the track, or the hills, or wherever we are, there's a specific warm up that all the different athletes do different, some do particular drills, others do different stretches, that's when the banter stops but they're mature to do that for themselves. We may have a bit of a laugh and a joke but they know they're now focussing. I'm really quite fortunate because there can still be a smile and a laugh but they're focussing on the job a hand. I set the targets but very often the targets are dictated by, in many cases a time or a height, dictated by what you perceive to be right, we know how fast they should be going in metres per second towards a particular goal. So if I set a time it's based on where we think we are, that's just a gut feeling for most of them right now, I don't have enough experience with them individually to say that they'll always hit these target times. Some of them compete much better than they train - I don't know those and others train much better than they compete so I've got to try and find out why that is. In general terms, times are set by me, standards are set by me and then it's up to me to manage if they don't meet them because one or two of them get very stressed if they don't meet them. If it's been a bad session, it's me that's planned it badly, it's not their fault, it's maybe been the right session, just the times have been wrong.”

Setting up this type of practice environment, where athletes are relaxed but focussed requires great skill on the part of the coach and it also demonstrates a mutual respect between coach and athlete, indicative of a positive working relationship (Ollis et al, 2006; Werthner & Trudel, 2006; Vallée & Bloom, 2005). This approach appeared to also be replicated by Coach MR3 in his coaching environment, stating:

“I think it all links in to the player-led, you know, asking them the questions. I encourage them to help one another, it's all positive but they have to help

each other. I try very much to make it a learning environment that's positive rather than something they dread. As a player I loved playing in games, probably like every player, but hated training, so I take that on board and try and make it as enjoyable and fun as possible."

Both these coaches, MR3 and MA3, seemed to want to involve their performers in a number of aspects of their training and performance. Coach MR3 also stressed a learning environment within his practice sessions was important to both him and the players. Both of these coaches considered that if they were engaged with their athletes then they were more likely to get honest feedback regarding their sessions and especially whether the athletes had learned anything. Coach MA3 thought he was inclined to:

"ask them. I tend to ask fairly open questions, so even during the session, and even if it's a purely physical session, I try to have a technical aspect to think about, like 'how were your arms there on the recovery point?' It's one of the things that we do in terms of relaxation. At the very end it's more about how did the session feel? What did you get out of it? It's not about learning, it's about me getting to understand them a little bit more but I tend to ask them how they felt about it - I don't want the 'oh, it was good' so I ask 'what was good about it?'"

Coach MR3 had a similar viewpoint:

"Usually the results of what I see. The first way is the answers I get - as long as I see some sort of clue that they're taking it onboard."

Both Coaches MR3 and MA3 asked their performers about training sessions, however they did not accept the answers as genuine at all times. Both these coaches always looked for other information to reinforce the answers that they received from their performers.

6.8.4: Critical & Analytical Skills

The coaches in this study have generally demonstrated that they do utilise some problem-solving and investigative aptitudes. There has been little research undertaken into the coaching process, especially as it relates to performance coaching involving the enhancement of the coaching process, particularly in terms of delineating the role of the expert performance coach. It is difficult to categorise coaches into the classification of expert or otherwise, especially given the absence of clear criteria to define expertise (Coaching Task Force, 2002).

6.8.4.1: Decision Making Skills

All of the coaches in this study were of the opinion that decision making was important to their coaching. Coach MF3* thought:

“Decision making comes back to a whole multitude of areas that involve coaching - it's one of the major areas of coaching. There won't be a good coach out there - an effective coach - without the ability to make the correct decisions. I'm not talking about tactical or anything like that but there's so many different things, particularly within team games, it's just so huge that it's almost it's own area within coaching.”

Coach MR3 was of a similar belief regarding the magnitude of the decision making process in his coaching, saying:

“I think it's a massive part of the job - all the decisions you make - there's so many decisions to make. You have to decide what you're going to deliver, you have to decide who plays in your team and you have to decide the style of play you're going to take up. I mean, you're forever making decisions.”

The coach must utilise many different types of knowledge to solve problems and make all the different types of decisions mentioned above. Coaches are asked to make decisions in a variety of situations and this ability has been identified as one of the key roles that define an expert coach (Gilbert & Trudel, 2005; Lyle, 2003). Coach MA3

thought that problem identification was more important than decision making to the coach, saying:

“I think decision making is important but if I don't know what I'm deciding about then the decision could be the wrong decision. If you look at the decision making loop, the problem identification, problem resolution or the concepts of problem solving are in there, the decision about how and when and what to do. But I actually do think that if I can't sit with a range of problems and try to work out from first principles, what is the underlying issue that's going to concern this performance, then I can make the wrong decisions. It could be that somebody is performing poorly in x-country, I'll say make the decision they have to do 80 miles per week because I think aerobically they're very poor, but all it is they're running very badly uphill. That could be a technical problem - I need to know what the problem is.”

As coaches develop expertise the process appears to become less well-defined, which perhaps means that as coaches examine their decision making process, particular components tend to run together (Schempp, 2003). Experts draw on a well-developed range of knowledge in responding to problems in their respective domains and this process could become blurred, making the coach consider problem identification as a distinct act, rather than an integral part of the decision making process (Shafto & Coley, 2003). All of these coaches reported that they were not aware of all the decisions they made in their coaching or the thought process that enabled to reach their eventual decision. Coach MF3 said:

“Sometimes you see things and a lot of it is kind of instinctive to what you know or what you've experienced, what you've learned. I think you've got to be able to spot things within your session. Something I definitely want to improve in is decision making on the park, during a game situation or even a skill practice, I feel I need more knowledge.”

This coach, MF3, had made the connection between decision making and knowledge and also recognised that he needed to acquire more knowledge in order to improve his decision making skills. He divulged that many of his decisions were instinctive, which

can be viewed as an element of expertise (Guest et al, 2001). Coach MF3* also suggested that his decision making was intuitive but based on his experience of being in these situations previously, stating:

“I think through your experience you would make a lot of decisions instinctively now because you've gone through the experience of doing it and you've learned from that, which again is part of coaching. You learn from the experience of doing it and you learn that decision worked last time and it doesn't then become a decision, it becomes instinctive. It's a decision that you make without being aware that you've made it. I think that's good coaching because you realise what works for you, so that non-conscious decision contributes to your overall ability as a coach.”

Coaching is a very complex task, carried out in an ill-structured, constantly changing environment, from which it could also be suggested that decisions may also need to change. Coach MF3* made no mention of how he utilised his experience to help with his decision making process but considered this intuition to be of benefit to him as a coach. The expert coach can make decisions, solve problems, and apparently operate on an automatic level (Bloom et al, 2003). Coach MF3* may have considered his actions instinctive but they could actually be based on a complex interaction of knowledge and memory of similar situations, improved by experience and reflection (Schön, 1987).

6.8.4.2: Reflective Practice

Reflection is considered a fundamental skill required to develop professional practice and as such, has been mentioned in recent coach development publications (Eraut, 2002; FHS, 2002). This group of coaches all determined that they reflected and that reflection was useful to them in their coaching. Coach MR3 explained that this was a difficult and sometimes painful process for him:

“It's something that really affects me and it's something that just recently, unfortunately, just as I was going through these practical assessments for a post in women's rugby, I was also going through my lowest point in coaching. My sessions weren't ineffective, I just felt that things weren't going perfectly for me, so I'm continually reflecting on how I can get better. It's like I said, you have a feeling and some people don't have that feeling, that's the difference, it's having the ability to know when things just aren't quite right.”

He continued to say that when it affected him in this way that:

“it tends to tear it to shreds, especially if it's not gone so well. I mean, if it's gone fantastically then it's a good feeling but I'm probably not as specific in my reflections as I should be - it's just a general feeling I get. So, if I feel it's gone well, then I can relax and I feel OK, so that when I come to the next session that relaxation and knowing you've done a good session helps. It has a strange effect on me - I have lots of knowledge but getting stressed about it locks up all my knowledge and when I'm trying to write out my session, just like my mind goes blank. I mean, I've got a huge amount of knowledge in terms of what to deliver but if I'm feeling negatively or feeling worried about the next session then I can't think of things.”

As mentioned previously, reflection is not a simple activity, but Coach MR3 does seem to be stressed by his thoughts perhaps because he is thinking deeply about his coaching, asking himself the difficult questions. Furthermore, it could be that he has received no information or training on the process of reflection and how to implement reflective practice into his coaching. The fact that he is deliberating about his coaching is positive but he may not gain the full benefit or continue with this practice unless he can make sense of the process. Coach MF3* pondered his reflection, saying:

“I'm very much a thinker when I reflect on things. I do that when I drive my car actually. If I perhaps drive on the motorway, I'll find myself really reflecting. If I'm also doing it with other coaches, if we're discussing matches, we'll sit down and verbally reflect with each other. I think the different opinions that you get from that, perhaps leads to a lot of discussions and again all for the benefit of the team you're coaching but also your own ability as a coach as well, to learn, to take on board. I think in my experience any type of reflection is fairly informal.”

A large number of coaches throughout this entire study (n=13) admitted to reflecting while either driving or walking home after a coaching session. Evidently, this was a time when they were not able to do anything else so they considered their coaching practice. This would preclude them from writing anything down as highlighted by Coach MA3:

“I don't do it the way I probably should - I don't write anything down. I do have a diary log that I keep of what I want the athlete to do - then they complete what they've done and I put a comment if I've been there and witnessed it. I try to keep a note if I change things, the reasons I changed it and I do keep a little note, and it is only a little cryptic note, of issues that bother me because they're the ones I'm going to bring up at the end of the year. The major reflection I've had is in the middle of the night, that didn't go so well and I've actually woken up at 3 o'clock, thinking I've only got 2 weeks to get this right, how am I going to do that. Now, that's real reflection, sitting trying to unpick what's happened and why have I done it and are all these pieces going to make up a whole jigsaw and then I come back to yes they are.”

Again, Coach MA3 demonstrated that he thought deeply about his coaching, having the motivation to apply the effort necessary to improve his performance (Ericsson et al, 1993). Both Coach MA3 and Coach MR3 reinforced the notion that reflective practice enabled them to develop expertise throughout their careers, involving complex learning processes (Boshuizen et al, 2004). As neither of these coaches thought that they had acquired these reflective skills through their coach education courses, then they must have attained through some other source. Coach MA3 had completed a Masters degree in Coaching Science and was currently enrolled in a PhD again studying coaching. Coach MR3 was completing an Honours degree in Sport Coaching at the time of the interview. Both of these coaches judged that they had developed their critical skills through their academic study. Coach MA3 explained:

“As I moved up the ladder - I certainly didn't at the beginning, it was fairly formulaic. I suppose, there was a fairly big agenda to get through in terms of technical skills, and I had to then begin to set myself my own standards by which I would judge myself. I think my evaluative skills, I did the old DCPE Diploma in Sport Coaching and I think it's probably one of the best coach education programmes there were in Britain, if not one of the best in Europe and it's gone. If I hadn't done that I wouldn't be half the coach I am now because I wouldn't have got it from NGB awards.”

Coach MA3 realised that he had made a transition from coaching in a prescribed and standardized manner to having the confidence to set his own agenda for coaching. He determined that he had been able to make this difference by the evaluative skills that he learned on his academic course. Research by Lajoie (2003) has suggested that knowledge transitions can be hastened when a path is clearly mapped out and the learner understands how to construct their knowledge and adjust it to suit their own context, in this case, the coaching environment. Coach MR3 was of similar opinion and added the following comment:

“coach education never really goes into critical thinking as it probably should do.”

Many professions have highlighted the use of critical thinking skills as a key component of their learning structures, for example, nursing, teaching and medicine. Perhaps coach education needs to adopt some of these examples of good practice, which would also have implications for the coach educators.

6.8.4.3: Feedback

The coaches in this study felt that feedback was essential to their development as coaches and also to the improvement of their performers. The majority (n=3, 75%) of

these coaches had regular methods that they used to gain feedback from a variety of sources. Coach MF3 clearly linked much of his feedback mechanisms to his reflective practice, stating:

“I get feedback through just evaluating my sessions, like looking at my sessions, see what I feel has gone right and wrong, reflecting on what I think should be done, like what could have been done better and even the things that have been done in the session that I could say right I've done it this way, now I know I need to do this, do that to make it better next time.”

Coach MR3 had a different approach as he was in the fortunate position of coaching with other people in most of his coaching, explaining:

“I speak to my other coaches, I mean, I coach Strathallan school now, the 1st XV, and I'm continually speaking to Dave Barnes, the deputy head along there, just asking him for feedback on how the session went and it's very casual. It's like a conversation but I take on board that information and try to make changes. I speak to the captain and the vice-captain as well, who're very good at putting across their feelings and they've got a nice feel for the session as well as a lot of responsibility within that as well. The women's rugby, I coach two teams and my girlfriend plays for them both, so I get the feedback from her.”

Although the feedback provided to Coach MR3 is informal, there was no reason to doubt that all the feedback providers, coaches, players and team captains, were able to provide substantive information regarding the session format and content. It is debatable as to the extent players, and some coaches, are able to provide the type of feedback that coaches require to enhance their practice. Ericsson et al (1993) considered informative feedback to be crucial in the attainment of expertise but although these coaches receive regular feedback the extent to which it could be deemed informative is questionable. Feedback about coaching performance, particularly from a knowledgeable and

experienced individual is vital in developing expertise and can be critical in assisting coaches to make the transition to the next level.

6.8.4.4: Mentoring

This group of coaches considered they had had a mentor at some point during their coaching career, but all were equally keen to point out that all their mentors were unofficial or informal. Mentoring is a process that covers many different types of environments and relationships, ranging between informal and formal (Galvin, 1998). The more formal approaches, usually initiated by NGBs, are becoming more prevalent, especially with the introduction of the UKCC (Sport Coach UK, 2007). Coach MF3* described his situation, saying:

“Now - yes. The coach I'm working with now he's done the top qualifications that he can actually do, I very much learn from that and I feel now that it's only now that I benefit from that. I think that when I was learning, from the lower levels up, don't get me wrong, it would have been great, to actually have a content mentor, but I don't think it's essential at that stage. I think it's the higher levels that you really need the mentors, at the lower levels it's probably going to be more of a motivational aspect because you can't learn that much, you know you can't learn to run before you can walk. At the lower levels a mentor giving that sort of feedback to you wouldn't be content specific or anything like that, it's just going to be positional things or stuff like that or communication, whereas with a mentor, you're looking to tap into their knowledge and I think when you get to the higher levels you can appreciate their knowledge. That's when a mentor, for me, really becomes more of a tool if you like.”

Coach MA3 thought that when he had started coaching the head coach had unofficially fulfilled the role of mentor, saying:

“I never had a proper mentor, I've mentored people but I've never had a proper mentor officially. When I did most of my coach education, you went along and the unofficial mentor was the club coach.”

If a head coach were performing their role, liaising with all the assistant coaches and support staff, there would be a general sharing of information. Often, as a result of the voluntary nature of most sports and most coaches, there is not sufficient time or organisational structure to allow this sharing of information to occur on a regular basis. This is not meant as a criticism of head coaches, but more of an understanding of the difficulties they encounter, discharging their duties in a performance environment, in the current climate. If official or formal mentoring is to be introduced, then the onus should not be placed on already busy coaches who have often not had any training to prepare them for this role. It could be carried out as a function of Sport Development Officers (SDO) as reported by Coach MR3:

“I had a mentor in my job, I had a manager, who took it upon himself to become my mentor because he was right into mentoring. The DO when I was ADO, did a lot of work in mentoring and tried to use that style of management with me but it was never official. I've never officially had a coaching mentor either.”

Some local authorities and NGBs have attempted to introduce the concept of mentoring, for example, Manchester and British Gymnastics. Suffolk recently introduced a mentoring scheme not only for specific sports but also for the generic skills of coaching (Suffolk Sport, 2002). Both Australia and Canada have had well developed mentoring programmes, aligned with coach education courses, running for some time (ASC, 1999; Thomson, 1998).

6.8.4.5: Continuing Professional Development

Two of the coaches (50%) in this study were not aware of any requirements for continuing professional development (CPD) required by their NGB, the Scottish

Football Association. When asked about how they stayed current in their coaching knowledge and abreast of new developments, Coach MF3 answered:

“The only way it keeps current is I use the stuff I've learned.”

Coach MF3* provided more information, realizing the need to stay updated in many areas, saying:

“I think because of the level of coaching that I'm at, there's more levels that I could do. So, I think I try and do one each year and from that perspective, that continuation obviously. Because there are so many different areas within coaching, learning styles, management styles, technological aspects, I think I always try to keep up, whether it be conferences or whatever.”

Coach MA3 and Coach MR3 were clear on their necessity for CPD, not just to fulfill NGB requirements but also to help them as coaches. Coach MR3 was able to give information on CPD from when he was a Rugby Development Officer, as well as current information from his coaching, answering:

“We used to do Investors in People (IIP) - whoever was in charge of the SRU loved that and he wanted everybody to go through the IIP stuff. One of the downsides of being a DO in Caledonia is that we don't have a professional rugby team, whereas every other region has a professional rugby team as a result the DOs in these areas get to spend time with them, the players and the professional coaches, so it was never as good as I wanted it to be. I spent one week with Allan Edwards at Edinburgh and I know that under the new sort of women's rugby system that there will be opportunities to go through this professional development and work with some kind of specialist coach. When I do that they'll put me with the person in charge of specialist coaches throughout Scotland and I'll work with a team of coaches.”

Coach MR3 does not appear to be aware of any formal CPD requirements but as the SRU is one of only two Scottish NGBs involved in the UKCC, there must be an obligation to complete some ongoing development. Coach MA3 described the formal

requirements from UK Athletics but also provided detail of the CPD he felt would be of benefit to him:

“Because UK Athletics, as with most GB's nowadays, demand updates, you get credits for x, y & z. The bulk of the credits come from lots of wee courses, so I get to tick some boxes. Some of this I have to find myself, nobody's guiding me to it. I think in an ideal world it should, I'm a bit hesitant about saying that it needs to be there all the time because I could do as much for myself almost, as long as I've got someone to contact to talk to about things, as I could do having to go on CPD. I'm busy, I'm not a paid coach, that's fairly key. I actually think it's needed more at the lower level though, than it is at the top level but I don't like the idea of some coaches saying 'I've been coaching at this level for 20 years so I've got 20 years worth of experience.' I actually don't think like that. The funny thing is if you asked me the question, I'd say yes, I think it should be but if you ask me if I want to do it - no, I don't. I want to pick what I want to do and not have to do it in the timescale that suits someone else. The two big areas of coaching - if you look at the technical side, preparation, performance planning type of thing and then there's the whole management of athletes and, I suppose, management skills, that's the way I look at it. I suppose that second part's the part you either have done in your work and it transfers over or you need to do it. There are sometimes I think that would be more beneficial - the bits I would like to do - I want to go to more coach education courses at the right level, with the right people to ask the right questions. Really, I would like to go and spend a week with British Rowing, a week with British Cycling because I think so much is transferable, we've missed the boat. I mean, everyone wants to go and see the Kenyans run, why not go and see UK's Rowing squads, they're world class. I would much rather do that, ask questions of swim coaches, why are you doing 130,000m per week for a 50m swimmer. I want the answers and that would benefit me more than necessarily going on loads of courses for athletics. I still have things I want to pick up in athletics, there are still questions I need answered.”

Coach MA3's detailed response raises many issues regarding CPD. Firstly, coaches need to feel that what they are required to do is of benefit to them. Currently, elite coaches do not perceive existing coaching awards to be a useful tool for their development, so it could be suggested that CPD courses would be viewed in the same way (Irwin et al, 2004). CPD programmes are said to improve retention, enhance learning and raise standards but if busy, volunteer coaches are required to attend these

courses then the opposite could be the case (Whitmore, 2002). Secondly, coaches may consider that CPD is good practice in theory, but lack the enthusiasm to attend, especially if they are perceived to be of little practical benefit. Finally, Coach MA3 appeared to be suggesting some form of needs analysis be performed on each coach, allowing them to create a custom made package of CPD. This would be extremely time consuming and would also require a certain degree of both transferability and transparency between NGBs within the UK. There is no reason why this should not happen but there could be some opposition from both NGBs and individual coaches about having their practice questioned by others from outwith their sport.

6.8.5: Summary

Analyses of this data provided a general overview of the way in which Level 3 coaches, who could be considered as developmental coaches attempt to become more effective coaches (Lyle, 2002). These coaches were broadly involved in coaching athletes who were engaged in competition, although the level of that competition varied noticeably. The length of time that these coaches had held a Level 3 qualification also varied, the two football coaches had both held this level of qualification for less than two years whereas the other two coaches had been at Level 3 for eight years. None of these coaches were currently employed full time within coaching, although all of them were actively coaching.

These Level 3 coaches had surmised that there was considerable debate surrounding the role of the coach, but they each displayed a different method of interpretation, perhaps dependent upon the context. It appeared that these coaches were working within a very

different coaching context, guided by a competitive element, but with dissimilar emphasis. This different emphasis could account for differences in role framing, philosophy and beliefs. The football coaches still held some beliefs more common at Level 1 and 2 whereas Coach MR3 and Coach MA3 viewed their role and philosophy in a much wider perspective.

This group of coaches had experienced coach education courses in a variety of sports, as well as the sport they were currently coaching. They reported mixed views regarding their coach education experiences with Coach MR3 the only one of the interviewed coaches who had undertaken a UKCC coach education course. They generally considered coach education courses to be sport specific in nature, concentrating on content knowledge rather than other types.

In the main, these coaches considered they attended coach education courses because they had to have the qualification although they do mention that they do acquire some useful information. None of the Level 3 coaches felt that the coach education courses they had attended changed their coaching behaviour. These coaches expressed preferences for learning from reading, watching and practically taking part in sessions. They did consider their learning important to their development but as they did not place much reliance on coach education courses to develop their knowledge so had acquired a number of other mechanisms to enhance their coaching.

Many coaches learn through a series of apprenticeships, working with more experienced coaches. This would be in addition to formal coach education courses that are required.

Much of the knowledge growth experienced in this type of environment can be slow as is the case with conceptual change, which is a social as well as cognitive process (Vosniadou & Kollias, 2003). It is thought that “domain specific knowledge, as opposed to general cognitive strategies, were responsible for higher-order processing and performance” (McPherson & Kernodle, 2002, p. 141). This would suggest that more time should be spent developing knowledge bases within disciplines, including coaching.

All of the coaches in this study believed that coaches should be assessed at all levels of qualification as this gave authority to the process. There was dissent as to what format the assessment should take and concern as to who would carry it out. Evidently, these coaches did not believe that an assessment would help develop expert coaches but felt it would make the progression more rigorous.

Although these coaches were preparing athletes or teams for competition as part of a longer-term, committed process, this long-term approach was not immediately evident when they discussed their approach to planning their programme. Coaches in this type of programme need to know their players, which is indicative of a working relationship between coach and athlete, crucial in a competitive environment. These coaches did not always demonstrate that they were aware of various aspects of their performers learning style, skill level, personality and preferred approach. This affected both their instructional approach and the practice environment they attempted to create. This could then influence the quality of practice and the learning process of the performer.

6.9: Discussion Section C

6.9.1: Level 4 & Level 5 Coaches

All of these coaches had become involved in coaching through their own involvement in sport, and although only one of them was still competing at an international level, the rest still participated on an occasional recreational basis. All of these coaches had been at their current level of coaching for more than ten years: all of them had been involved in coaching for over twenty years and two had been engaged in coaching for over thirty years. Coaches MT4, MS4, MF5 and MS5 (50%) were employed full-time as coaches of their sport, whereas the other four coaches (50%) were volunteers. Many of these coaches had experienced a wide variety of sports before choosing to specialise in their sport as both players and coaches. As Coach MT4 explained:

“I’ve always played tennis - always been interested in it although at an early age I was a fairly competent footballer and it was a mix between tennis and football. I think my parents preferred football and I preferred tennis so I gradually got more into tennis. I think it is important to keep playing. I think a lot of coaches forget the mental stress and you can emphasise with the players a little more if they miss a shot.”

Coach MB5 described his entry into coaching:

“Basketball was through school and it just kind of grew from there. My involvement grew as I thought I became just that bit more proficient at it, as a kid who wanted to do well in sports. It became a bit more serious as I recognised I wasn't going to do particularly well in soccer - it was almost as naive as that. Playing wise it kind of worked out reasonably well - I was never going to be a great player but there were some things I could do pretty well - and I knew I could do pretty well and then it sort of moved from there to getting engaged in coaching and going on courses and going to the States quite a lot to sort of further that knowledge and then I just happened to be in the right place at the right time and get really heavily involved in coaching at all sorts of different levels.”

These coaches were all involved in representative coaching, some working at National level and others working at District level. Coach MT4 was involved in developing young performers and had worked with a tennis player currently ranked in the World Top Ten. Coach MS4 was also working with younger players, having coached a European Junior Champion. Coach FL4 was the only coach still competing and was coaching the Scottish Senior Squad. Coach MF5 was a full-time manager of a professional football team. Coach MC5 was involved with developing young canoeists and had worked with several members of both the Scottish, English and GB team. Coach MF5* coached several senior and junior teams and worked with Sir Alec Ferguson for a while. Coach MB5 had coached basketball professionally in Scotland, England and the US and had coached Olympic teams and European Cup teams.

6.9.2: The Role of the Coach

These coaches all viewed their role from multiple perspectives, some displayed a business point of view as well as the wide view incorporating both the context and the performer. All of these coaches acknowledged that their role had changed throughout their career and was still constantly evolving. Coach MF5* thought:

“It's a difficult one, my view is that the coach represents effectively a shareholder, and given the professional game, we're speaking about shareholders, we're speaking about a game that's developing furiously in a business context. I think the coach is seen as a part of that whole mechanism. So as you're actually working with youngsters, very aware that the youngsters you're working with have got to serve a purpose for the club and that it is eventually to play for the first team. Because of that, the whole process of learning isn't something the coach is aware of, it's almost sort of a bully boy tactic is used, but it's as much because the manager and subsequently the chairman, are looking for something tomorrow and little attention is paid to the maturation process.”

This viewpoint was completely contradicted by Coach MT4 as he felt:

“the main role for me is to make sure that if they are 8, 9, 10 year old they're still playing in their 20's. If I've done that, then I think I've succeeded. There has to be an element of fun and you have to look at people as individuals, some you push a little harder than others and some you know that if you push too hard, well they might not be back. At the end of the day they've got to find their level, for some of them it may be social tennis and others clubs and some Scottish and you try and work that out. The other role as a development coach is that you have to aid their basic motor skills. I do a lot of stuff with 5, 6,7,8 year olds and before they can hit the ball back and forward they need to learn a lot of basic skills such as running, hopping, throwing catching. Yes, it's good that they get a racket but they need to underpin a lot of that stuff and I don't think a lot of coaches see that. Always you should look when you are coaching at what do you want them to be at age 18 - it's not important what they are doing now and a lot of parents get caught up in that, they get caught up in scores.”

Coach MC5 also mentioned the long term approach to skill *development* but also put that into an educational learning context, saying:

“The role of the coach changes with the context really but if I was to talk about coaching generally, I would say it's about the facilitation of the development of the athlete. I would put it into the context of long-term development, they're there to prolong the development of the athlete over many years. Really, they don't have to come with any pre-conceived ideas of where the athlete is going to go, you have to be led by the athlete. Athletes, very often, take many different paths in terms of their own development and where they want to go. I have a very strong view that it's about their own personal development, so it's a much wider educational view that I take in coaching, rather than something that is sports specific. I think that comes from my educational background and the way that I use some of these activities as vehicle for personal development rather than just specifically focussed on development of performance in sport.”

Coach MB5 also focussed on personal development and the concept of nurturing players, again looking at long term growth and development, stating:

“I have a feeling it depends what level you want to talk about. I think it's fair to say if one was to open my little textbook, my diary over the years, I've been involved at all levels. When I first came to Scotland I got very heavily involved with the juniors international team, which was then under 19, now under 18, and I think what you're looking for in terms of coaching is nurturing, more of a maternal/paternal viewpoint where you are trying to seek out the talent and to sort of put it in a space, in a place where

it can grow and emerge. Of course, we're into the kind of heady world of talent identification there but I think it's that nurturing, that helping kids find themselves at that level. Now that's young players but it's international level and that in itself is quite a task because kids can get dramatically insulted at international level in basketball. The kids are looking at the opposition and thinking 'Wow - what can I do to match that.' I think as players get a greater sense of expectation, let's say for example, I worked with some players at a semi-professional level, which involved working with a club which recruited Americans, you change the agenda slightly, you're much more results orientated and you're much more concerned with person-management. If you then go on from that to senior international level, say GB, I was involved with 5 teams at GB level, it's man-management and possibly massaging egos as well. And all levels, junior, semi-professional and through to GB international level, I think a coach has to turn the dial and re-tune, re-organise their agendas and work out what you've got in front of you. If you're giving me a paragraph or two on what the role of the coach is, I think it's somewhere along those lines. I don't think it's necessary for coaches to think that they can move with the transition I just described. It might well be that some coaches, really their skills are at a level that they can't switch back or switch up and I've seen that before."

The environment that these coaches were working in, whether full-time, employed coaches or part-time volunteers, was high pressure, high stakes, and very competitive, where good performances from both coach and athlete were crucial. Coach MF5 summed up his attitude towards the enormity of his role:

"Huge, absolutely huge, personally you can't encompass the whole role by yourself, you need specialists in all these different areas to help you out. In my own role right now, you tend to see it as more of overseeing rather than doing all the parts in it. Initially when I started I wanted to do all the parts myself a man that hunts two rabbits catches neither probably took me about a year before I understood that but that has probably shaped the way I think now as a manager. Pulling together all the aspects of preparing players for competitive games."

This aspect of competition appeared to cause a dichotomy amongst this group of coaches when it came to discussing their role, philosophy and the reality of their position. Coach FL4 summed up her dilemma, saying:

"Well, it's funny because I think my philosophy is more about individuals

being empowered but yet I know that in the team you have to work within a structure so my structure might not be as rigid as it seems to be. Mine has developed through both playing and coaching - mostly it feels like you learn what not to do while you are being coached by other people and you learn what to do when you're doing it."

Coach MF5 made reference to his coaching philosophy constantly changing, according to his circumstances and environment, thinking:

"It's changed every year - I've added something or taken away something or altered something every year. I've adapted all the time to the surroundings. When I first started off I felt that I could probably change any player in the world but my philosophy's changed on that - you can't. You can certainly make people better, of course you can, however I do believe that there is only a certain pool you can pick from. I also thought that you could attract young lads, 8, 9, 10 years old to become great players but my philosophy's changed on that as well. I now realise that they have to go through so many different things to reach the level where they're competent enough to fulfil potential. My philosophy on how the game should be played has changed - it used to be all aesthetics and we're a delight to watch but now it's almost win at all costs - I want to win more than anything else."

This constant adapting of philosophy appeared to indicate very deep thinking about, not just his views on coaching, but his deeply held belief system. Could this be, as suggested by Tsangaridou et al (2003) that this philosophy has developed as a result of Coach MF5 gaining more knowledge and experience in a different coaching environment where results matter. It appears to be such a fundamental change in beliefs, that the extent to which Coach MF5 actually subscribed to his original philosophy must be questioned. It also contradicts the finding of Schinke et al (1995), who proposed that the philosophy of a coach was formed before they entered coaching by their experiences as a player. Coach MF5 had been a professional football player within the Scottish Premier League before he had been injured and entered coaching. His philosophy formed as a player would surely have reflected the realities of play that he subsequently experienced as a manager.

Other coaching philosophies reflected the culture of sport in the UK, with Coach MB5 thinking:

“It might come down to whether we're taking sport seriously in this country. Full stop. I think we're a bit slow out the blocks, a kind of Corinthian attitude towards nurturing athletic talent in an ad hoc 'chariots of fire' type way. Well, the world has now grown up and it's taken us a long, long time to get that. 2012 in London is going to be a wake up call for everybody in sport at all levels, in all capacities, - we couldn't even get the Grand National started. Everybody says we do a good job at Wimbledon - we might well do, they've had years of practice at it, but I think we've got to get all sorts of things ready for London. I think even now people are starting to get a little concerned about whether we'll have athletes on the podium and of course money's being thrown at it, huge amounts of money, but maybe that's sticking a plaster on a very, very big cut.”

This sentiment was echoed at various stages by all of the coaches. These coaches felt that coaching, and indeed sport, was not taken seriously in the UK, not only by the mass population but also by a number of sports organisations.

6.9.3: Coach Education Courses

This group of coaches had all undertaken coach education courses at various points in their careers. Some of these courses undertaken no longer exist, given the changes that had occurred in, format, design and name over the last thirty years. The lacrosse coach is a case in point, since coach education programmes in lacrosse in Scotland did not exist until she developed them. Her coach education experiences have been in other countries as she explained:

“well, I went to a coaches conference - does that count? In 2002 in America and the rest of the coach education experiences I've delivered. Nothing else in lacrosse - in fact in lacrosse the coach education structure is not very good.”

Access to coaching courses at a high enough level was a point consistently made by these coaches, and it appeared that many had to look to foreign courses to access the

information and knowledge they were seeking, with Coach MS4 describing his last experience:

“2004 Scottish Squash High Performance - it was conducted by an Australian coach. It was designed to take a group of Scottish coaches through a course that was an Asian level 3 course. We don't have a course of that level and there were a group of coaches that the National Performance Director, he's Australian, put a course together around what he had delivered as an Asian level 3 course, which was an intense week of coaching. It was really enjoyable, it was a lot of information to take in in one week because it was sort of solid and covered a wide range of aspects from the nuts and bolts of coaching to periodisation, psychology, the whole lot.”

Coach MS5 also had to look overseas to take his skiing education further than he was able to in the UK. He continues to update his knowledge not only in skiing but in strength and conditioning which he felt was key to his skiers development, thinking:

“The last one I attended would have been a Strength & Conditioning workshop run by Professor Mike Stone in May 2006 but that one was uncertified. In terms of the last coach education award that I did would be ...ohabout 18 years ago although I've revalidated that every 4th year since. In terms of the skiing, the background to that was I'd done the highest level award you could do in GB, which links in internationally and lasts about a year. For me, I had to do it in Canada – normally that would be a 2-2½ year process and involves a number of modules in terms of a 1 week teaching module, a 1 week coaching delivery module, a technical module of 2 weeks duration, a 1 week non-snow based theory course, first aid qualification and a couple of shorter courses as well - add them all together and you do a 1 week assessment and you are successful or not.”

Coach MC5 enjoyed his last coach education course, finding that although it challenged him he learned a lot from it, and appreciated the approach from the coach educators who treated the candidates as equals, declaring:

“It was a Level 5 aspirant coach for kayaking in 1999. I thought it was quite well organised and we had quite a few people who were elite advisors in lots of different areas; physiology, psychology, people who were actually involved in the sport at quite a high level in terms of competition

and expedition - quite a representation of the breadth across the whole area. So it was really about coach development at Level 5 and what that actually meant in terms of coaching philosophy, coaching approach and it was really quite different - different course really because you were treated as being equal with your peers who were assessing you and sharing your education with them rather than them showing/teaching you how to coach. We got involved in discussions about how to coach, what coaching was about, so it was a little bit more creative and imaginative than usual. So I think it was a very good course but still very constrained within the organisational attitude towards coaching and the values that are placed on coaching.”

Although this was a very positive experience reported about a formal coach education course, very few coaches gave details of other helpful events. Coach MB5 offered a very constructive experience although it was not a formal coach education experience, declaring:

“There's a workshop which is my next port of call and I would call that coach education - a programme that's being run by Basketball Scotland, along with Skip Prosser and Pete Gillon. Now they came over 5 years ago to do a programme and there must have been about 60 coaches in attendance, at the same time there was a referees course going on so it was kind of what they called the Baden weekend and there was a FIBA appointed coach came over as well. So that was 4 years ago - that was definitely coach education but it wasn't geared towards a NGB award. You'd go back to hear these guys - they're good and the fact that it will be sold out again, well. The way I got to hear about it 4 years ago was just word of mouth – 'Skip's coming - Wow, great so you just sign up for it.”

With the exception of Coach MC5, who was very positive about his NGB course, these elite coaches appeared to attend non-formal coach education workshops. Evidently, they were selective about what courses they attended and there seemed to be two key criteria that they used to determine the perceived benefit of the courses. Firstly, they had analysed their own coaching and wanted to attend a course designed to enhance their supposed deficits and secondly, the person taking the course, the course educator, was also important.

Coach MT4 thought:

“It's like everything there's some good ones and some bad ones. The tennis development award, the professional one, I thought that was quite a good award but it wasn't so good if you're looking at technique - it wasn't anything new. But what was good was developing tennis, showing you the advertising, media and how to go about setting up a good tennis programme in a club situation. So things like that I felt it was very good at. I went to NCF mental skills training course because ultimately I feel that is what is going to make the difference.”

Coach MF5* had a very straightforward answer, saying:

“I take care of my own development.”

Coach FL4 raised some very valid points, saying:

“Well, it's really interesting because I think coach education matters but I can't remember when I was on a course so I can't think it matters that much. I think education matters. Some people will learn in theory, in an academic sense but they won't have any practical knowledge, they can't apply it so it's not been any use either. I think there's an element of it being about the person being able to put all their experiences together and that's what makes them really good. So when you speak to the really good coaches, they can't tell you what's made them really good. They might be able to explain what it is they are doing but they can't pinpoint why - lots of the American lacrosse coaches who are generally the better ones because they're doing it full-time but there's nothing that says why that person's so good.”

Coach FL4 has made a clear distinction between coach education and education in its widest sense but also emphasised the applied nature of coaching, pointing out that unless knowledge can be translated into effective practice it is of very limited value. Many studies have examined coaching expertise through observation studies, (Douge & Hastie, 1993; Claxton, 1988; Lacy & Darst, 1985), a mixture of questionnaires, in-depth interviews and protocol analysis examining coaching knowledge (Cote et al, 1995; Jones et al, 1995; McPherson, 1993) and more recently techniques to study the coaches' thought processes (Gilbert & Jackson, 2004; McPherson, 2000) and those investigating

more educational methods, for example, problem based learning, decision making and reflection (Jones & Turner, 2006; Knowles et al, 2006; Kidman, 2005). What is it that makes the difference between coaches? This group of coaches have all undertaken a wide variety of coach education programmes over a number of years, and would have been exposed to similar knowledge and content as well as distinctly different information. Other coaches have had similar opportunities but have not reached the levels within coaching that the coaches within this study have. Does this imply that some coaches are gaining more from their educational experiences than others or have they merely been lucky? The evaluation of coach education courses has become one of the most critical topics in sport research (Cassidy et al, 2006; Gilbert & Trudel, 2005; Irwin et al, 2005) but it has also been suggested that many coaches who are presumed expert should not actually be given that designation (Abraham et al 2006). Ericsson and colleagues (1993) introduced the belief that expertise should be harder to achieve and within coaching, although it is dynamic and unpredictable, it appears to be nothing more than completing a series of steps.

Coach FL4 made the point that coaches she considered expert could not explain their expertise. She obviously thought there was more to expertise in coaching than completing all the coach education qualifications. This unarticulated, often intuitive knowledge can be constructed through practice, in authentic settings over a period of time (Sternberg, 2003). As coaches develop expertise the process appears to become less well-defined, reflecting the coaches' knowledge base but also the coaches' ability to make use of the appropriate information at the appropriate time i.e. decision making (Guest et al, 2001). Certain distinctive cues appear to link current situations to past experiences, which may explain the coach's seemingly instinctive decision-making

(Saury & Durand, 1998). Experts do appear to derive more from their experiences than non-experts, perhaps explaining why some coaches are able to progress both faster and further than other coaches (Selinger & Crease, 2002).

Coach MB5 expanded on a number of these issues in his thoughts:

“The stage I'm at now, I would be quite selective about it. I don't hold any aspirations now to take any further coaching qualifications. I mean, I think if I was pushed for whatever reasons, maybe legal reasons, I mean I would do it and if I felt that it would enhance what my current work is, then I would obviously be obliged to do it. I would be tending towards the enrichment issue more than well here's a drill for the fast break. I mean you're interested in that but you're kind of looking at some of the side issues. To some extent the ability of a coach to give an account of his life and the effect of what he does with players so that would help your notions of player management, which at the level I was coaching at is key. I'm not overly familiar how the UKCC will affect basketball. They have had problems nurturing courses at level 2, the leadership and the capacity of Basketball Scotland to put on courses has always been an issue but I think to take it beyond level 2 as well, has been a bit of a problem. So you do get guys who have coaching aspirations, they want to do it via the NGB route but where do you go after level 2 in Scotland. You don't.”

Coach MB5 raised the issues of the coach educator previously, and this apparently is a problem throughout the levels in basketball, not just at the elite level. Unless coaches can see the benefits of the information presented and understand how to use it in their own coaching environment they will not attend coach education courses for the right reasons. These elite level coaches, as a result of their already extensive knowledge base, need to be challenged and contradicted to enable them to make transitions to another level of functioning (Scholes, 2006). This does not appear to have been their experience, as Coach MC5 confirmed:

“No I don't - not at all. I feel very awkward in coaching situations and part of the problem is people learn in different ways, some learn very quickly and are able to do things other people don't. When you're in a coaching/assessing situation it's inhibiting to both confidence and skill development.”

Coach MC5 liked to consider things in depth before he tried them and found that his experience of the presentation format in coach education courses was unhelpful as:

“I learn best through practical experience, I do learn through theory. I tend to like to know some of the theory and understand it before I do it. I learn through experience, I wouldn't describe myself as someone who learns quickly as I tend to approach things quite deeply. I may not appear to get things very quickly but what I do do is process them very deeply and thoroughly. That's the way I learn but when my schemas have been developed they're just second nature. In coaching assessments that aspect of learning is never taken into consideration, it's almost expected that you learn like that.”

Coach MF5 was extremely critical of his experiences, saying:

“no, not at all. If anything, I'm probably anti coaching courses, I'm afraid.”

He continued to say:

“I found Sport Coach UK courses educational. There was no follow up on any NGB courses. You always pick up something at them and I believe that they do help you in certain ways but to be honest I've probably learnt more about the game away from these courses rather than with them.”

These episodes suggest that coach education courses are not developing expert coaches, as by the time these coaches reach the higher levels of coaching qualification, they appear to be constructing their own methods of learning. Many of these techniques involve informal learning networks often created by the coaches themselves (Merriam et al, 2003). By interacting with others involved in similar practice, though not always the same sport, allows complex learning processes to emerge (Boshuizen et al, 2004).

Coach FL4 reflected:

“I think I learn best working with other coaches and actually doing but working with other coaches at the same time.”

Coach MS5 thought that:

“What I find particularly useful, I have a number of trusted friends and colleagues that I can bounce ideas off - they're not necessarily the same qualification as me, they're not necessarily as great a qualification but they have different skills and qualities that I can call upon during that reflective process.”

Coach MB5 said that his way of learning had changed throughout the years, as he had become more contemplative:

“Now it would be through listening and watching - I think there was a period where I couldn't get enough courses because I was kind of into drills and I wanted more of that. I was forever O & Xing and putting stuff down. Now I think I would take a much more contemplative, reflective view of the world. I was at the basketball finals at Meadowbank last weekend and you tend to look at the way the game is shaped and the sort of ebb and flow of things, you tend to sit with people who have got an opinion about the game so I would tend to take a watching brief now. I'd still be taking O's & X's but not in the mad hatter write everything down sort of way that I had in my adolescence. You are greatly influenced by significant others.”

The developmental process of Coach MB5 can be seen throughout his career, starting with the declarative knowledge that he built early on through attendance at courses and the amassing of skills and drills as sport specific content. He was also interested in gaining more knowledge as evidenced by his attendance at courses. He then made the transition from being interested in content to thinking deeply and reflecting on his coaching, by examining the tactical domain of the game. Later, he reported the influence of contemporaries on how he viewed the games and the importance that he placed on their input. The transformation from coach to expert coach appears to be as a result of Coach MB5's reflective practice and interaction with other individuals. This corresponds to transitional research (Knowles et al, 2006; Nelson et al, 2006; Vallée & Bloom, 2005) but Coach MB5 was apparently motivated to develop intrinsically, not as a result of any coach education programmes. Were there external triggers which caused

this developmental process or was it Coach MB5's own quest for knowledge that caused him to continue to develop?

There were many novel ideas from this group of coaches about what they would like to see included in coach education courses. Coach MC5 was very vocal on this subject, saying:

“I want ideas, I want to be inspired, to be given ideas about the best ways of coaching, ways of engaging with different athletes so that I've got a really good toolbox that I'm able to actually draw upon and encouragement to be creative and imaginative and not too prescriptive. I like the idea that coaching courses should be about discussion and the sharing of ideas. The kind of coaches that come on these courses have got a lot of experience, a real breadth of experience. I would think that one of the main things is actually to share their experience with the people who are actually on the course - not just listen to somebody who's taking the course. So on good coach education courses there should be room for that kind of discussion. Networking is very, very important and discussion about the current issues within the sport which relates to things like health & safety, codes of practices, how people manage the legal aspects in terms of risk management, aspects about coaches supporting each other, having some kind of forum for expressing our views and opinions on these issues. A lot of the issues within coaching have been constrained by the political-legal framework outside the organisation e.g. Health & Safety Executive so they may not have a good understanding of the issues relating to risk or risk management within the activities.”

Within the sport of canoeing, the issues surrounding Health & Safety guidelines are closely prescribed. Although Coach MC5 considered this, he was careful to refer to the subject as risk management, acknowledging the inherent risk within the sport, but allowing the participants leeway to set their limits within guidelines; the concept of discovery learning. This is a different approach than the safety view expressed by a number of the Level 1 and Level 2 coaches earlier. The concepts of creativity and imagination are higher level skills, demonstrating that the coach is able to progress beyond the prescriptive approach predominant in many coach education courses

(Bromme et al, 2001). Coach MC5 also wanted to engage with other coaches, similar to other coaches in this study, for example, FL4, MS5 and MB5. The difference here was Coach MC5 suggested that the coach education venue was an appropriate medium for engendering meaningful discussion between coaches and the exchange of ideas.

Coach MF5 was also very enthusiastic about areas that he would like to see included in coach education programmes, declaring:

“I want a far greater range of knowledge than what you get. I don't want to go down to these course and go through techniques, drills & exercises which it is all geared towards. I would rather have other coaches - expert coaches - coming and showing you their tactical things & things they do in games, how they change games, how they change matches. That would be the type of thing that would really intrigue me.”

Coach MF5 also wanted to learn from expert coaches on a coach education course, but this revealed specific aspects he wanted addressed. The tactical domain and expert coaches' decision making skills were of interest rather than adding more skills and drills to his already well developed repertoire. Tactics are often considered to be a neglected aspect of expertise, certainly they are generally excluded from coach education courses (McPherson & Kernodle, 2002). Tactics and decision making skills are deemed intangible and as such, are difficult to teach, as they appear intuitive although they are based on both the declarative and procedural knowledge amassed by the coach through authentic practice (Durand-Bush & Salmela, 2002; Singer, 2002).

Coach MT4 was very specific about some of his ideas for coach education programmes, bearing in mind that he worked with a wide spectrum of age groups, but generally with youngsters

“one thing that I would like to be able to have 6, 7, 8 year olds go on a tennis court to music - dancing steps to forehands and backhands - I think

that would be superb. I think that, as in any sport that, simply going on these courses is important - anybody that's coaching now and this goes probably for any sport, definitely tennis, anybody that's coaching the same way as they did 5 years ago, they're out of touch already. You always have to look and see what the players are doing and guess what might be happening with new technology.”

Coach MT4 was not referring to coach education courses but to a course called Basic Moves, whose aim is to introduce the fundamentals of movement to children (Jess, Dewar & Fraser, 2004). He fully endorsed the selection of courses that allow the coaches to further develop their knowledge, in this case, basic movement competence in activities such as running, jumping and skipping. This correlates with the development of fundamental movement pattern suggested in LTAD principles that would assist both athletes and coaches to develop expertise in later years (Balyi, 2001).

Coach MF5* also had clear ideas, thinking that learning through playing games was important:

“I have a belief in sharing things through play, so youngsters play with each other, and through that experience there has to be a centre of focus and if it is the game, let's just go and play the game. Let's learn through cooperating with each other, through making decisions, through being given some responsibility to develop ideas ourselves but also receive instruction from people who know. I think it's this bit that really concerns me - how do you actually educate someone? If someone is going to take on the role of being an educator, I don't care if the person is a coach or a PE teacher or whatever, I've got this sense of education that a lot of people I don't think, really harmonise with. It is to give people responsibility for some of their own learning, it is also to know when to step in to help them and the nature of help to give them.”

Much of Coach MF3*'s beliefs related to similar concepts contained within the Teaching Games For Understanding (TGFU) framework (Lauder, 2001). The concept of learning through playing games is supposed to develop problem solving and decision making skills but does make it harder for the coach to structure a session (Light, 2003).

Coach MS5 thought:

“I think that would be dependent on the type of workshop, much of what I have done recently has been of a technical, masterclass kind of model with acknowledged world experts where the expert has come over and we are wanting to squeeze as much information as possible out as possible. So in your formal courses, interactive questions and answers do take place but I think there is a certain amount of tell originating from world class research.”

Coach MS5 is the only coach to mention academic research, not from the point of him finding and reading the research but as it was disseminated to him during a workshop. Many coaches do not make use of recent research connected with coaching as they do not view it as sufficiently applied or easy to translate into practice (Gilbert & Trudel, 2004).

6.9.3.1 Coach Assessment

All of these Level 4 & Level 5 coaches agreed that coaches should be assessed but here were some different views, with some coaches (44%) thinking that assessment should be formal and contain a pass/fail element. Coach MF5 declaring:

“coaches absolutely should be assessed.”

Coach MT4 was of a similar opinion but added more detail, saying:

“I don't see anything wrong with that - yes wouldn't have a problem with that. I think if it was done openly and the coaches knew what they were being assessed on because at the end of the day, that's development, it's developing their skills.”

These coaches felt that coaching could only be considered as a profession if coaches were subject to strict assessment. Coach MS5 agreed with assessment but pointed out there were some problems with the rigour demanded by some, stating:

“I think if we are moving towards a profession, all professionals are assessed

in some way, shape or form. I think whether they are assessed or evaluated is an interesting debate. Lawyers get assessed and then there is some in-service training prior to them getting their full qualification. It's not unrealistic and similarly, accountancy have a standard for minimum level of competency. There is, in some areas, forms of CPD ongoing. It depends whether we are talking about a summative assessment at each level, so there's only 5 assessments and it's an integrated assessment or whether what we are actually looking at doing is ascertaining competence in a number of areas at a number of levels. I'm thinking in terms of the Canadian model where at levels 1-3 there is a summative assessment, at levels 4 & 5 it's a modular approach with summative assessments and points per module and points make prizes at the end of the day. The drawback to that, although in theory it should work and educationally it should work, the reality is within my sport, which is alpine skiing, they have had probably only 4 or 5 people qualify at level 4 or 5 in, slight guess here, last 7 or 8 years, which may give us an idea that that formal approach may be somewhat onerous."

Coach MB5 made similar points about competency, which is the criteria that the UKCC plan to assess, having designated different criteria as standard for certain levels of coaching (UKCC, 2004), saying about assessment:

"If it is to make a judgement about competency, I think that there probably is an obligation for the NGB to do that in some form or another. So you get into the business about reliability, but I think if any NGB is going to give a kind of stamp of approval, then I would think that coaches would expect to jump through a hoop of some description. I think the issue is what are valid and reliable procedures in order to measure somebody's competency - there you get into a bit of a dilemma. I think if it is carefully staged, it's OK but it's rather like judging a teacher's competency after 4 years of undergraduate training. It's full of holes unless you take careful steps to keep them on track. So one way of doing that - skiing is quite a good example, you have to refresh every 3 years, you're required to go on upgrade courses every 5 years and so on. I think again, if that's handled carefully, that's a way ahead. Should there be measures - yes - they have to be carefully calculated."

Competency, effectiveness and expertise are all different concepts and competency does not indicate either effectiveness or expertise. Competency suggests an ability to perform work related skills, generally measured against some kind of standard, in this case the UKCC core competences for coaching (UKCC, 2004). Coach MB5 raised issues of

validity and reliability of assessment as well as highlighting known dilemmas when assessing competence, the coach may not yet be effective but is not unsafe. Again, it should be stressed that when measuring competence at Level 4 or Level 5, deemed high performance level, it does not equate to expertise (Duffy, 2005).

Coach MC5 considered that:

“I think assessment is a really difficult thing. I think coaches actually need to go through the process of validation but in terms of assessment, what do they mean by assessment, pass or fail? You can actually go through some kind of portfolio, some kind of mentoring scheme, working with other coaches so that you have a portfolio approach to assessment rather than this examination for 2 hours, we'll watch you coach for 2 hours, we'll test your skills for 2 hours. I think this portfolio approach would work at all levels - I think less experienced coaches need to have something that is a bit more directed. It gives them frameworks or models to work with. Presumably it would go through levels to level 5 - level 1 you're just teaching people how to paddle, introducing them to the activities, and by level 2 you're moving on. By level 3 you should be starting to look at the development of the coach.”

This indicated a longer term approach to the assessment of coaches and also focussed on differences between the coaching levels. Portfolios have been used as part of ongoing assessment, albeit formative, as well as developing the reflective and evaluative skills of the coach (Knowles et al, 2005; Nash, 2004). Coach FL4 thought that assessment should not concentrate on the performance outcome, using the example:

“I don't think it's about results - I'm coaching Sam and he's won today so therefore I should be a top coach. I do think there should be some form of assessment because, well, people like me, I've not been on a coach education course for so long, who knows what I'm doing and yet I'm being put in charge of players and so we need to know that what I'm doing is for the best for them, the players, not just what I think is a good idea. How you might do that, I don't know, I haven't really solved that – yes, you can sit with your criteria, was it appropriate, challenging, do they communicate but, at the end of the day, coaching is really a bit too complicated to be able to assess it without somebody being just a bit more expert, having some sort of gut feeling, which is quite hard to explain

to your committee when you've chosen which coach. I did have some criteria however you look at it and you say they've fallen short on this criteria, which is the closest you can come to your gut feeling. There's got to be a reason for assessment ... either to help them get better or to get rid of them. If you were talking about your national coach - are the players improving, are they making a difference - that might be a reason so you may be assessing for different reasons at different stages of a coaches career. I think the word assessment becomes a little less relevant at certain stages – the word assessment sounds like someone on the outside judging you, really what you'd want them to do is make a judgement about themselves and help them make a judgement about themselves. So the assessment might be - somehow - guiding a self assessment.”

Coach FL4 apparently agreed with Coach MC5 in terms of assessment changing at different stages of the coaching career. The emphasis appears to be on a more formal rigid assessment at the earlier stages and then more of a self-developing process towards the later stages of coaching qualification. The puzzlement expressed by Coach FL4 over the form the assessment should take, given the complexity of coaching, does highlight some issues (Larson, 2000). If coaches are expected to engage with the cognitive task of coaching then they must be equipped with the tools to do so. This does involve building their knowledge base, then allowing them to contextualise their learning to suit their particular coaching practice and finally to develop the skills to further enhance and individualise their practice. This is indicated by Coach FL4's reference to self assessment, with her reference to guided self assessment likely to involve mentoring.

6.9.4: Coaching Practice

The coaches in this study are considered to be high performance, elite coaches, who fulfil the accepted criteria of expertise. Performance for their athletes is crucial and the planning and preparation stage could be anything from one year to four years as highlighted by Coach MS5 who considered:

“two things - we work on a periodised programme where certain things need to be done at this time of year, and I'm talking both in the gym and on the slopes, and secondly what does the athlete actually need to develop as well. Not all the athletes are on the same programme, I'm not saying it's individualised for each athlete - it is in the gym, those are individual programmes, but in terms of on slope, I'm just thinking, going through some of the athletes, there are currently 3 distinct development phases and part of that is as much their different sizes and different strengths - some can do certain work and some others can't and that's how it's based. What do we need to do this time of year in technical development and also biological development.”

This approach to planning the programme does reflect both a long term aspect and a very individual focus. It also demonstrated the depth of knowledge of Coach MS5, not only of his sport of skiing and the procedures necessary for elite performance in that sport but also how to contextualise all the necessary components to suit the individual performer's needs. Coach MC5 also confirmed this individual approach by mentioning his use of individual needs analysis, stating:

“It varies depending on what the situation is. If I'm working with relatively experienced people, I actually try to find out what they actually need, a very quick needs assessment with them and then I work it out from there, devise some kind of programme which meets these needs. The more advanced people are, the more skilled they are at talking about the higher levels of skills, you actually go through quite a detailed process, discussing with people what they're actually wanting.”

Coach MC5 demonstrated his depth of knowledge regarding his more experienced performers but also revealed that he considered athletes at this level of performance should be able to contribute to their own learning, making him more of a facilitator of learning. This concern with managing activities during practice, rather than directing them would facilitate motor skill development in the more advanced performer (Griffey et al, 1991). This ability to allow practices to develop is consistent with components of expertise, which this coach has developed over time (Schempp, 2003).

Coach MS4 gave a very detailed account of his own approach to planning a season's coaching, also reflecting his own philosophy of coaching:

“Firstly, with any player from the start, I would say I'm a firm believer in building a strong technical base up. This is debated a lot with other squash coaches, as squash is a very tactical game. I think it's very important that you can't ask a player to perform tactically if they can't perform the skill technically in the first place. So I'm a strong believer in building up a very firm base in the technical skills and then gradually interlinking these together. So from technical developing to tactical practices and then bringing in the movement - it's building up in chunks. I look at coaching or learning the skills as a massive jigsaw, so you're working on little chunks, and then you join 2 or 3 other pieces together and after a while you can see how that links to another section, which joins together. It's one of these never-ending ones, you never finish the jigsaw. Sessions are mostly 40 minutes and it all fits in with the long-term plan, their ability level, whether they have a competition/tournament coming up, whether it's the off-season. If it's a time for developing skills, one or two of the players are working specifically on movement patterns and then, obviously, the tournament season comes in and it's trying to gear up for specific events so we'll go in for more of the tactical practices. It's in the off-season obviously that you work on new skills for the next season.”

Coach MS4 revealed his views of a hierarchy of development for his performers, in which he envisioned certain components of performance had to be added at the appropriate times, using a jigsaw analogy. This then allowed him to plan his forty minute sessions in more depth.

Coach MF5* added an interesting point regarding performance, saying:

“I'm a great believer in performance, in the sense that let's make it public and I think that's a part of the regime. If you include public performance in everything you do. The more you include public performance, people feel threatened. If you don't include that threat, and I use threat in the kindest way, you don't have an authentic day's work.”

His view was that athletes need to perform in competition, so practice sessions need to include an element that simulates the competitive environment ensuring the athlete can become accustomed to this threat, in this case, a contest.

These coaches generally utilised a variety of instructional techniques, much of these indicative of a more individualised approach. As these coaches were working with elite athletes, the numbers tended to be smaller than other groups, especially in the individual sports, where some of the coaches were working on a one to one basis (Lyle, 2002).

Coach FL4 thought:

“it's just so varied because you're having to teach so many different things that people are having to do and they're having to learn so many different skills some of which you can't possibly teach them at all - they just have to figure them out - so I think I use a number of different ones. I try to use demonstrations as much as we can because a lot of the times you're telling them things that they have been told before but they just obviously didn't go in - in some way - so we try to do that. So it's totally mixed is the best way to put it but with, if I can, some sort of demonstration, especially as they won't always have seen the behaviour you want them to see before if they have not been at that standard.”

Coach FL4 admitted to using a variety of instructional techniques, often to try to put across the same information in a variety of formats. It appeared that she considered that even although she was working with the Scottish squad on a regular basis there were some basic techniques that were not of a satisfactory standard at that level. She also considered that some of the players were not being coached in this manner at their clubs, and were perhaps not being exposed to sufficiently advanced coaching techniques.

Coach MF5 explained why he liked to use one method in particular:

“it tends to be guided discovery more than anything else at times rather than go in and say ‘don't do this, don't do that’ I've learned that the fact that I said don't means they do it - they do the opposite. Now I turn the negative into a positive. That's something that I've learned just through a course I've been on at university and I try and do that now all the time. I ask the player “how best can we do this” and if he answers it's almost like he buys into it and its far easier for you to implement your methods if the players buy into it.”

This concept of cooperation apparently had benefits for Coach MF5 and it would be especially helpful if he was able to assist the players to carry this guided discovery into the competitive situation. Teaching performers to make decisions in training should allow them to make more informed decisions under both pressure and time constraints (Durand-Bush & Salmela, 2002; McPherson, 1993). It could also be suggested that if the coach is using these methods with his players then he understands these concepts and is able to utilise them, another component of expertise (McPherson, 2000).

The type of practice environment that they attempted to create reflected their views, for example, some coaches highlighted the intensity of the training environment. Coach MF5 said it had to be:

“intense as possible - as high intensity as possible right through. We have 90 minutes - we train on astroturf both nights - that's my choice because; 1 - it allows quality; 2 - the surface is very rarely off; 3- we play in the dark in this country six months of the season anyway so it's floodlit; 4 - it's got comfortable surroundings to get changed in and showered and what have you; 5 - it's very accessible and; 6 - we get it at a very cheap rate. Probably one of the most important things is you know you only have 90 minutes so as a coach you have to make the best of that time.”

The intensity of the training session is partly driven by economic factors but also Coach MF5 felt this was necessary to simulate competition, the authentic game situation. Coach MT4 tried to create similar intensity from the start but not necessarily for the same rationale, saying:

“It will vary. If it's development, it's always very competitive, they have to be very quick. You try and set the tone very quickly with the warm up, it has to be quite efficient, it has to be fast, so it's more intense. I always try and create this because this is what they are going to have to face on the tennis court, you're trying to make it very intense and workmanlike.”

This concentration on intensity from both of these coaches, albeit for apparently different reasons, allows athletes to focus on their training sessions. This emphasis on proper training, enabling quality practice is a critical element in the quest for expert performance (Noice & Noice, 2002). These coaches understood that “Practice is always relevant to performance, always effortful, and not inherently enjoyable.” (Ericsson et al, 1993, p.366), and they had acquired the knowledge base to be able to establish the conditions for expertise development. These principles, those of deliberate practice, are not included within the mainstream coach education courses so coaches must have constructed this knowledge from other sources.

This concept of knowledge construction was continued by Coach MC5, who demonstrated that he set up his session to allow his paddlers to construct their own knowledge within an authentic environment, stating:

“I try to create an environment which is open. Among the things that I try and do initially, I'm quite rigid initially, it's like teaching initially with a lot of input, and then, if I've done my job properly the session should run itself, I let them get on with it. That's the type of environment where things are quite controlled to start off with and then very, very relaxed and you're able to move back from it. Then within that context, that's when the real learning takes place - you've got to acquire a lot of technical knowledge, procedures to follow when they've got to do stuff, but within that, the way they use stuff. The real context of teaching and coaching is the fact that they've got the technical skills, but do they know how to apply them.”

Coach MC5 has a well developed knowledge base which permits him to manage a potentially high risk coaching environment and give the paddlers the freedom to experiment in a secure learning environment (Berliner, 1996). The contextualisation of practice, as evidenced by many of the coaches in this study, known as situated learning, is considered vital in expert coaching (Nelson et al, 2006; Sullivan, 2005).

Coach MB5 discussed the long term impact of an appropriate practice environment, saying:

“I come back to the view that in practice as you get the more mature, slightly more experienced players, you've got to keep them on task because ego does tend to take over. I've used that term quite a bit actually because in the last GB experience that I had, which was for the Olympics, we played in the Olympic tournament and it was a little bit nasty because there was some baggage there with the players. All the time it was man management skills about trying to get people to play. I think the work ethic, the trust ethic developed over a number of years that's the key to this. Athletes having a career is very important to consider, either it has to start with these younger kids, just tell them how to look after themselves, get good exercise habits, recognise that invariably there is going to be a balance in their lives between the academic and the lifestyle that they live outside, nurture the good athletic habits that when they come to practice, doesn't matter what sport, you've got to commit to the standards that we're trying to develop here because otherwise it's not going to be worth it for you or for the rest of the guys who were around. So we're here for 1 hour and half - it's cost us £50 to hire this court, your parents have probably brought you here, we want to make the most of it. So you get into systems where the expectations are there and the standards are implicit - I think that's the key - that when you play you're playing for a purpose.”

The players' knowledge of the coach's expectations should enable clear learning outcomes to be set (Siedentop, 2002). The type of knowledge an expert accumulates in this situation is knowledge of the sport, knowledge of the learning environment and knowledge of the performer, highlighting the relationship between coach and athlete. For coaches and performers to reach this stage, motivation and commitment are important but the standards referred to by Coach MB5 need to be established early in the athlete's development. The question of whether coaches at Level 1 and Level 2, the early stages of coaching qualification, have the knowledge to initiate this type of environment is open to discussion.

The type of practice environment envisaged by these Level 4 and Level 5 coaches involved maximising the learning opportunities for their performers. This group of coaches understood the difficulties associated with the transfer of techniques from the practice environment to the fast paced, stressful competitive arena. They considered that a key feature of athletes' learning and development was their ability to utilise new skills and tactics within that demanding environment. Coach MS4 thought:

“Throughout the session, if what you're doing has clicked, you'll see it working within game structures, conditioned games or specific matches. I think it's good to see, obviously when you're a coach, watching a performer in a competition and things that you've worked on for a number of weeks, months, whatever, is showing within the games.”

Coach MF5 reminisced about how difficult some aspects of learning were, especially in the tactical domain:

“we always finish off with an 11-aside training game where we stop and put all the things we've done in training into practice there and that's a great guiding point to us to see whether they have taken on board what we've worked on and generally, I must say, we still have to stop the training game into double figures. For a 30 minute training game, we still have to stop it 10 times and reinforce the points again and again. We've three ways of doing it, we talk about it, we show them on a tactics board and then we go and let them do it and we always find that when they do it they take it on far better than any of the other approaches.”

Coach MB5 gave specific examples from his experiences in basketball, saying:

“You sometimes get a sense that things have clicked. I used to coach Paisley, which was a semi-professional team, we used to have 2 or 3 Americans, there were sort of expenses paid for various sorts of things and a big sponsorship at that time. We used to have a session on a Friday and you'd think 'wow this is looking good' - the test of the learning, though was in play and sometimes what happened in practice didn't always make its mark in games. In basketball, the learning, if we're talking about evidence of improvement, evidence of permanency, which are usually the hallmarks of learning, it usually takes about a season to get things organised. First year at Paisley that I had, it took me a year to get things sorted out. I was taking over a team and a changeover of players, younger players were coming in to replace older players that had done particularly well but were really on the decline. The assumption is

that you learn good habits - learning can be both negative and positive, you can learn some bad habits. It seems to make sense to me that when you watch the good teams at Junior International level, their fundamentals are rock, rock solid and they wouldn't have got there unless that was the case. I think that the higher up you go, and if coaching is about developing expertise in some way, both for the coach and the players, nurturing these so called good habits, then the details of these fundamentals has got to be there. If coaching is about developing expertise then detail is important.”

Coach MB5 raised some crucial issues regarding the ability of the coach, no matter their level of coaching qualification or expertise, to foster good habits, instil the fundamentals of movement and continue to insist on the maintenance of high quality behaviours throughout training and competition. He also broached the subject of coaches allowing bad habits to develop in athletes without directing them otherwise. Experts develop routines to allow processing capacity to be focused on ongoing environments, in this case, letting coaches concentrate on the practice environment and providing more feedback to their performers (Kreber, 2002).

Coach MC5 answered simply, although he acknowledged that in practice it was not that easy and required a great deal of effort on the part of the coach to enable these learning situations to occur:

“When they can actually do it! By the end of the session, I can sit back, drink my coffee and observe, you know physically withdraw from the situation, knowing that they're safe and actually able to do it. If I can do that, then they can do it. People learn differently, so at times it's very difficult to know if people have actually learned.”

These coaches were all showing their knowledge of learning theory, by setting up practice sessions to ensure optimum learning could take place. This motivational climate, the atmosphere established by the coach, and a commitment to long-term practice were essential to the development of expertise (Saury & Durand, 1998). Motivational

climate can be related to the session structure, skill level of performers and their own goals, as well as the environment determined by the coach (Xiang, Lee & Bennett, 2002).

There is much more of an emphasis on the performer taking responsibility for their learning and equally, the coach providing the climate to enable them to do so. These coaches were consistent in their attempts to facilitate learning experiences for the athletes, while setting high standards in both training and competition. This involved these athletes having a greater sense of decision making and, therefore, a greater sense of control and mastery over their development (Biddle, Fox & Boutcher, 2000).

6.9.5: Critical & Analytical Skills

Unlike the studies examining Level 1 & Level 2 coaches (Chapter 6.6) and Level 3 coaches (Chapter 6.7), the coaches in this present study have demonstrated their use of critical and analytical skills throughout their interviews, for example, decision making skills.

6.9.5.1: Decision Making Skills

These coaches all agreed that decision making skills were vital in a number of areas, with Coach MB5 giving an example:

“In coaching basketball, it's absolutely vital. Somebody slipped me a note a few years ago now and they said of the practice coach that he doesn't transfer too well to the bench. I thought about that for a while 'what the hell does he mean there?' When I thought about what he said I think it was to do with decision making. It was that he could get the players to run a nice practice session, run the drills, give the players ideas about what would happen if this occurred offensively or if we were in this situation but when it came to running the bench, for some reason during game time he didn't make smart decisions. Now that was elaborating the note - so reading

the game, trying to anticipate, second-guess, all this sort of stuff is really very critical but whether you can gain that on a NGB course is highly dubious. It's a hard apprenticeship because you can lose games, I mean if that's important then you could lose games as a consequence. 'Oh God, it's too late - I should have done this' and all this sort of thing. How you develop that is this, I guess, is the message, the combination of the declarative, the procedural and you get hunches about how things are going. You think 'right, I've been here before, I know what this is about'. You think 'I know what we did last time' and all this is happening really quick and you know what you've got to do - it's a painful experience sometimes."

This time-constrained decision-making has been identified as one of the key functions that define a coach: the characteristic of an expert coach is not merely making decisions but making correct decisions (Nash & Collins, 2006). Coach MB5 also alluded to the seemingly intuitive or instinctive decision making concerning the “hunches” to which coaches react. He also acknowledged the difficulty of decision making, especially in the competitive arena, when making the correct substitution or calling a time out, can be the difference between winning and losing. Coach MB5 attributed his decision making skills to his knowledge base, both procedural and declarative, and his intuition. This intuitiveness in decision making is referred to as tacit knowledge, which can be developed using a problem-solving approach (Bloom et al, 2003). Saury and Durand (1998) suggest that the expert coaches understanding of professional situations can be based on specific structured knowledge, which can be accessed instinctively or tacitly. Sternberg (2003) agreed with Coach MB5 that this knowledge is generally gained through experience and knowledge, rather than formal education, in this instance, coach education courses. Research has shown that the transition to expertise can be made easier when a clear developmental pathway is identified and reviewed with the learner, in this case the coach (Lajoie, 2003). The notion that it can be a hard experience reflects that that learning from errors is an important method of developing expertise (Bauer & Mulder, 2007).

The concept of decision making during competition is not the only type of time constrained decision as Coach MC5 thought he made a number of decisions during practice:

“Coaches make decisions all the time. Decisions in different areas, like decisions I might have to make about my leadership skills, the way that I actually manage the group or unite the group. That might be about the experience of the group or whether I've worked with them before, so making decisions about the way I lead or intervene, that's one area. I also might make some decisions about how I teach, what is appropriate, what are they going to learn, that's another aspect.”

Coach MF5* thought that many coaches did not make decisions very well as he felt in his sport of football that many coaches were constrained by tradition rather than embracing new practice, saying:

“I think coaches generally work to a very austere form of doing things. Crossing and finishing practices are fundamental in football, particularly in the big clubs. They put an awful lot of emphasis on them but they structure the movement of players, and players become, they're almost robotic in their movements. It's interesting as well, if you watch some of the top teams, Manchester United are very good at it, and I watched Barcelona do it. Barcelona were wonderful, their players are intuitively moving into areas. It's not that particular players get into the same areas every time, it's more the areas identified are the more effective areas to get to and players are obviously encouraged to make their own mind up whether they're going to make the play or not. Some of the players who ran into particular areas when there was a potential cross ball, it was interesting to see who was making the run because it wasn't the same players every time. We recognise individual's abilities, put them into a context which is the team, doesn't matter what game it is, but we then say there are certain fundamentals in this team of ours, certain areas which need to be covered all the time, who the hell appears in these areas, I don't care, as long as you cover them. So that's giving youngsters the chance to be intuitive and that's what I think is the way we should be teaching or coaching.”

This aspect of teaching intuition suggests that the coaches understand the concepts of space, movement and decision making, and that they are able to pass this information on to their players so they are able to implement unstructured play. This characteristic

of creativity is a key component of expertise (Sternberg, 2003). The flexibility exhibited by coaches to engender this type of activity within practice and competition demonstrates that the transitions to expertise have been achieved (Scholes, 2006).

Coach FL4 appraised her awareness of her decision making, stating:

“Some are more conscious than others - I mean, you consciously decide who to sub and when to sub someone and when to start and stop a practice or whether to intervene or not. It depends what you mean by conscious, I do decide but some of them won't necessarily be rationalised by me. Gut feeling is part of it but it depends whether or not you decide to go with it or not - so you'll look and go 'does it look like they are bored with this practice or are they finished doing this practice'. So you're feeling like they probably are but you have a look around to see whether they really are or not but sometimes on the field you might just have to decide. There's other decisions that you probably don't make consciously, for example, I don't think when I make this intervention, am I going to do it to the individual or am I going to do it to the group. I'll do it one way or the other but I probably haven't made the conscious decision 'should I pull her aside individually or should everyone be pulled in?' I'll just do it - might be right might be wrong but I probably haven't actually considered. I'd like to think I probably do it just about right but I don't know why.”

Coach MC5 offered his explanation of his decision making processes, saying:

“I think you do this in a subconscious way, after years and years and years of doing a certain thing. You couldn't function in a conscious way making every decision. What you do is you actually work heuristically most of the time. It's a very, very small area where you're actually making conscious critical decisions. I think this idea that what you're trying to do is expand the airwaves, making conscious rational decisions, focussing on stuff as much as you can, but realistically what you're actually doing when you're coaching is 80% heuristic and 20% is this conscious reflexive practice.”

It has been suggested that decision making is very sport specific and depends on both the coaches' abilities and the task at hand. Furthermore, it has been implied that searching for only a few options and picking the first that came to mind is a good strategy under time constraints in competition (Raab, Arnold, & Tielemann, 2005).

Coach MF5 considered that there was a certain amount of luck in decision making and highlighted benefits associated with this:

“Based on past experience of something that had been successful. When changing things I kind of change tactics because the first thing I ever do when the game starts is look at the other team positions. How they are shaped up and the minute I see how they are shaped up, I start running through; 1 - the strengths of that system and; 2 - the weaknesses. Sometimes substitutes are put on and I don't know why – a couple of times in my career I've made tactical substitutions late on in games and we've come up trumps and people think you're a tactical genius but to be honest I tend to think it may be more luck.”

This example may highlight that some coaches are, in fact, reading signs from the game or from players that they may not be able to articulate. The tacit recognition of these signals prompted Coach MF5 to make changes but he cannot explain the reasons behind his decision.

6.9.5.2: Reflective Practice

All of these coaches stated that they reflected and felt it was integral to their development as a coach. Coach MC5 said:

“I think it is an essential part of the process - it's our ability to be aware of ourselves, processes that we use, without it we can't be creative, can't be imaginative, alternatively you can't have emotion, you can't have judgement, it's the higher part of our cognitive functioning so it's a massive, massive area. The idea that one of the core areas of reflexivity is creativity and imagination and that coaching is about creativity and imagination - there seem to be endless possibilities about the ways of doing things and the ability to reflect recognises this. I think we all might have the capacity to reflect to varying degrees and certainly we all have the ability to develop this, so I think it's a skill that needs to be developed.”

Coach MB5 agreed and added that it is a skill that the NGBs should be developing for their coach education courses:

“I think that should be part of a NGB remit - you should have some kind of capacity to say 'well it didn't work this time, what went wrong?' Are you going to delete it, are you going to start again, what are the issues? So that it can happen at a pragmatic level, the sort of O's & X's that you're putting in, whether it's workable or not. But, it might well operate at another level, as well, you're not treating players fairly, for example. Now I don't know how anybody, well I suppose you could get objective evidence of that - kids might not turn up, but the capacity to reflect at all sorts of different levels of coaching is really critical and I think the coaching courses should set that up. At all levels, so if you're level 1 and you're doing a footwork drill, you just go over to the guy and you say 'tell me what you're seeing? What do you think is happening here? Tell me a couple of things that you think are going well? Tell me one thing that you would correct with the players?' So is the tutor seeing the same thing as the rookie coach? Bit intensive, maybe a bit artificial but it's that that you've got to get. So it's the here and now of what's happening right in front of you, the sort of after the game, after the practice, after the season's finished, let's detail what we are going to do next - a pretty crucial skill.”

Coach MF5 reported the stress he felt as a result of his reflective processes, saying he reflected:

“All the time - I've seen me have restless nights because I've gone home and thought where have I got it wrong - what could I have done better – why did I do that - why did I not do this - why did I not see that quicker and this is probably been the biggest thing that's been the change in me over the last year or two has been I tend to change things a lot quicker now than I did previously.”

Coach MS5 explained the different types of reflective practice that he utilised in his coaching:

“It depends on what's happening in front of me. If I've described something and it's not working there's a certain amount of reflection-in-action going on and we change something or sometimes we don't change something, we just let it run and it's interesting to see what happens. Quite often, travel is involved between venues, it tends to be in the car, and I've reflected that I do my best reflection, which is probably not good for other road-users, whilst driving and particularly long distances. If I could drive, use my mobile phone, reflect and use my laptop at the same time, that would be the ideal world. So, it's reflecting normally while travelling and driving or flying is another good one, lots of time sitting about doing nothing. The key thing is then capturing some of that and probably that's where I've made the effort to try and record things much more on scraps of paper. I'm

responsible for British Airway and British Midland magazines having pages missing because I have an idea, I rip out a coupon and scribble on it. No set questions, apart from the 2 main ones - was it, and by it I mean whatever we were doing, in skiing was it a technical thing, was it a tactical thing, was it in the gym, what were we trying to do, and then , did it work? If the answer's yes, then I try and reflect why it worked, and if it didn't work then I try and reflect on why it didn't work and what we might do better.”

Coach FL4 summed up her thoughts, saying:

“reflection has helped me develop - there's not any other way of improving as far as I can see. Otherwise you can't learn or get any better.”

All of the coaches stressed a perceived link between their reflective practice and their development as a coach. They were able to highlight examples from their practice, detailing the differences they alleged reflection made to their coaching. There were a number of key points mentioned, firstly that reflection is a skill that needs to be developed for coaches to become more effective. Research has indicated that reflection is a key element of the learning process, so should be a skill that is introduced early into the education process (Argyris, 1998; Schön, 1987). Secondly, the NGB's should be responsible for the introduction of these reflective skills, highlighting both reflection-in-action and reflection-on-action, at all levels of coaching development. Reflection is also important in ongoing professional development so the NGBs should be instrumental in promoting the use of reflection from Level 1 to Level 5 coaching qualifications (Cushion et al, 2003). Lastly, it promoted the development of the coaches in this study to the level they are at now and many of them considered it to be their only avenue for development. This ability to reflect on professional practice is one of the traits of developing expertise (Mamede & Schmidt, 2005). As coaches progress through their careers they encounter problems which are generally not easy to solve and require careful analysis of all components and context (Schön, 1987). The construction of

coaching knowledge is dependent on reflecting on problems encountered in the activity and those coaches who are able to reflect effectively should progress both faster and further (Knowles et al, 2005; Schön, 1987).

6.9.5.3: Feedback

These Level 4 and Level 5 coaches had identified a number of mechanisms they used to gain feedback on their coaching. They also considered that as they received feedback from so many sources, it was constant. Coach MC5 summarised this point of view, stating:

“Feedback is usually continuous, as a coach you get feedback all the time. The whole thing about getting feedback is that you should know how you're doing from the moment you start the process so that you can reflect and monitor your progress, not just at the end of a session.”

Coach MS5 explained the mechanisms that he used in his practice:

“In terms of whether it's effective or not, if you take strength and conditioning, arguably every week. It's whether or not people have actually developed their physical capacities, whether they are capable of a greater amount of work, whether they've lifted more, so in a week to week, month to month basis that's by results. There's some empirical data there that says I'm better than I was last week or 2 weeks ago, or a month ago or 6 months ago and that's documented. In terms of delivery, one of my support staff that works with me, my support network that I count upon, one fulfils the role of head coach at the club that I work at and works with me quite a lot and is also a parent of one of the athletes, who I coach and we probably speak to one another at least every second day and elicit informal feedback by that process.”

Coach MF5 also portrayed his feedback strategies, saying:

“To be honest I do ask the players, I don't see it specifically as my feedback but we do a debrief on every Monday. We don't debrief after the game we leave it to the Monday and then we bring up things like ‘is the warm up too long’, ‘is it too short’ and we'll ask about every area of the training sessions specifically and we'll adapt it to suit areas

that we think we maybe need. For instance, right now the players complained about the pre-match warm up being too intense. But it is only intense because in the last 3 months we have used a ball in it whereas previously there was no ball. I also get feedback through my own coaching staff - after every training session we have a debrief. It kind of encompasses the whole thing basically we go round each coach who took each segment of the training session and ask them "what did you think?" They say I think it went well but - there's always a but in there."

Coach MS4 portrayed his feedback in a similar fashion, from players and coaches, saying:

"When I'm conducting my lessons, I think first of all from the performers that you're working with. If you're going to take them through the lesson, ask questions on specific parts of the lesson, which obviously invites feedback, or checking what knowledge they've taken in and also shows what you've put across, have they taken it onboard. At the end of lessons, when you're doing a sort of recap summary of what the lessons been about, what information they give you will obviously tell you if you've gone through the path that you wanted and have they taken onboard what you aimed. I think also being very open as well - I ask my players to be open and basically tell me what they think, sometimes even with young players. From other coaches, again going back to what I've worked at on the performance side, yes, there's other coaches involved and so we'll discuss on different squad sessions and certainly that's another way I will get feedback from other performance coaches."

As mentioned these coaches, have a variety of methods to gain feedback but generally it tended to be from players and other coaches. Coach MS5 mentioned the input of his support network which he had alluded to previously. This participation within his support network, or community of practice, should mean he is better able to construct meaning in practical ways, directly relating to his practice or context (Kirshner & Whitson, 1997). This informal learning mechanism allows knowledge to be considered and reconstructed (Werthner & Trudel, 2006).

Knowledge can be acquired outside of formal learning settings enabling coaches, in this case Coach MS5, to interpret their coaching practice and develop knowledge through

this authentic learning environment (Jones et al, 2004). This approach to learning suggests coaches understand their performers' CoPs and acknowledge the learning both performers and other coaches do in such communities. The CoP theory also suggests coaches structure learning opportunities that embed knowledge in both work practices and social relations--for example, apprenticeships. Plus, coaches should create opportunities for performers to solve real problems within authentic challenge environments i.e. in real learning situations.

6.9.5.4: Mentoring

These coaches viewed their process of development as being assisted by a mentor or a critical friend, similar to the support network mentioned by Coach MS5 above. The coaches who were in their thirties or early forties, MT4, MS4, FL4 and MF5, all considered they had had a mentor, whereas the other coaches considered they had either a critical friend or friends. This difference was highlighted by Coach MB5, who said:

“Not directly - not assigned in I think the way is being mooted at the moment. You tend to have critical friends, people that you go to, and I think that's quite important. So, if that can be conveniently formalised in some way, I guess it could be a good thing. But if it's just from the point of view of the assessment of a coach, then I think that might have some difficulties to it then because there are only a few mentors around probably. It's usually people you speak to and that changes from time to time. Sometimes it's an inbuilt part of a club circumstance - at the Paisley club, for example, I had a very good assistant. Alan & I would talk about things - sometimes you have to be cautious about working with your own people, sometimes it's quite good to get a kind of wake up call. If you're just saying 'yeah that's good coach, that's good' sometimes it's not necessarily the best way to be advised. So if mentoring is something to do with being advised, you might say it's good for someone to come along. Mentoring, I think is a really solid idea, in the sense that coaches need to think beyond themselves if they get someone to look at their practice but how it can be set up formally is an issue.”

This view was reinforced by Coach MS5, stating:

“I've been fortunate enough to work with people at a number of levels who I can still call upon, both in this country and abroad as well. So in terms of, did the NGB place somebody with me and was there any, as SCUUK would put it, any formalised agreement, no. Did I work with people and learn from them and discuss things with them, normally in the bar late at night, absolutely. Yes it helped in a variety of ways, whether that be technical models, processes, underlying physiological approaches, psychological approaches, biomechanics, strength and conditioning, a whole, whole variety of ways and probably the list is substantially longer than I mentioned.”

Coach MF5 viewed his first head coach, while he was working with an SPL club to have been an informal mentor as well as a positive influence on his coaching, declaring:

“Jim McLean, as I've said, I coached with a number of times and he would put me right on one or two wee things. Informal setting - he was there to oversee the whole club but it seemed to always be me that he would end up beside and, maybe on occasions, I would go across to him trying to get feedback from him and find out what he was thinking. Also, he took me into the dressing room, onto the team bus, preparation before games and half-time to see the talk and after games. As a result of that learning experience, with the coaches that are working with me at youth level, I now bring them in before games at half time to let them see. The best experience - I couldn't pay the amount of money for that experience and that type of information ever.”

Coach FL4 reflected that she:

“had a mentor, maybe last 5 or 6 years but that was just because of the situation, that was when we gained a decent American to do it with. It wasn't not wanting to have someone to work with but it was having the opportunity, I think. Besides which, I set it up and it was only when I was in charge that I set that up - the whole mentoring thing for other coaches so until I was in a position to say 'well I think this is what should happen with all coaches' that I was then able to use it as well as other coaches. I reflect with my mentor a little bit because that's part of the discussion afterwards saying what was useful and what wasn't. It can be hard calling them a mentor - it's quite informal, sometimes there's no time which can be really hard because literally they may be flying back that evening. Then the time might be gone that they packaged for that particular thing. Time is short so that is the thing that can be dropped.”

The key points that arise from this are the informality of the process and how a formal process could be initiated as part of the coach education process. There are advantages and disadvantages associated with a formal and informal mentoring process. Coach FL4 identified that she reflected with her mentor who could also be instrumental in helping to develop the skills of self-reflection. This is an example of the ways in which informal mentoring can be successful, observing practice and using a variety of techniques to assist the coach to become more effective. Formal mentoring, if organised by the NGB, can be accessible in the same form to all coaches, at all levels. Research has suggested that the most appropriate method of developing effective coaches is through some form of apprenticeship or mentoring programme (Bloom et al, 1998; Tinning, 1996; Campbell, 1993). It could be suggested that that mentoring facilitates the transitional process, allowing coaches to more easily move between levels of qualification on the route to expertise. As part of their coach education programme, CAC utilise a 'Master Coach', a highly experienced coach who mentors Level 4 and 5 aspirants while participating in the course (Thomson, 1998). It should be noted that this facilitated mentoring is only available at Level 4 and Level 5 and these coach education programmes are only conducted at National Sports Institutes over a period of two years.

6.9.5.5: Continuing Professional Development

Although all of this group of coaches were aware of the requirements for CPD but were of varying opinion as the worth of these courses. Coach MS5 pointed out that he only valued CPD:

"In terms of only things that, by and large, I've either organised

myself or engaged in myself. Currently my NGB, the Scottish NGB, doesn't do anything in terms of CPD for the qualification I hold. The British body is kind of turn up once every 4 years and be told stuff that you were told 4 years previously. You have to go, you pay your money, smile, you don't say anything and get your ticket stamped for another 4 years."

Coach FL4 explained that within the sport of lacrosse:

"We don't have to - there's no system. There's a mixture of things that are lacrosse specific and things that can be bolted on but it is still difficult to get things at the right level. The lacrosse specific are almost guaranteed not to be available for what I need. Things like sport psychology are more available but again difficult to meet my needs - if you want to be told one more time about goal-setting, go to a psychology seminar!"

Within tennis, there was a very detailed and formalised procedure that coaches have to participate in to keep their status as licensed coaches. Coach MT4 described the process:

"Every 3 years you have to have had 54 points, and you have to have so many each year within these 54. Say I do a course, for instance I did a course on Silicon Coach, it was a morning, that's 3 points. I do the big tennis thing - that's 10 points. I've been on the Basic Moves, I write to the LTA, saying how many points do I get for that. If it's a two day course, it will be say 12 points. Part of that's first aid - you have to do that. If you don't get the 54 points then you're not a licensed coach, you will lose your license, and I think that's good. There are coaches that object to that, that will lose their license because they don't. Tennis Scotland don't push it enough but they always encourage people to become licensed coaches, but if they don't Tennis Scotland won't use them, but there are coaches in clubs that aren't licensed - I think it's wrong. I think they should keep up to date, I mean, any profession should keep up to date."

Coach MS4 clarified that within squash, he had an individualized development programme, paid for and organised by the NGB, saying:

"With Scottish Squash, then that will be part of my contract on the performance coaching side. There's money set aside for my own

development. That may mean I go on another higher level course. I would say for me personally, working with some of the senior teams is perhaps pencilled in. I'd learn a lot by actually talking to the players and working with other coaches. Our performance director will be travelling with and coaching the teams in the Nationals, European Championships and Worlds. I think sitting down on the same bench when the players are off and looking and talking, I mean if you've got world class players that you're spending a week or so with you'll gain a vast amount. A high level coach said to me you learn far more sitting in the bar talking to the players and other coaches than you do on any course."

Evidently there was disparity between the NGBs both in terms of organisation and provision of CPD opportunities but also more fundamentally on requirements for CPD as an entity. All of these coaches acknowledged that there was some sort of provision but tennis, as explained by Coach MT4, appeared to have a formalised system that allowed some flexibility within it. Coach MT4 also mentioned that for employment a coach required to be licensed and maintain their accreditation over a three year period. Coach MS5 and FL4 both made clear that they were not satisfied with the NGB provision at their level of coaching. The UKCC has a requirement for CPD but has chosen to introduce it at lower levels of coaching qualification (Sport Coach UK, 2007). These two coaches, MS5 and FL4, felt that they had to organise their own CPD and evidently they may have to continue doing so for a period of time. Coach MS4 appeared to be very pleased with the CPD arrangements made by his NGB on his behalf. Not only was it built into his contractual obligations and he was paid for this but he also had a range of experiences, from attending courses to interacting with other coaches and players, incorporated into his CPD plan. He seemed particularly enthusiastic about the opportunity to learn from other coaches, not just during practice sessions, but during high level competition as well. Perhaps other NGBs should follow this CPD model

utilised by squash, although whether this involvement in the planning stage would work as well at the initial levels of coaching is questionable.

6.9.6: Summary

All of the coaches within this study fulfilled normally accepted criteria for expertise, namely

1. they held a minimum of Level 4 Coaching Award from their NGB
2. they had a minimum of 10 years continuous coaching experience
3. they were coaching at a representative level
4. they had developed national performers over a number of years

(Vallee & Bloom, 2005; Durand-Bush, & Salmela, 1997; Ericsson et al, 1993).

Although these coaches met the criteria, there were noticeable differences between them, in terms of total time coaching, employment status and educational background. These coaches all viewed their role from varied perspectives, and acknowledged that their role had changed throughout their career. Importantly, although they had all reached a high level of coaching within their sports they all considered their role was constantly changing and evolving. This view was reflected in their personal coaching philosophies suggesting that while they were under considerable pressure to produce results in the competitive environment, they were still motivated by their sport and concerned about their athletes' long term growth and development. There disquiet expressed regarding the culture of sport in the UK which these coaches considered was

not taken seriously enough, not only by the mass population but also by a number of sports organisations.

When evaluating coach education programmes, these Level 4 & 5 coaches were generally of the opinion that they were not at a high enough level to meet their needs. A number of them had to travel abroad or make use of foreign courses or deliverers to access the level of training that they felt necessary. This may have been an influential factor in their development being exposed to different systems and new approaches.

They also felt that they had developed to their current level in spite of the coach education system, rather than as a result of it. These coaches have reached the higher levels of coaching qualification, and they perceived themselves constructing their own methods of learning. They tended to attend non-formal coach education workshops, which gave them opportunities for interaction. This interaction was informal and relaxed, allowing coaches to learn from one another, building informal learning networks and developing complex learning processes.

These elite level coaches have developed a very extensive knowledge base, which permits them to make use of the appropriate information at the appropriate time. Experts do appear to derive more from their experiences than non-experts, perhaps explaining why some coaches are able to make the transition to a higher level more easily than others. However, it should be noted that there is more to expertise in coaching than completing all the coach education qualifications.

The coaches in this study displayed both innovation and creativity in their ideas for coach education programmes. These suggestions were a result of their deep thought regarding their own practice, the needs of the performers and key components of

performance in their particular sport. Much of this original thought also involved developing connections between coaches to assist in extending their knowledge base through communities of practice. NGBs should examine the possibility of incorporating not just these ideas, but the views of other coaches into their coach education programmes.

Although the coaches in this study believed that coaches should be assessed there were questions about both the format of the assessment and the practicalities of such assessment. There was debate over whether assessment would indicate anything apart from a basic competence at the level of qualification. This measurement of measuring at Level 4 or Level 5, deemed high performance level, should not be equated to expertise in coaching.

The approach of this group of coaches to their practice suggested both a long term outlook and a very individual focus. Within their coaching environment, these coaches demonstrated some key characteristics of expertise, for example, managing activities during practice and contextualise all the necessary components to suit the individual performer's needs. The contextualisation of practice, known as situated learning, is considered vital in expert coaching. They realised that building good habits enabled quality practice, which is a critical element in the search for expert performance. The type of practice environment created by these coaches involved maximising the learning opportunities for their performers. There was more of an emphasis on the performer taking responsibility for their learning and equally, the coach providing the climate to enable them to do so.

These Level 4 and Level 5 coaches confirmed their use of critical and analytical skills throughout their coaching, for example, decision making. A characteristic of an expert coach is making correct decisions, when under pressure and time constraints and these coaches demonstrated that they were able to do so. Decision making skills can be attributed to the coaches' knowledge base, procedural, declarative and tacit knowledge, generally gained through experience and understanding, rather than formal education.

All of these coaches reflected on their practice, but none of them recorded any of their reflections. It appeared that this was a process they had developed over a number of years, were comfortable with and a key element in advancing their coaching effectiveness. The construction of coaching knowledge is dependent on reflecting on problems encountered in the activity and these coaches, by virtue of their effective reflection, were able to extend their knowledge and apply this knowledge successfully.

The input of mentors or critical friends played an important role in helping these coaches by observing practice, offering advice and developing their skills of reflection. Many of these coaches referred to the need to discuss certain problems or issues, seek answers to specific questions and generally provide support and advice. Mentoring could facilitate the transitional process, allowing coaches to more easily move between levels of qualification on the route to expertise.

This group of coaches were not able to authoritatively state what enabled them to make the transitions from novice coach, when they started, to the high level, high performance coach they are now. There were, however, certain key features arising from this research. These coaches wanted to learn and they were not constrained by imposed limits. They displayed determination to access the knowledge they sought and a motivation to keep learning more, not necessarily directly attributable to their sport.

They showed flexibility in their approach, to their sport, their practice, their performers and their learning. This flexibility encouraged their development as they were able to facilitate their performers' progress, rather than impose rigid structures and systems. Finally, they were constantly questioning, reflecting and seeking answers from a variety of sources. These coaches were engaged with their athletes, their coaching and their own learning and development.

6.10: Conclusion

The purpose of this concluding section is to compare the information provided by all of the interviewed coaches and to evaluate the differences between the coaches based on their levels of coaching qualification. The most immediately noticeable difference is in the length of time taken to conduct the interviews. The Level 1 coaches were generally not able to sustain the discussion beyond 25 minutes. This was not because they were unwilling to engage with issues but simply because they did not appear to have the depth of knowledge necessary to engage with the issues beyond a superficial level. This was markedly different from the Level 4 and 5 coaches who were both willing and able to discuss all of the issues in great depth.

6.10.1: Role of the Coach

The coaches views on their role within the coaching process were markedly different. Level 1 coaches tended to concentrate on safety aspects of coaching as well as attempting to ensure that participants had fun during their coaching sessions. The Level 5 coaches, at the other end of the spectrum, were much more focussed on the performance as well as the methods utilised to determine whether or not the performers

achieved their performance goals. The role perceived by the coach also has an effect on their coaching practice as well as their coaching philosophy.

The ability to discuss coaching philosophy was also very dissimilar, especially in terms of the coaches ability to discuss their thoughts. A number of Level 1 coaches did not understand the concept of a coaching philosophy as they had obviously not considered philosophy in the terms of their own coaching environment and practice. Much of their thought on this subject again surrounded the areas of safety and fun but the majority of coaches at this level did not realise that their philosophy of coaching informed their practice. They could not contemplate any discourse on coaching philosophy beyond these parameters. Some of the Level 2 coaches, especially Coach MH2, had considered their coaching philosophy in more detail. These Level 2 coaches had not received any more formal input regarding coaching philosophy than their Level 1 counterparts. Coach MH2 had considerably more experience both in coaching and at Level 2 than any other coaches in part A of the discussion and this familiarity with his coaching role allowed him to examine and verbalise his philosophy more readily than the other coaches in discussion A.

The coaches at Level 3 appeared more comfortable discussing both their role and philosophy, although the two football coaches, MF3 and MF3*, did not appear to have as much substance to their thoughts as Coaches MA3 and MR3. Both football coaches, however, had modest experience in coaching football and were only recently qualified at Level 3. Perhaps as they work within the competitive environment their thoughts will crystallise and become more developed, similar to the more advanced views expressed by Coaches MA3 and MR3.

The coaches at Levels 4 and 5 seemed very happy to consider not only their current role and philosophy but also to expand on how this had changed throughout their coaching career, dependent upon the context or coaching environment. All of these coaches viewed their role from a variety of perspectives and it was these multiple outlooks that enabled them to vary their ideas according to the specific demands of each situation. Noticeable among these coaches was an ability to both adapt and be flexible, a characteristic of expertise and an element which encourages reflection and consequentially eases transition from one level of development to the next (Scholes, 2006; Guest, 2001). It was also evident that these coaches took a long term view to the development of the athlete and their role within that process.

6.10.2: Coach Education Courses

Some of the coaches within Study 3 were in very early stages of development, having been in coaching for less than one year, whereas others had coached for over thirty years. The coach education experiences were also similarly varied. Within this study, there was only one coach who had undergone a coach education course under the auspices of the UKCC system. Some of the coaches in this study, notably those at Level 1 and 2 had not heard of the UKCC and were unaware of any implications for themselves as coaches and for their sport. This appears to suggest that some NGBs were not able to disseminate important information to all of their coaches.

There was a noticeable difference in attitude to formal coach education courses, with a considerable number of Level 1 and 2 coaches enthusiastic about the content knowledge that they were receiving from their NGBs. There was also an apparent lack of questioning of the information presented as well as a wholesale embedding of course

material into coaching sessions with little thought or individualisation dependent on context and environment. The emphasis appeared to be on a delivery skills approach, how to conduct a coaching session, rather than equipping the coaches with a knowledge base and the awareness of how to use it appropriately. All of these coaches felt that they were able learn more effectively when the information was either presented practically or they were able to participate practically.

The Level 3, 4 and 5 coaches were more discerning about their learning and also more cynical about the relevance of their coach education courses. They had amassed a comprehensive knowledge base over their years of coaching, with the possible exception of Coaches MF3 and MF3*, who still demonstrated more depth of knowledge than the Level 1 & 2 coaches, apart from Coach MH2. This knowledge base had not been acquired merely by attending coach education courses but by questioning content and delivery as well as the usefulness of the information presented. Many of this group of coaches had experience of coach education courses outwith the UK which they felt had given them a different perspective and allowed them to progress further than would otherwise be possible within the current constraints of the NGB structure. Again there was questioning as to whether the introduction of the UKCC would have the desired effect of raising the standards of coach education. These coaches generally appeared to have developed the ability to transform knowledge and practice and thereby stimulate their transition towards expertise in coaching. Clearly this ability had not been developed as a result of their recent coach education experiences.

6.10.3: Coaching Practice

In terms of coaching practice, the general view of the Level 1 and 2 coaches was very short term, focussed on safety and episodic in nature. This was a reflection of the coaching environment that they were currently working in, as very few were working within an established club structure with other, more experienced coaches around to give advice and support when necessary. Apparently these coaches had not considered their coaching style or approach in any great depth, unaware of the effect this could have on their participants as well as their own coaching development. Coach MH2, again, was the exception as he coached within an established hockey club and had done so for an extended period of time, working with the same players in training and competition and having a number of individuals within the club to approach for any assistance. Coach MH2 had made the choice not to progress further in terms of his coaching qualifications but displayed some characteristics and depth of thought that suggested he was operating at a higher level than his Level 2 qualification indicated.

The Level 4 and 5 coaches coaching practice did reflect both a long term aspect and a very individual focus. This highlighted their ability to translate theory into practice but also to be able to adapt certain aspects of practice to suit individuals, a reflection not only of their knowledge base but their knowledge of the individual performers and the attributes necessary for elite performance in that sport. It also appeared that their knowledge, planning process and experience allowed them to concentrate on key aspects of performance during the training sessions, rather than aspects of safety, for example, as stressed by the Level 1 and 2 coaches. This demonstrates that these Level 4 and 5 coaches are functioning at a certain level of automaticity, developed through

situated learning, another element of expertise brought about by reflection on practice and the use of procedures for certain elements to allow more working memory to be utilised for solving problems (Kidman, 2001; Novotny, 2000; Zeitz, 1997). This ability could be attributed to the base of declarative knowledge and the linking and interacting of information at this base level in order to make appropriate decisions during practice and competition (Nash & Collins, 2006).

The Level 1 coaches in this study had not really considered decision making as something they did in their coaching sessions or that it was important in coaching. This differs greatly from the views expressed by the Level 4 and 5 coaches in this study. Partly, this could be related to the two completely different environments that these coaches are involved in. The Level 4 and 5 coaches are working in an environment where competition, results and performance are key to success whereas the majority of the Level 1 and 2 coaches are involved in community based projects where participation and enjoyment is important. Both of these contexts are essential but in terms of coaching practice, the community based schemes do not allow the opportunity to extend their coaching practice. These schemes generally do not provide support for coaches, participation is less committed therefore coaching tends to be episodic and coaches have little prospect of informative feedback. Informative feedback is thought to be crucial in the attainment of expertise and throughout the levels there did appear to be issues with coaches receiving feedback from anyone else but the players (Ericsson et al, 1993).

Many of the coaches working within the competitive arena, generally the Level 4 and 5 coaches and Coach MA3, had addressed this issue of informative feedback by creating their own CoPs, using critical friends and colleagues to assist them in reflection, critical

thinking and learning endeavours. Expert coaches have been determined to display an ongoing quest for personal growth and knowledge acquisition (Bloom & Salmela, 2000). This group of coaches within this study all appear to exhibit these qualities, perhaps stimulated by involvement within their own learning communities. Coach education is becoming more explicitly linked to formal education, especially at the tertiary level which could ensure that developing coaches have their own access to learning communities (Lyle, 2002). Informal learning methods and communities have tended to suit the needs of coaches more than the formal approaches commonly utilised in educational establishments (Nelson et al, 2006). Possibly, coach education requires both a formal and informal input, for example, at the initial levels of coaching accessing prescribed information to develop a knowledge base in the three key areas of knowledge of the game, knowledge of teaching and learning and knowledge of scientific principles. As coaches develop this declarative and procedural knowledge base, underpinned by practice, they may then be able to make use of informal learning networks, or communities of practice of their own design. Coach MB5 demonstrated very clearly how his learning style evolved through his years of involvement in coaching and it is not unreasonable to suppose that as coaches gain more knowledge and experience their perceptions, expectations and most importantly, critical and evaluative skills also develop, enabling them to question their own practice more effectively.

As previously stated, coaching is an ill structured domain with the role of the coach varying enormously between both sport and context. If this is the environment that coaches are operating within then they must be offered the tools, early in their development, to enable them to make sense of all the information they acquire. In order

to do this effectively, the coach must utilise many different types of knowledge to solve problems and ultimately make decisions, the basis of coaching. In order to do this effectively, coaches must develop critical thinking skills. The Level 4 and 5 coaches within this study, as well as coaches MA3 and MR3 demonstrated throughout their interviews that they had the necessary tools at their disposal to do so. Conventional didactic teaching methods, which most coach education courses subscribe to, do not allow these tools to be developed. The Level 1 and 2 coaches noticeably lacked the ability to question their practice and their development process. This aspect had not been covered in their coach education experiences and, at this stage, they lacked the knowledge and experience to engage with the concept. If the role of the coach is to ultimately progress performance, expert knowledge and its development needs to be better understood and more importantly, applied. In a knowledge based subject area, education and training to develop skill and expertise is important and this needs to be recognised and addressed more explicitly within coach education and training.

Chapter 7: General Discussion & Conclusion

The purpose of this thesis was to investigate methods of coach education, which would allow coaches to develop expertise in their practice through the adoption of both structured and unstructured processes. Current coach education courses tend to present coaches with sport-specific content, in a hierarchical process. Coaches are evaluated on a number of pre-determined competences which are not allied with the characteristics of expertise (DCMS, 2007; Gilbert et al, 1996; Griffey, 1994). The UKCC is currently focussing on organisational and structural components aligning coach education across the UK (SportCoachUK, 2007). If coaches are considered to be expert, then the methods by which they achieved this standing need to be scrutinised, evaluated and hopefully, disseminated to coach education programmes for their information.

This thesis analysed existing literature and current coaching practice to evaluate the development of expertise within coaching and apply these findings to suggest an alternative construct of coach education.

The aims of this research project were

- To contribute to a greater understanding of the complexities of the coaching role, specifically the development of expertise within a highly unstructured environment, by investigating individuals who have both reached that level of functioning as well as those individuals who are striving to develop coaching expertise;

- To examine the effectiveness of current coach education provision, in providing not just sport specific knowledge, but the knowledge and skills required by coaches to both develop their athletes and themselves to their full potential;
- To explore the perceptions of coaches at all levels of qualification in terms of the effectiveness, value, knowledge, skills and importance of formal coach education courses, as well as examining their views on the role of the coach and the development of their coaching philosophy and approach;
- To investigate the inclusion of critical thinking skills, for example, decision making, problem solving, reflection, reasoning, in coach education, to enable coaches to develop the skills of independent learning;
- To utilise different methodologies to gain both a broad perspective and an in depth examination of the barriers and constraints that coaches perceive inhibiting their development.

Within this thesis, aims and research questions were designed as a framework to give direction to the overall programme. As with exploratory research, resulting findings have changed the consequent nature of the studies, therefore a brief overview of the flow and purpose is offered.

Study A made use of life history interviews to examine the development process of nine recognised expert coaches within the sports of football, hockey and swimming. The primary question was how they had learned to be an expert coach and whether they could identify the life experiences that had shaped their development as a coach. The core

themes of knowledge, experience, personal qualities, networking and philosophy were identified by these nine coaches as key markers in their progress to expert status.

For these coaches, the transformation of experience to expertise highlighted the importance of reflection. This reflection was assisted by informal networks or CoPs developed by individual coaches. Figure 4.1 (p. 78) suggests that coaches' learning is affected by three types of learning situations: mediated, unmediated and internal (Werthner & Trudel, 2006). The coaches in this study clearly felt that the mediated or formal coach education courses were of little help to them at this stage of their career. They actually considered that they had reached expert status despite their coach education experiences. These courses may have been of use to them at an earlier stage in their career to enable them to build their knowledge base. These coaches could not specifically clarify how they had become such effective coaches but they did not attribute any of their development to the coach education courses attended. The introduction of the UKCC aims to change this experience and support the development of a well qualified coaching workforce (DCMS, 2004). The coaches in this study clearly feel that they had acquired their own knowledge through various means, perhaps with the launch of the UKCC future coaches may be better supported. The findings from Study A prompted the investigation of coaches at all different levels of qualification to determine whether or not these perceptions were shared by the majority of coaches.

Study B utilised a questionnaire which is an easy to administer technique when attempting to reach a large sample size (n=621) and as such is commonly used (Mills, 2003). The questionnaire employed in this study (Study 2) was also utilised for a similar purpose in Australia. Two key findings from the Australian study identified that face-to-

face delivery remained the preferred method of course delivery and assessment procedures needed a review to focus on coach learning (Dickson 2001a; 2001b). The key findings from this study demonstrated that there were no coherent perceptions of the current coach education provision in the UK. Coaches tend to work in isolation and any activity to make them feel more included, especially contact with their NGB would be welcomed.

This study also raised concerns around issues of coach assessment. Many courses do not currently include a formal assessment which raises many questions about the value and worth of these courses as qualifications if there is no opportunity for appraisal. Should any form of assessment be introduced then coaches would appreciate the principles, but then have concerns regarding the legitimacy and bias of the process. These anxieties expressed by the coaches in this study do not reflect well on various NGBs, who are currently viewed as the main assessors of coaching qualifications.

Study C utilised in-depth interviews, which highlighted that coach education courses need to move from the generally prescriptive, giving knowledge approach at the initial stages to generally interactive at the later stages. Historically coaches have been viewed as “merely technicians engaged in the transfer of knowledge” in a process that can be viewed as unproblematic as long as the coach follows an appropriate systematic ‘model’ (Macdonald & Tinning, 1995, p.98).

The role of the coach appears to change considerably from Level 1 to Level 5. At Level 1 there is a clear concentration on safety aspects, the focus is very much on the delivery of the session and there is a belief that the coaches should be ensuring that their

participants have fun. As coaches gain more experience, not necessarily more qualifications, and work within a more developed programme with committed athletes, the role becomes more complex. Coaches then become more involved in management issues: management of the programme, management of the process and management of the performers. As previously mentioned, the coach's qualification level does not appear to be the sole factor in their operationalisation of the complexities within the coaching role. Coach MH2, qualified at Level 2 in hockey, displayed characteristics well above that level of competence and showed a depth of knowledge and appreciation of these complexities superior to some Level 3 coaches. He also was educated to PhD level, worked within a supportive coaching environment and had more coaching experience, which could be contributing factors in enabling him to make the transition towards a more multifaceted approach to coaching.

Coach MA3, and to a more limited extent, Coach MR3 displayed greater recognition of the coaching role similar to most of the coaches at Level 4 and 5. Again, these coaches had more coaching experience than their peers at an equivalent level of qualification, Coach MA3 held a MSc in coaching and both were coaching within supportive environments with ease of access to other coaches and support staff. This is similar to the circumstances and development of Coach MH2 and the majority of these coaches at Levels 4 and 5. The coaches at Level 5 were all vastly experienced and had also operated at their current level for a considerable number of years as well as all being educated to a postgraduate level.

The role of the coach does change but the results of these studies suggest that this is more of a reflection of the coaching environment than the level of coaching

qualification. At present, there is no explicit mention of the changing role of the coach in the initial stages of many NGB awards. Perhaps coaches would be more prepared for the intricacies inherent within coaching if this could be addressed early on in the education process. Sports Coach UK courses have dealt with this aspect in the past but many of these courses have been superseded by the UKCC. The Level 4 and 5 coaches in this study appear to have grown into their roles throughout their careers, but perhaps some of their contemporaries have either dropped out of coaching or remained at a lower level of qualification. The constant change and complexity of the coaching role requires to be more thoughtfully presented to coaches if more are to aspire to expertise in coaching.

These three studies all raised questions as to the effectiveness of formal coach education programmes. The expert coaches in Study 1 believed that they had reached that level by their own efforts rather than as a consequence of any recognized coaching courses. They spoke very favourably of their situated learning experiences, which allowed them to develop authentic coaching practice. They also described their coaching networks, or CoPs, which had developed informally over time to ensure they had a forum to discuss issues that had not been addressed by their coach education experiences. According to these coaches, coach education courses in their current form do not enable them to meet the need of high-level performers, they require more knowledge. If this knowledge is not able to be delivered by the NGBs, then possibly the NGBs should not be the ones responsible for delivery all aspects of coach education.

Study 2 ascertained that there were no perceived differences by coaches at all levels as to their coach education provision. It could be expected that, for example, Level 5 coaches would be able to contextualise their learning more easily than Level 1 coaches. Conversely, Level 1

coaches may be expected to require more technical input initially than Level 5 coaches. The results suggest that coach education courses are not meeting the needs of the coaches when they return to their own coaching environment. It may be that the information presented at the courses is worthwhile and necessary but the coaches lack sufficient knowledge to contextualise the information to suit their own coaching situation. This may be the case for coaches at the initial levels of qualification but should not be an issue for coaches at the other end of the spectrum, for example, Level 4 and 5.

The results of Study 2 also suggest that coach education courses are able to deliver the sport specific content but generally are not able to fulfil the coach's requirements when it comes to other aspects of coaching, for example, sport psychology or pedagogy. The style of these traditional courses could be defined as 'chalk and talk' where the participants are on the receiving end of the information. The coaches in this study tended to agree with the coaches in Study 1 with regard to coaching networks or CoPs. Although these were not specifically mentioned, coaches considered that group working enhanced their learning. Group working could also assist coaches in the contextualisation of their learning, an aspect of expertise, and allow them to learn more flexibly as a result of their experiences. This would require course deliverers to work more interactively and many NGBs to reconsider their presentation format for all levels of awards.

The coaches interviewed for Study 3 reinforced the notion that coach education courses were of little benefit as a tool for coach development, although some coaches did acknowledge they had gained some useful information. The more experienced coaches could be viewed as sceptical, questioning the need for formal courses at their level of development. The Level 4 and 5 coaches were generally in agreement with the expert coaches in Study 1 that they had developed their own methods of gaining knowledge, using critical friends and informal coaching networks, or CoPs to extend their knowledge base.

The transitional stages identified did not endorse formal coaching courses as a means of progressing and acquiring the knowledge necessary to meet the needs of the athletes. Those aspects that were identified as crucial elements were those of critical thinking, involving reflection and decision making. These skills are made easier to acquire and develop through the utilisation of informative feedback, mentoring programmes and a well constructed plan for CPD. Coaches need to be involved in all of these aspects early in their coaching careers, enabling them to engage with their education process and develop aspects other than sport specific knowledge. The early development of a coaching philosophy could enable coaches to more clearly frame their role as a coach making it possible for them to construct knowledge by engaging in investigating, reasoning, predicting, inferring, inventing, and problem solving: the core of constructivism (Marlowe & Page, 1998).

The views expressed by the coaches throughout this thesis were generally not supportive of current coach education provision. There were some exceptions, notably Coach MR3, who was the only coach who had undertaken a UKCC course. It is not possible to generalise from one example but this coach felt the information had made a difference to his coaching, enabling him to become more effective. This is not to suggest that the introduction of the UKCC has addressed all of the issues surrounding coach education as there are still many questions surrounding the initial framework as well as the development of expert coaches. Perhaps this debate could be started by examining the criteria currently used to identify expertise in coaching. As this thesis has demonstrated there are a considerable number of coaches who meet these criteria, however it is also clear that there are different levels of functioning within that 'expertise level'. The current criteria reflect a certain inevitability about the

development of expertise in coaching whereas the evidence suggests that expertise requires a long term approach and is only attained by a few.

Coaches need to know how to coach before gathering sport-specific information, for example, skills practices. This 'how to' approach needs to address fundamentals of session planning, pedagogical or presentation skills, as well as aspects of participant preparation. At this early stage the basics of reflective practice should be introduced, possibly focussing on session and coach evaluation. The purpose, at this point, should be to familiarise the coach with the process and to engage with the concept as a developmental tool. Much can be learned from other professions, for example, teaching and the medical professions, about the implementation of these systems.

Man sports have embraced the notion of LTAD, so perhaps coach education organisations should consider the concept of Long Term Coach Development (LTCD). This would include the FUNdamentals stage, as outlined above, the development of key skills, not necessarily sport-specific in nature. This should allow the coaches to develop the skills necessary to contextualise information to suit their particular environment. Once these fundamentals of coaching have been established, coaches can add to their knowledge base in areas of sport-specific content, training theory and further pedagogical knowledge. This develops the coach's procedural and declarative knowledge base, allowing the linking and merging of different types of knowledge. This will help to cultivate the critical thinking skills of reflection, evaluation and decision making, key to the development of expertise. Not all coaches will aspire to expertise or be able to achieve this level but if a clear developmental pathway is established then the requirements could be clarified and expectation could be better managed.

7.1: Summary of the Main Findings

The coach education process in the UK should be responsible for establishing minimum standards of knowledge and behaviour as well as endorsing a process which creates the concept of best practice throughout sport coaching, enabling coaching to be recognised as a profession. This research suggests that current coach education programmes are not fulfilling this goal, as the majority of coaches do not perceive their coach education experiences to be worthwhile or meaningful to their role as a coach. It also allows coaches to opt in or opt out of the coach education process, with little incentive to develop within the formal coach education framework as there appear to be no consistent standards for representative coaching appointments. At present, there is no substantive evidence as to what constitutes effective practice in coaching, however, there is an evident thread of good practice and principles from related fields, for example, teaching and nursing. This is an issue which should be addressed as there is a lack of clarity, especially at the lower levels of coaching, as to what constitutes the role of the coach and how this affects the construction of a coaching philosophy, a key aspect of development.

Coaches wish to be viewed as the focus of the coach education programmes, i.e. the aim of the programme is to develop their effectiveness as coaches, not as some felt, their athletes' performances. This would encourage a problem based learning approach to coach education. Coaching has been recognised as a cognitive activity therefore coaches should develop their critical thinking abilities. This should replace the more traditional sport-specific programme design and presentation. This change in emphasis should allow coaches to develop decision making skills, reflective ability and proficiency in

problem solving. This in turn would encourage them to develop automaticity, key to the process of acquiring expertise.

Coaches appear to embrace assessment as a measure of the achievement of course criteria. They do admit to reservations concerning the transparency of the assessment process. There is also little consensus as to the nature of the assessment, perhaps it is appropriate that this should change according to the level of the qualification. For example, coaches at the initial level need to establish a coaching knowledge base that could be easily assessed by an examination format. This would not necessarily be appropriate at all levels or as the only method of coach assessment.

The more experienced coaches in this research appear to construct their learning using a variety of non-formal processes. They have developed these processes over a number of years, conceivably as a consequence of their dissatisfaction with current formal coach education provision. These methods include establishing coaching networks, or CoPs, enabling discourse and problem solving with others in similar situations, as well as the ability to transform knowledge and practice. This enabled these coaches to use their knowledge of authentic coaching situations and their developed reflective skills to augment the learning environment. This has resulted in more empowered coaches, displaying a more questioning and a less didactic approach, demonstrating a strong emphasis on the 'how to' skills.

Although this research has encountered coaching expertise and expert coaches it is strongly felt that the current accepted criteria for expertise in coaching need review. Coach education, as it currently exists in the UK, does not clearly delineate the expert from the experienced. Many coaches hold the highest NGB award and have

accumulated over ten years coaching experience. However, if their actual practice has not changed during this time, as revealed by coaches in this research, can they be designated as experts?

7.2: An Alternative Paradigm

Coaches must experience coaching by reflecting on those experiences and constructing their own understanding and knowledge of both the coaching process and coaching practice. In order to do this they must be encouraged to ask questions, explore, and evaluate what they know. Within coach education this would require a radical change in approach and delivery methods. This would entail the use of active techniques, for example, authentic problem solving and experimentation, to create further knowledge and then to reflect on and discuss what they are doing and how their understanding is changing. This would require the coach educators to provide enquiry-based learning activities, utilise questioning techniques and perhaps most importantly encourage the coaches to become active learners rather than a passive recipient of information. Within this model, knowledge would be seen as dynamic and constantly changing, rather than repetition of skills and drills. It would encourage coaches to ask questions, which would enhance the reflective process, a key determinant on the path to expertise development.

This method of learning encourages the use of groups or networks, similar to the CoPs established by the more experienced coaches. If instigated at the initial stages of coach education this could enable coaches to control their own learning process, and develop the critical thinking skills by reflecting on their experiences. This process makes them experts of their own learning. If the development of expert coaches is to be the ideal

outcome of coach education programmes, then the process of constructivism appears to offer both a pathway for the enhancement of coach education and the method which is already utilised by a number of experienced and elite sport coaches. Care needs to be taken when establishing these CoPs as coaches need to feel involved and secure within these groups, which ideally should be coach-led. If these forums can be established, with coaches recognising the benefits associated with such an approach, it will allow coaches to view coaching from a variety of perspectives, encouraging the self-development of expertise. Critical to the success of this process are the coach educators, who require a new and different set of skills, the long term approach to coach education where development is viewed as an iterative progression and the coaches themselves, who need to engage with the process and view themselves as the agents of change.

7.3: Recommendations for Future Research

There are a number of areas that could be developed for future research as a result of the findings of this theses. Coaching is still recognised as an under-researched area and coach education programmes have lacked a conceptual basis as there is still ongoing debate as to what form the key principles of coaching (Lyle, 2002). There needs to be a clearer relationship between the perceived demands of the coaching role and the design, content and delivery of coach education programmes. This includes the recognition and subsequent adoption of the cognitive behaviour underpinning coaching practice. Is there any pattern of this relationship in specific sports?

How expert coaches contextualise their knowledge and translate this into their coaching practice is a concept that many novice coaches struggle with. Which contextual factors

influence coaching practice to the greatest extent and how is this contextualisation incorporated into coach education programmes?

The concepts of mentoring, problem-based learning, decision making and reflection have been identified by the coaches within this research as important. Each of these approaches have been investigated in other fields of learning but there is little evidence of their application in coach education. Therefore there is no specific evidence that their application results in improved coaching practice or more effective coaching education. This would entail a more long term approach to both research, coach education and subsequently, coaching practice than has currently been undertaken.

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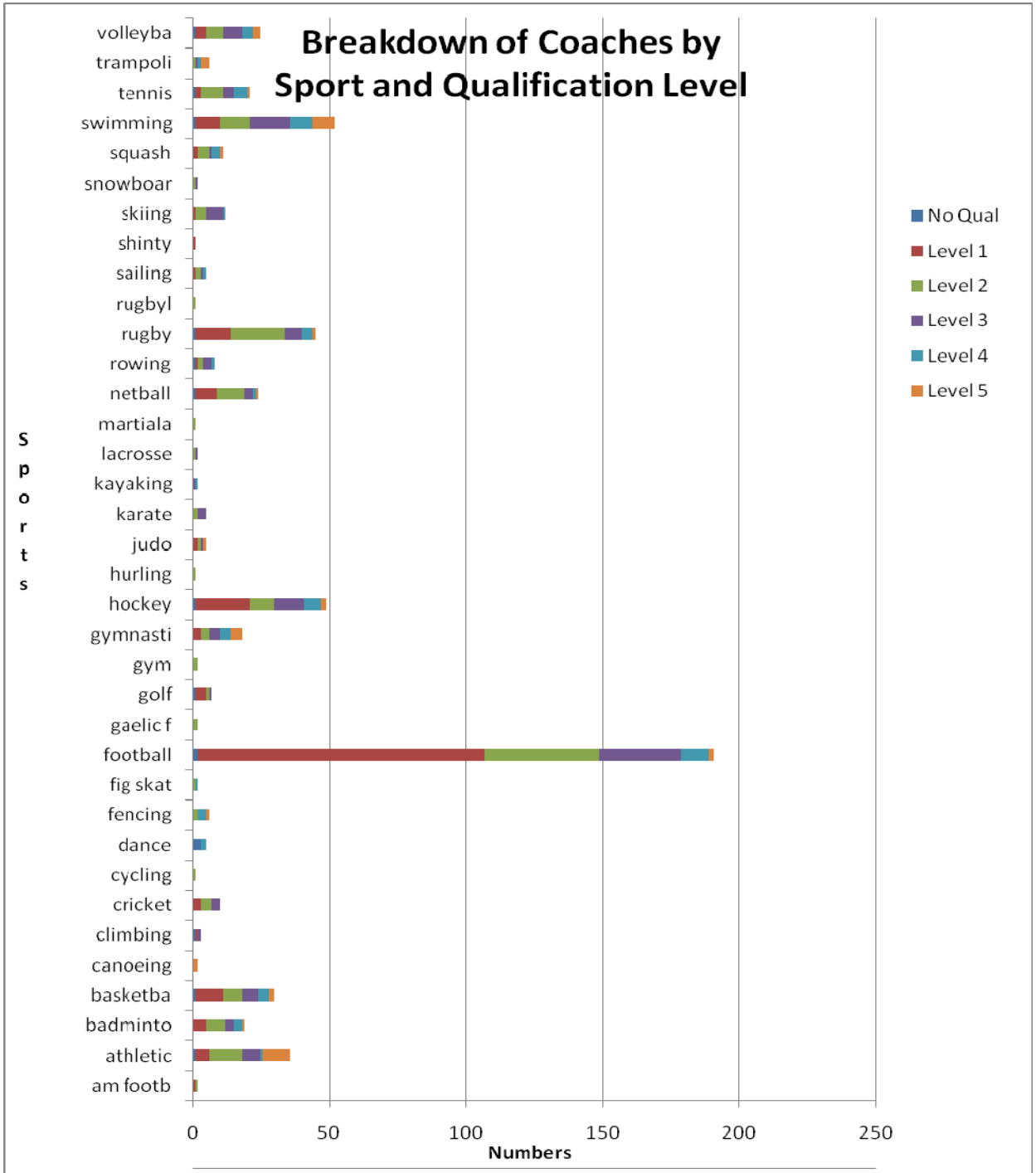
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Appendix 1



Appendix 2

Study 1 Interview Schedule

What are some of your earliest memories about sport?

Do you remember your first sporting experience?

Were your parents/siblings/other close relatives involved in sport?

Were there any sporting traditions in your family?

Who was the person in your family who most encouraged you in sport?

Were you encouraged to try new things?

What did you do with your time?

What clubs, organizations, or groups did you join in school?

What did you do for entertainment or for fun as a teenager?

What accomplishments in school are you the most proud of?

How far did you go for formal education?

How did you get involved in coaching?

Are you happy in your coaching?

What would you say has been your greatest achievement in sport/coaching?

Why do you think you are successful in your coaching?

How did you develop as a coach?

Was this development process easy?

What is the most important thing to you in your coaching?

What are your thoughts on your coach education courses?

How did you learn what you need to know to be a successful coach?

What do you include within a typical coaching session?

What qualities do you have that make you successful?

Appendix 3 Study 2 Questionnaire

As part of this investigation, it is intended to conduct a number of follow-up interviews. If you would like to make yourself available for these interviews, please provide your contact details before proceeding with the survey.

Name: _____ Telephone: _____ Email: _____
 Address: _____

Section 1: Demographic and Sport-Related Information

Please tick the appropriate box, or supply your answer in the space provided.

1. Are you: Male Female
2. What is your age? _____
3. What is your **highest** educational qualification?
 Secondary School FE College Undergraduate University PG University
4. Which sport do you coach? _____
 (If you coach more than one sport, select your main sport for this answer)
5. What is the level of your **current** coaching qualification for the sport selected in question 4? _____
6. How long have you been at this **current** level of qualification?
 < 1 year 1-2 years 3-5 years 6-10 years more than 10 years
7. Altogether, how many years have you been coaching since you were **first** qualified as a coach?
 < 1 year 1-2 years 3-5 years 6-10 years more than 10 years
8. Is coaching your primary source of income? Yes No
9. What age level/s do you normally coach? (tick all relevant boxes)
 5 years old or younger 5-12 years 13-19 years
 20-30 years 31-40 years over 40 years
10. In a normal week during your season, how many hours would you spend in your coaching role?
 (Please consider all aspects of your coaching role, including training, competition, meetings, planning.) _____

Section 2: Factors That Help and Obstruct Qualification

On the scale below, please indicate (with a tick) if you perceive the following issues to be a **help** or an **obstruction** in obtaining coaching qualifications.

Significant Help Sig Help ①	Moderate Help Mod Help ②	No Effect No Effect ③	Moderate Obstruction Mod Obs ④	Significant Ob Sig Obs ⑤
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Organisational Issues that Help or Obstruct	Sig Help ①	Mod Help ②	No Effect ③	Mod Obs ④	Sig Obs ⑤
1.1 the frequency with which qualification courses are offered (eg once per year)	①	②	③	④	⑤
1.2 specific criteria for attending the course (eg invitation only)	①	②	③	④	⑤
1.3 access to "mentor" coaches	①	②	③	④	⑤
1.4 access to coaching organisations	①	②	③	④	⑤
1.5 the need to meet specified, or unspecified, criteria (eg hourly/ seasonal requirements) before undertaking higher qualifications	①	②	③	④	⑤
1.6 the need to access, and use, technology (eg internet, CD ROMS, specific technical equipment)	①	②	③	④	⑤

Significant Help Sig Help ①	Moderate Help Mod Help ②	No Effect No Effect ③	Moderate Obstruction Mod Obs ④	Significant Ob Sig Obs ⑤
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Course Qualification Issues that Help or Obstruct	Sig Help	Mod Help	No Effect	Mod Obs	Sig Obs
2.1 course attendance requirements	①	②	③	④	⑤
2.2 length of time (ie time commitment)	①	②	③	④	⑤
2.3 pre-course requirements (eg readings)	①	②	③	④	⑤
2.4 post-course requirements (eg workbooks, hourly requirements)	①	②	③	④	⑤
2.5 the expense of coaching courses	①	②	③	④	⑤
2.6 the complexity of general principles content (eg planning, safety)	①	②	③	④	⑤
2.7 the complexity of sport specific content (eg skill and tactical development)	①	②	③	④	⑤
2.8 the difficulty "gap" between each qualification level	①	②	③	④	⑤
Assessment Issues that Help or Obstruct	Sig Help	Mod Help	No Effect	Mod Obs	Sig Obs
3.1 recognition of prior learning and experience (eg previous coaching experience, other certification)	①	②	③	④	⑤
3.2 the quality of the assessors	①	②	③	④	⑤
3.3 your personal rapport with assessors	①	②	③	④	⑤
3.4 theory assessment requirements	①	②	③	④	⑤
3.5 practical assessments conducted during course time	①	②	③	④	⑤
3.6 field assessments with your athletes in your sporting environment	①	②	③	④	⑤
3.7 the clarity of assessment criteria (ie I know exactly what is expected to pass qualification assessment tasks)	①	②	③	④	⑤
Learning Issues that Help or Obstruct	Sig Help	Mod Help	No Effect	Mod Obs	Sig Obs
4.1 the application of new information into my coaching	①	②	③	④	⑤
4.2 the coach education course developed my knowledge	①	②	③	④	⑤
4.3 working with others helps me to learn	①	②	③	④	⑤
4.4 the presentation of information suited my learning style	①	②	③	④	⑤
4.5 the course enables me to make effective decisions concerning my coaching	①	②	③	④	⑤
4.6 the course challenged me to make significant changes to my coaching behaviour	①	②	③	④	⑤
4.7 the course developed my understanding of the coaching process	①	②	③	④	⑤

Section 3: Level of “Agreement”

On the scale below, please indicate (with a tick) your **agreement** or **disagreement** with the following statements.

Strongly Agree SA ①	Moderately Agree MA ②	Undecided U ③	Moderately Disagree MD ④	Strongly Disagr SD ⑤
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	SA ①	MA ②	U ③	MD ④	SD ⑤
1 I anticipate the next qualification level will be appropriate to my coaching needs	①	②	③	④	⑤
2 In my sport, ‘politics’ plays a major part in determining who moves up the qualification ladder	①	②	③	④	⑤
3 I prefer to obtain additional knowledge and skills informally, rather than undertake formal coaching qualifications	①	②	③	④	⑤
4 I find assessment procedures intimidating	①	②	③	④	⑤
5 Assessors are accepting of innovative coaching methods	①	②	③	④	⑤
6 For me, self-assessment s a very effective form of performance feedback	①	②	③	④	⑤
7 Assessment should be used as a form of feedback to facilitate learning	①	②	③	④	⑤
8 The process of reflection helps me develop as a coach	①	②	③	④	⑤
9 In my sport, people who present qualification courses are high quality presenters	①	②	③	④	⑤
10 I am content to stay at my current qualification level	①	②	③	④	⑤
11 Further coach education/qualification courses will not enhance my development as a coach	①	②	③	④	⑤
12 The last coaching qualification course that I attended enhanced my technical knowledge of my sport	①	②	③	④	⑤
13 The last coaching qualification course that I attended enhanced my teaching/instructional knowledge	①	②	③	④	⑤
14 12 The last coaching qualification course that I attended enhanced my knowledge of supporting (eg psychology, physiology, biomechanics)	①	②	③	④	⑤
15 Reflection on experience should be a conscious and intentional activity	①	②	③	④	⑤
16 I view coaching as a ‘career’	①	②	③	④	⑤

Section 4: Critical Thinking

In the section below, please tick the appropriate box.

- 1 Do you reflect at a set time after a coaching session or competition? yes no
- 2 Do you have a list of evaluative questions that you ask yourself? yes no
- 3 Do you have developed routines that you utilise during certain aspects of coaching (eg organisation of groups, warm up) yes no
- 4 Do you make intuitive decisions in your coaching? yes no
- 5 Do you question your decisions on a regular basis? yes no
- 6 Do you have a ‘critical friend’? yes no

Section 5: Additional Comments

Please provide any general comments concerning coach education courses, how coaches learn and improve, or comments to clarify your previous responses.

Appendix 4

Australian Coach Education Model

Coaching courses

National Coaching Accreditation Scheme

The National Coaching Accreditation Scheme (NCAS) is a progressive coach education program offering education, training and nationally recognised qualifications to people coaching beginners through to elite athletes.

There are four levels - Level 1, 2, 3 and High Performance. Level 1 and Level 2 courses generally include the following components:

- Coaching Principles - covers the fundamentals of coaching and athletic performance
- Sport Specific - addresses the specific skills, techniques, strategies and scientific approaches to the particular sport; and
- Practical - practical coaching techniques, an application of coaching principles.

Level 3 courses are more advanced and are designed to help coaches develop a wider range of competencies, which may include working with athletes at an elite level. The High Performance Course aims to further enhance proven coaching abilities and develop coaches who will be leaders in the area of high performance coaching.

The courses are conducted by the appropriate national, state, regional and approved agency providers.

A summary of the courses is included below. More information is available from the [Australian Sports Commission site](#).

Beginning Coaching General Principles

The Coaching Principles Certificate only partially fulfils the requirements of the NCAS accreditation. To qualify for full accreditation coaches must complete their sport specific courses and coaching practice as well as any other requirements set down by their state sporting organisation. Coaching General Principles courses are offered through a variety of mediums.

1. Sport and Recreation Queensland offers Coaching Principles through the Queensland Government's Building Active Communities Workshop. The workshops are presented by Margaret Monaghan, is part of a series of Queensland Government initiatives to discuss current issues facing the sport and recreation industry. It is a great learning opportunity for coaches, administrators, instructors and volunteers operating at the grassroots level. For more information, phone Sport and Recreation Queensland on 1300 656 191 or email "rsvp@srq.qld.gov.au". Courses can be found on the [SRQ Event Calendar](#).

2. Centre for Physical Activity and Sport Education (CPASE) at University of Queensland, Brisbane (CPASE)

CPASE provides internal and external courses for Coaching General Principles Courses (Level 1 & 2).

Phone: 07 3365 68510
Email: "cpase@hms.uq.edu.au"
<http://www.hms.uq.edu.au/cpase/coaching.html>

3. Online beginning coaching principles course - Australian Sports Commission (Coming soon October 2006)

The online Beginning Coaching General Principles course has been in development since December 2005. The course will cover the five modules of the Beginning Coaching course. The course is aimed at beginner level coaches who are seeking their first step into the accreditation process. The online course will be housed on an external Learning Management System which will allow automated user registration, tracking, assessment and certification.

A prototype module for the online course was tested during May 2006. The testing process involved representatives from most state/territory departments of sport and recreation, the AASC program, and representatives from national and state sporting organisations. Response to the testing was very positive, with a number of worthwhile suggestions raised to further improve the course. A 'beta' version of all five modules is due to undergo a second round of user testing in the second week of July 2006. The course is expected to go live in October 2006.

Level 1 NCAS Course

A Level 1 course provides a basic guide to coaching and equips coaches with the expertise to coach at the beginner level. These courses are delivered by [state sporting organisations](#). Topics include:

- Communication;
- Teaching and coaching methods;
- Planning programs and practice sessions;
- Sports safety; and
- Sports specific skills.

Level 2 NCAS Course

Level 2 courses are more demanding and build on the competencies developed in Level 1 courses. These courses are delivered by [state sporting organisations](#). Topics include:

- Sport sciences including physiology, nutrition, psychology and biomechanics;
- Sports medicine - injury prevention and management;
- Risk management;
- Sport specific skills and tactics;
- People management skills;
- Planning the training program; and
- Coaching methods and practice.

A limited number of agencies are conducting this course online as a trial in 2001. Contact the ASC on 02 6214 1553 to find out more.

Level 3 NCAS Courses

Level 3 advanced courses are designed to help coaches develop a wider range of competencies, which may include working with athletes at an elite level. These courses are delivered through national and [state sporting organisations](#).

Subjects covered include advanced planning and training methods and the application of sports science concepts. In-depth analysis and reporting on sports specific topics are also explored.

High Performance Course

The High Performance Course is designed to augment proven coaching abilities and skills. The course aims to develop coaches who will be leaders in the area of high performance coaching.

The courses are individually tailored for the needs of the coach and the particular sport. The study program can be delivered in a variety of ways: one-to-one tuition; research projects; external study courses; specialist seminars; and more.

National Coaching Scholarship Program

Scholarships are offered to coaches identified as potential high performance coaches in their sport and to sports that can demonstrate a need for more highly trained coaches. More information on the selection criteria and course details is available on the [Australian Sports Commission](#) website.

Selected coaches are placed in high performance programs at the Australian Institute of Sport or state institutes and academies of sport. Scholarship coaches work under the direction of the head coach for their sport. They have the opportunity to develop their practical coaching skills as well as their theoretical knowledge through upgrading their NCAS accreditation or by completing the Graduate Diploma of Elite Sports Coaching course.

Graduate Diploma of Elite Sports Coaching

Designed to provide coaches with the latest in advanced coaching theory, this course covers a wide range of subject areas related to high performance coaching. Subject topics cover three main areas:

- Leadership and management;
- Planning and athlete development; and
- Preparing the athlete for competition.

The course was developed by the Australian Sports Commission, in conjunction with the University of Queensland.

Appendix 5

The Long-term Player Development pathway³

FUNDamentals	Learning to play	Playing & development	Training to compete, playing for life	Training to win
Chronological age	Chronological age	Chronological – biological age	Chronological – biological age	Chronological age
Males: 2 – 9 Females: 2 – 8	Males: 9 – 12 Females: 8 – 11	Males: 12 – 16 Females: 11 – 15	Males: 16 – 18 Females: 15 – 17	Males: 18+ Females: 17+
<p>FUN and participation</p> <p>General, overall development</p> <p>ABC's of Athletics run, jump, throw</p> <p>ABC's of Athleticism: agility, balance, coordination, speed</p> <p>KGBS of sports: Knaesthesia, Gliding, buoyancy, striking</p> <p>F: Foundation, Fantasy U: Uplifting, Understanding, Uncomplicated N: New, Nurturing</p> <p>Introduction to simple rules of ethics of sport</p>	<p>FUN and participation Generic sports skills</p> <p>All basic sports skills should be learnt before entering next phase</p> <p>Mental – cognitive and emotional development</p> <p>Introduction to mental preparation</p> <p>Medicine ball, Swiss ball, own body strength exercises</p> <p>Introduce lifestyle management understanding</p> <p>Introduce concepts relating to warming up and cooling down</p>	<p>Development and sport specific skills</p> <p>Generic strength and conditioning (Olympic weight lifting) techniques</p> <p>Individualisation of training programmes</p> <p>Major fitness development phase (manipulation of training variables especially strength, in relation to the onset of peak height velocity)</p> <p>Flexibility training introduced</p> <p>Mental – cognitive and emotional development</p> <p>Develop further mental preparation</p> <p>Develop further lifestyle management understanding</p> <p>Frequent musculoskeletal evaluations during peak height velocity</p>	<p>Participation – performance differentiation</p> <p>Individualised event & position specific physical conditioning</p> <p>Event, position specific technical tactical preparation</p> <p>Sport, event position specific technical and playing skills under competitive conditions</p> <p>Advanced mental preparation</p> <p>Optimise ancillary capacities (nutrition, hydration, environment, equipment, regeneration)</p>	<p>Performance</p> <p>Optimisation of physical capacities with tapering to peak performance at target competitions</p> <p>Further development of technical, tactical and playing skills</p> <p>Modelling all possible aspects of training and performance</p> <p>Frequent regeneration breaks</p> <p>Maximise ancillary capacities</p>
Nurturing environments	Creation of development environments	Sport selection	Sport specialisation	High performance
Well structured, single emphasis programmes encouraging sport and physical activity all year around	Well structured, single emphasis programmes encouraging sport and physical activity all year around	Double periods of training and competition emphasis	Multiple periods of emphasis: focusing on training periods and competition periods, each with a specialist individual focus	Programme structured to facilitate optimum competition performance
Physical activity 5 – 6 times per week	Sport-specific training 3 times per week, participation in other sports 3 times per week	Sport-specific training 6 – 9 times per week:	Sport-specific technical, tactical and fitness training 9 – 12 times per week	Sport-specific technical, tactical and fitness training 9 – 15 times per week
Training/competition ratios 50:50	Training/competition ratios 75:25	Training/competition ratios 60:40	Training/competition ratios 40:60	Training/competition ratios 20:80

Appendix 6

UKCC Overview

Coaching qualifications form a fundamental part of a sport's coach education programme. The UKCC developments have identified that there are five levels of coaching. These are described below:

Level	<i>What the coach will be qualified to do</i>
5	Generate, direct and manage the implementation of cutting-edge coaching solutions and programmes
4	Design, implement and evaluate the process and outcome of long-term/specialist coaching programmes
3	Plan, implement, analyse and revise annual coaching programmes
2	Prepare for, deliver and review coaching session(s)
1	Assist more qualified coaches, delivering aspects of coaching sessions, normally under direct supervision

For a coach to become qualified at each level, sports will offer a variety of coaching qualifications and training opportunities. The UKCC developments have identified that the content of coaching qualifications should meet minimum requirements.

Appendix 7

Study 3 Interview Schedule

Introductory Questions

- How did you get into coaching?
 - Why
 - How
 - Motivations

Beliefs about Coaching

- What is your opinion of the role of a coach?
- How would you describe your coaching philosophy?

Coach Education Experiences

- When was the last coach education course that you attended
 - How was it
 - Did you feel it enhanced your knowledge
 - In what ways
- What do you want from coach education courses
- What importance do you place on NGB awards, Sport coach UK courses, or any other training courses
 - Have they helped you develop as a coach
 - Why have you taken part in them
- How do you learn best as a coach
- Do coach education courses suit your learning style
- Have coach education courses made you change your behaviour as a coach
 - In what ways

Coaching Effectiveness

- Do you think coaches should be assessed

- What form do you think the assessment should take
- Who should be carrying out the assessment
- How do you get feedback about your coaching
- During practices what type of environment do you try to set up
 - How do you do this
- For practice/training sessions how do you decide what practices to include
- What type of instructional approach do you use while coaching
 - Do you vary this
 - Why would you

Critical Thinking Skills

- How do you decide/know if athletes have learned anything during a practice session
- I feel that the most important job of the coach is decision making – what do you think
- What kind of decisions do you make as a coach
 - Are you aware of all the decisions that you make
- Have you ever had a mentor in your coaching
 - Formal/informal
 - Was it helpful
- Do you reflect on your coaching
 - When
 - What form does it take
 - Does it help
- Do coach education courses help develop critical thinking skills
- Have you participated in any form of CPD

Concluding Questions

- What do you feel prevents coaching from becoming recognised as a profession
- If I was to ask you to give me 3 key points that would help you develop as a coach what would they be