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**Connected Cycles of Reflection: The Experiential Learning Process used
by Youth Team Sport Coaches to Develop Coaching Strategies**

by

Wade Gilbert

**Thesis submitted to the School of Graduate Studies
of the
University of Ottawa
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy in Education**

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For my wife, Jenelle,
without you I am incomplete,
together we are one.

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Most of us are familiar with the phrase 'life is a journey, not a destination.' Perhaps it is more appropriately restated as 'life *should be a reflective* journey, not a destination.' The culmination of this project, although perhaps initially considered a destination, has truly become a journey of professional and personal growth. The completion of the written document only serves as a checkpoint along the path of lifelong discovery. In fact, the document has been 'completed' many times already, and can surely be 're-completed' indefinitely. In my attempt to answer one research question, countless others have emerged that provide grounds for a lifetime of inquiry. With the support of my family, and other generous individuals such as those who assisted in this project, I will continue to create, pose, address and answer questions.

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If I lived twenty more years and was able to work, how I should have to modify the *Origin*, and how much the views on all points will have to be modified! Well it is a beginning, and that is something...

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Abstract

The purpose of the present study was to describe the process of how youth team sport coaches develop knowledge for coaching through experience. Schön's (1983; 1987) experiential learning theory of reflective practice was used as a conceptual guide. The research design included two focus groups (a pre-study) and multiple-case studies (Yin, 1994). Six coaches of competitive youth team sport comprised the case studies; three in soccer and three in ice hockey. Case study sources of evidence included background interviews, documents, observations combined with video and audio recording, on-site interviews, interval summary interviews, and member check interviews. Data were collected over an entire playing season with each coach. Guided by the case study analytic strategy of relying on theoretical propositions, five methods of qualitative data analysis were used: memos, coding, data displays, interim case summaries, and electronic text searches (Kelle, 1995; Maxwell, 1996; Miles & Huberman, 1994; Yin, 1994).

The experiential learning process found in the case studies comprised six components: (a) coaching issues, (b) role frames, (c) issue setting, (d) strategy generation, (e) experimentation, and (f) evaluation. The latter four components comprised a cycle of reflection, referred to as a reflective conversation. Each coach's personal role frame, or approach to coaching, bracketed the reflective conversation, and coaching issues provided the impetus for reflection. The process of identifying an issue, and deciding why it was an issue, is referred to as issue setting. Issue setting included three options: other, peer, and self. Issue setting was preceded by the strategy generation stage. Six options for generating coaching strategies were found. Three were dependent on coaching peers: advice seeking, joint construction, and reflective transformation. The other three were independent of coaching peers: coaching materials, creative thought, and coaching repertoire. After one or more strategies were generated, an experiment was conducted (real world and/or virtual world). An experiment's effectiveness at resolving a coaching issue was then evaluated. Three options were found at the evaluation stage: other, peer, and self. Once an experiment was evaluated, a coach would either exit the reflective conversation because the issue was resolved or considered unworthy of further reflection, or return immediately to the strategy generation stage to continue the reflective conversation. The selection of options at each stage in a reflective conversation was influenced by four conditions: (a) access to peers, (b) stage of learning, (c) issue characteristics, and (d) environment.

The present study provides a first step towards unpacking the frequently cited conclusion that coaches learn through experience. Perhaps the study's most notable contribution to the field of coaching is not the empirically based confirmation that coaches do indeed learn through experience, but an explanation of *how* coaches learn through experience. Furthermore, when the findings are used to examine other coaching studies, the reflective conversation appears to be valid in other coaching contexts. However, additional research is needed to explore the transferability of the results, and the validity of an experiential learning theory for coaches.

Chapter 1

Introduction

The purpose of the present study was to describe the process of how youth team sport coaches develop knowledge for coaching through experience. This is an important topic of inquiry because of the scope of youth participation in sport and the influence of coaches on youth development. The fact that most youth sport coaches receive sparse formal training and instead value coaching experience as a primary learning resource, underscores the importance of the research focus. Therefore, the lack of an empirical investigation into how youth sport coaches learn to coach through experience is a serious limitation in the sport science literature that will be addressed in the present study.

Organized youth sport outside of the school physical education curriculum touches the lives of many young people. It has been estimated that over 70 million young athletes around the world participate annually in organized youth sport (Petlichkoff, 1993). A comprehensive cross-cultural examination of youth sport in 20 countries revealed that over half of the youth in their early teens participated in organized youth sport (De Knop, Engström, & Skirstad, 1996). Furthermore, organized sport was found to be the most popular leisure-time activity among youth. In Canada alone over four million children participate annually in organized youth sport programs (Sport Canada, 1994).

The consensus on youth sport is that it can have a significant impact on the psychosocial and physical development of youth (Cahill & Pearl, 1993; Magill, Ash, & Smoll, 1982; Siegenthaler & Gonzalez, 1997). However, sport itself is not inherently positive or negative. The impact involvement in sport has on a child's development is primarily a function of the youth sport

coach (Boyd, Trudel, & Donohue, 1997; Leblanc & Dickson, 1997; Martens, 1993; Orlick & Botterill, 1975). Youth sport has been likened to a double-edged sword. The level of enjoyment experienced by the athletes is dependent on the direction it is swung. It is the coach who yields the most control of the sword swing: “Whether the child does have an early positive exposure to sports and physical activities is largely dependent upon minor league coaches, who collectively come into contact with millions of children” (Orlick & Botterill, p. 7).

Role of the Coach

Children often receive their first exposure to sport through community-based organized sport. They typically spend considerably more time per week in these non-school-based programs than they do in their school physical education classes (Gould, 1981). For this reason, youth sport coaches are often considered to have significantly more impact on youth development than teachers (Leblanc & Dickson, 1997). In addition, children typically begin their involvement in organized sport when they are in the formative years of their personal development (De Knop, Engström et al., 1996; Smith & Smoll, 1990). For example, in most countries, 50% of youth sport participants start their involvement in sport by age eight or younger and continue well into their teenage years (De Knop, Engström et al.). Some of the learning outcomes that can result from participation in organized youth sport include an appreciation for a healthy lifestyle, a positive self-image, teamwork, social skills and respect for others (Evans & Roberts, 1987; Leblanc & Dickson; Siegenthaler & Gonzalez, 1997; Weiss, 1993). For example, in a review of the literature on peer relations among children it was concluded that youth who developed physical competence in sport experienced higher levels of social success than their less physically competent peers (Evans & Roberts). Furthermore, youth

sport involvement has long been considered an important 'character builder' for adolescents and young children (Bernard, 1998; Coakley, 1993).

Youth sport coaches serve as significant role models and can exert a strong influence on athletes' values and attitudes (Orlick & Botterill, 1975; Smith, Smoll, & Curtis, 1979; Weiss & Gould, 1986). An athlete's degree of enjoyment and desire to continue involvement in youth sport is largely determined by the youth sport coach (Petlichkoff, 1993; Scanlan & Lewthwaite, 1986; Smith & Smoll, 1990). Research has shown that coaches' verbal behaviors can influence athletes' feelings of self-worth and desire for future participation (Boyd et al., 1997; Horn, 1986; Smith et al.). For example, Scanlan and Lewthwaite's examination of 76 male youth competitive wrestlers found a significant relationship between positive adult involvement and level of enjoyment in the sport experience. Furthermore, the early sport experience goes a long way to determining future participation in sport. When a child experiences a positive early involvement it serves as a 'hook' and fosters continued pursuit of physical activities (Bloom, 1985; Orlick & Botterill).

The potential impact of organized sport participation on youths' physical development has also been noted. Although sometimes difficult to illustrate causation because of normal growth and maturation of youth (Bar-Or, 1993), research has repeatedly shown that young athletes are more physically fit than non-athletes (Blimkie, 1993; Malina, 1982).

While participation in youth sport can be a positive experience for youth, it can also be an extremely negative one that leaves an individual emotionally or physically scarred for life. There are far too many examples of incompetent or ill-intentioned youth sport coaches who contribute to high dropout rates in youth sport (Martens, 1978; Orlick & Botterill, 1975; Siegenthaler & Gonzalez, 1997). One study in Australia, for example, found that one-third of all youth sport

participants quit organized sport because of poor coaching (Oldenhove, 1996). Also, under inappropriate guidance the potential physical benefits of sport can easily turn into serious negative consequences. There is always the risk of physical injury in youth sport, ranging from minor sprains and contusions to very serious injuries leading to stunted growth, paralysis or even death (Bernard, Trudel, Marcotte, & Boileau, 1993; Blimkie, 1993; Malina, 1982).

To summarize, participation in organized youth sport can have a tremendous positive influence on youth development or serious negative consequences. The key to a successful and safe experience in youth sport is the coach: "Coaches are enormously influential in determining if children's sport experiences are positive or negative" (Martens, 1993, p. 17).

The role played by the youth sport coach, therefore, is critical. However, this role is also complex and multidimensional. Gummerson (1992) identified at least 12 possible roles for youth sport coaches: instructor, teacher, trainer, motivator, disciplinarian, social worker, friend, scientist, student, manager, administrator and publicity fundraiser. Nevertheless, it is generally regarded that the primary responsibility of the youth sport coach is to promote athletes' personal growth and development and physical competence in a fun and positive environment (Martens, 1997; Smith & Smoll, 1997; Woodman, 1993). Unfortunately, many youth sport coaches tend to place more emphasis on winning than personal development or fun (Chaumeton & Duda, 1988; Martens, 1978; Siegenthaler & Gonzalez, 1997; Wilcox & Trudel, 1998).

To accomplish their various roles, youth sport coaches are expected to understand and use an increasingly complex and specialized body of knowledge. The knowledge base in coaching can be divided into two large domains of knowledge: sport specific knowledge and general coaching knowledge (Abraham & Collins, 1998). Sport specific knowledge relates to the techniques, tactics and strategies of a particular sport. It is also considered declarative knowledge

that is easily verbalized and has been explicitly defined (Saury & Durand, 1998). General coaching knowledge refers to “the knowledge required to set up optimal learning environments” (Abraham & Collins, p. 68). Much of the general coaching knowledge is considered implicit; a type of procedural knowledge comprising habits and routines based on experience. These two domains of knowledge for coaching comprise information from a wide array of disciplines such as anatomy, biomechanics, pedagogy, physiology, nutrition, and sport psychology (Campbell, 1993; Coaching Association of Canada [CAC], 1989a; Martens, 1997).

The extensive knowledge base required for competent coaching is obvious. The reality, however, of the youth sport environment is that most coaches are volunteers and have sparse or no formal training (CAC, 1996b; De Knop, Engström et al., 1996). Although comprehensive coach education programs are now available, certification is not mandatory in most countries (Campbell, 1993; De Knop, Engström et al.). Individuals usually assume the role of the coach because their son or daughter is on the team and there is a need for a coach. Because most coaches' involvement is linked to their children's participation, there is also a high turnover rate with the average coach only lasting five years or less (Gould & Martens, 1979; Spallanzani, 1988; Weiss & Sisley, 1984). As a result, virtually anyone can assume the role of a youth sport coach: “Entry into coaching at the community level is not difficult – you simply put on a track suit!” (Campbell, p. 71). The gap between expected competencies and the profile of the typical youth sport coach has long been considered one of the major challenges in youth sports (De Knop, Vanreusel, Theeboom & Wittock, 1996; Martens, 1978; Weiss & Hayashi, 1996).

Coach Education Programs

In an historical review of youth sport in the United States up to 1980, Seefeldt (1982) predicted that coach education programs would proliferate to transmit the wealth of knowledge

need for coaching. Seefeldt's prediction was accurate not only for the United States but also for most developed countries around the world. Comprehensive coach education programs have been implemented worldwide to help youth coaches develop coaching competencies (Campbell, 1993; De Knop, Engström et al., 1996). However, there is no agreed upon format for coach education programs between countries, or even within countries in some cases. For example, in the United States there are at least five different broad-based national coach education programs and numerous other regional programs (Sawyer, 1992).

Nevertheless, there are some common features among the coach education programs that have been established around the world. Most programs, including Canada's National Coaching Certification Program [NCCP], have adopted a five tiered system of coaching certification. Levels 1 and 2 are brief introductory courses aimed at the novice youth sport coach. Levels 3, 4 and 5 are much more comprehensive and typically cater to Provincial, National or Olympic coaches (Campbell, 1993). Level 1 is generally completed on one weekend and lasts 8-14 hours, and at each subsequent level of certification the time and competency demands are increased. For example, the duration of a Level 2 course ranges from 20-40 hours and a Level 3 course may last over 100 hours (Campbell). Each level generally comprises three components: general coaching knowledge, sport specific content knowledge and coaching practice. The general coaching knowledge component relates to the principles of coaching regarding such topics as pedagogy, ethics and athlete management. Sport specific content knowledge refers to the techniques, tactics and strategies of a sport. Lastly, coaching practice is direct practical experience in the field, sometimes under the supervision of a coaching instructor.

Large-scale coach education programs have only emerged in the last 20 years, and therefore, are still in the formative stage of development. Most of the programs that attempt to train a large

number of coaches in different sports have not been subject to comprehensive evaluations. Instead, most of the research that has examined the efficacy of coach training has focused on small-scale intervention strategies that are generally presented to coaches in a controlled research context. These types of studies have concluded that specific coach training programs can result in positive behavior modification of youth sport coaches. Some examples include improved time management resulting in increased motor engagement time (Boudreau & Tousignant, 1991; Brunelle, Spallanzani, Tousignant, Martel, & Gagnon, 1989; Trudel, 1987) and positive changes in coaching behaviors (Mancini, Clark, & Wuest, 1987; Rushall & Smith, 1979; Smith et al., 1979). The effectiveness of large-scale coach education programs, however, remains to be determined (Douge & Hastie, 1993; Gilbert & Trudel, 1999a; Siedentop, 1990; Woodman, 1993). For example, in a recent European study it was concluded that large-scale coach education programs were ineffective in fostering the development of desirable (i.e., humanistic) coaching behaviors in youth sport coaches (Liukkonen, Laakso, & Telama, 1996).

Lastly, even though there has been an increase in the number of coach education programs, these short duration courses are a sharp contrast to other fields where practitioners must complete years of professional training. Teachers, for example, must first complete a university undergraduate degree and field experiences before receiving certification. Even this extensive period of professional development has been considered inadequate to allow teachers to learn the knowledge for teaching (Shulman, 1987).

Indeed, properly understood, the actual and potential sources for a knowledge base are so plentiful that our question should not be, Is there really much one needs to know in order to teach? Rather, it should express our wonder at how the extensive knowledge of teaching can be learned at all during the brief period allotted to teacher preparation. (p. 7)

Regardless of the time frame - a few weekends or many years - educational training programs in general have been criticized because of the apparent gap between theory and practice (Argyris & Schön 1974; Lave, 1988; Schön, 1983). Coach education programs are not exempt from this criticism. For example, it has been noted that the needs and wants of youth sport coaches are often neglected in the design of these programs (Douge & Hastie, 1993; Haslam, 1990; Houseworth, Davis, & Dobbs, 1990). For example, Gilbert and Trudel (1999a) recently proposed a comprehensive strategy that can be applied to evaluate large-scale coach education programs. Based on their testing of the evaluation strategy with a youth hockey coach who completed a Level 2 theory course in Canada's NCCP, the authors found that the course had minimal impact on the coach once he returned to the field. One of the main reasons for the low transfer of knowledge to the field was the gap between the course content and the youth sport context. The reality of the youth sport environment precluded the coach from using all the concepts from the training course. The coach revealed numerous contextual factors such as the level of competition, athlete characteristics, and socioeconomic conditions that restricted his ability to apply the sport science knowledge from the course. Their study supports the claim that large-scale coach education program design may be inappropriate for the typical youth sport coach.

To summarize, the typical youth sport coach is expected to develop knowledge of numerous disciplines. Yet, he or she is usually a volunteer who typically receives sparse formal training through coach education programs that have been considered suspect on at least some accounts. Despite this situation, some youth sport coaches develop extensive repertoires of coaching strategies. The obvious question that arises is - How do these youth sport coaches learn to coach? No research has focused specifically on answering this important question.

The Development of Knowledge for Coaching

An examination of the coaching literature does, however, reveal some insight into how coaches develop knowledge for coaching. Coaches repeatedly cite direct experience as a coach as the primary source of their knowledge (CAC, 1996a; Gould, Giannini, Krane, & Hodge, 1990; Salmela, 1996; Saury & Durand, 1998). For example, Gould and colleagues surveyed 130 coaches in the United States and found that “one of the most important themes arising from the findings was the importance of experiential knowledge and informal education in the development of an elite coach” (p. 34). Similar results were found in a recent survey of 641 amateur coaches by the Coaching Association of Canada (CAC). When asked questions about how they acquired coaching knowledge and skills the number one response was experience as a coach. Experience as an athlete and watching other coaches were also cited as important sources of coaching knowledge. Bloom, Durand-Bush and Salmela (1997) interviewed 21 expert coaches and found that the coaches developed effective pre- and post-competition routines through experience. Lastly, some elite coaches appear to engage in post-season reflection, particularly on unsuccessful seasons, to develop coaching strategies (Schinke, Draper, & Salmela, 1997). However, because of the methodology used in these studies, the results provide only limited understanding of how youth sport coaches develop knowledge for coaching. Most of these studies were conducted with elite level coaches (e.g., Collegiate, National or Olympic level coaches) and they relied on retrospective interview or questionnaire data. Furthermore, none of these studies was designed specifically to focus in-depth on the question of how coaches learn.

The little that we know about how youth sport coaches develop coaching knowledge is based on anecdotal reports. These reports suggest that coaching experience and observation of other coaches are the primary sources of knowledge for coaching (Gonçalves, 1996;

Gummerson, 1992; Smoll & Smith, 1981). Although it is suggested that youth sport coaches develop most of their knowledge for coaching through experience, the process of how this experience is transformed into knowledge for coaching has not been explored. Furthermore, the simple accumulation of experience does not guarantee coaching competence (Bell, 1997; Douge & Hastie, 1993).

It would be a relief to believe that one need only spend a certain amount of time teaching or coaching, and the lessons learned in the experience would elevate one to the next level of expertise. Unfortunately, that is not the case. To become better skilled at one's professional practice, a novice teacher or coach needs to do more than simply spend time on the job.

(Bell, 1997, p. 35)

In summary, youth sport coaches require knowledge from a diverse range of disciplines, receive sparse formal training, and reportedly learn most of the knowledge needed for coaching through experience as a coach. However, the process of how knowledge for coaching is developed through experience has yet to be examined. It has been proposed, yet never supported through empirical investigation, that coaches transform experience into knowledge through a process of reflecting on their experiences (Martens, 1997).

Some coaches have 20 years of experience, but have learned little because they do not think about and adjust their experiences. Other coaches may have only a few months of experience, but learn much quickly and adjust to successful and unsuccessful coaching practices. (Martens, p. x)

Research Purpose

The important role played by youth sport coaches, and our limited comprehension of how coaches develop competence, clearly warrants the need for an in-depth empirical investigation

into the process of how knowledge for coaching is formed through experience (Gilbert & Trudel, 1999b). The purpose of the present study is to describe the process of how youth team sport coaches develop knowledge for coaching through coaching experience. The results of this research will help coach education program designers and youth sport directors structure learning environments that foster the professional development of youth sport coaches (Gilbert & Trudel). More knowledgeable and competent coaches will in turn help to create a more positive experience for the millions of youth sport participants. As well as the practical applications of the present study, the results will provide insight into the experiential learning process of volunteer practitioners. Although numerous experiential learning theories exist, none have focused specifically on youth sport coaches or volunteer practitioners.

Chapter 2

Conceptual Framework

Learning can be viewed as a process or a product. The focus of the present study is on learning as a process, and as such “learning as a process (rather than an end product) focuses on what happens when the learning takes place. Explanations of *what happens* are called learning theories” (Merriam & Caffarella, 1991, p. 124-125). Learning theories are valuable because they provide a conceptual framework and terminology for comprehending examples of learning (Merriam & Caffarella). Theories of learning, and their respective epistemological foundations, are both abundant and diverse. The human learning process has puzzled researchers and philosophers for centuries. An attempt to understand how we make sense of the world around us, and how we develop knowledge, is a fundamental human endeavor. The amount of inquiry on the topic of human learning is overwhelming, yet we appear to know so little about this basic human process.

Learning, so central to human behavior yet so elusive to understanding, has fascinated thinkers as far back as Plato and Aristotle. Indeed, the views of these two men underpin much modern-day research on learning conducted by psychologists and educators. The fact that so many people have thought about, investigated, and written about the process of learning over the years suggests the complexity of the topic. Learning defies easy definition and theorizing. (Merriam & Caffarella, p. 123)

Because the purpose of the present study was to explore how coaches learn through experience, experiential learning theories that have had a prominent influence on educational research and practice were reviewed (Argyris, 1982; Argyris, Putman, & Smith, 1985; Dewey,

1938/1963; Jarvis, 1987; Kolb, 1984; Lave, 1988; Lave & Wenger, 1991; Schön, 1983).

Particular emphasis was placed on those experienced-based learning theories that focused on how practitioners transform on-the-job experience into knowledge for practice (Argyris; Argyris et al.; Lave & Wenger; Schön). The intent was not to test a particular learning theory, but rather to develop theoretical sensitivity to the appropriate literature. From this point, an informed decision could be made for selecting a theory to use as a conceptual guide, or a starting point, for data collection and data analysis. The use of a theory to inform the research design and develop a heightened awareness of the phenomenon is a common practice in qualitative research, although the emphasis and placement of the theory will vary depending on the qualitative perspective that is assumed (Creswell, 1998; Morse, 1994).

Schön's (1983; 1987) experiential learning theory was selected as the most appropriate to use as a conceptual guide. Schön developed an influential theory to explain how model practitioners develop knowledge through experience in professional activity. Schön's theory is based on case studies of professionals in six domains: (a) architecture, (b) psychotherapy, (c) engineering, (d) scientific research, (e) town planning, and (f) business management. His work has also received a great deal of attention in education, resulting in special journal issues (e.g., Journal of Curriculum and Supervision, 5(1), 1989), several books of case studies and discussion (e.g., Grimmett & Erickson, 1988; Schön, 1991), and entire conferences based on the application of his work to teaching (e.g., Paré, 1995). Schön's theory of experiential learning provides a particularly insightful frame of reference for the examination of how coaches develop knowledge for coaching, because of its emphasis on the development of knowledge used by practitioners in the context of professional activity (Gilbert & Trudel, 1999b).

The Crisis of Professional Training Programs

Schön's (1983; 1987) disillusionment with the traditional, dualist view of learning and knowledge was the impetus for his research. This traditional view, based on information processing theories of learning, has strongly influenced educational programming (Argyris & Schön, 1974; Schön, 1983). Information processing theories of learning are considered the traditional, empiricist, dualist approach to examining the learning process. Context is de-emphasized and the focus is on basic mental processes that are assumed to underlie the learning process (Lave & Wenger, 1991; Norman, 1993; Packer & Winne, 1995; Sfard, 1998). From an information processing approach, "knowledge is understood as consisting of objects detached from the world and located in the mind. Knowledge that is objective in this sense should be available for use in any situation" (St. Julien, 1997, p. 262). Learning is considered purely cerebral, and involves processes of knowledge transfer and assimilation. Furthermore, learning is considered a process of acquisition of knowledge which is viewed as a self-sustained entity, and learners are viewed as containers to be filled with knowledge (Sfard). It is believed that educational programs in which knowledge is transmitted to learners out of context, have in turn contributed to a widening gap between theory and practice (Argyris & Schön; Schön).

Technical Rationality Model

Schön (1983) labeled educational programs based on the traditional view of learning as the technical rationality model. The model of technical rationality rests on the epistemological assumption that scientific principles can be applied to everyday practice. In turn, these scientific principles are 'learned' out of context in professional education programs. This model forces a division between research and practice in which research is viewed as the most valuable and rigorous source of professional knowledge. Researchers are given the responsibility for

developing theories and basic scientific principles derived from the everyday dilemmas of practitioners. A hierarchical relation exists among the different types of professional knowledge, arranged in descending order from basic science, applied science, to practical knowledge used in everyday practice.

It is argued that educational programs based on the technical rationality model do not prepare professionals for the everyday challenges of professional practice (Argyris & Schön, 1974; Schön, 1983). Schön (1983; 1987) contended that attempts by professionals to apply scientific principles to most dilemmas of practice are ineffective. Based on this realization, professionals have increasingly questioned the model of technical rationality for its lack of ecological validity. This 'crisis of confidence' is the result of professionals expressing "a growing perception that researchers, who are supposed to feed the professional schools with useful knowledge, have less and less to say that practitioners find useful" (Schön, 1987, p. 10).

The Dilemma of Rigor versus Relevance

Professionals are forced to struggle with the espoused theories and knowledge delivered in their professional preparation programs and the actual dilemmas of their everyday practice that seem to require a different type of knowledge. Certain types of practice dilemmas may respond to the application of scientific principles, but Schön (1983) claimed that these types of dilemmas do not constitute the heart of professional practice. Instead, the real challenges, or dilemmas, that professionals encounter on a daily basis require a different type of professional knowledge, often referred to as practical professional knowledge. Yet it is this very type of knowledge that is devalued in the professional preparation programs for its subjectivity and lack of rigor. Therefore, this creates the dilemma of rigor (scientifically derived principles considered valid

and rigorous) versus relevance (personal practical knowledge developed in the field that is used to resolve actual challenges of practice).

In the varied topography of professional practice, there is a high, hard ground overlooking a swamp. On the high ground, manageable problems lend themselves to solution through the application of research-based theory and technique. In the swampy lowland, messy, confusing problems defy technical solution. The irony of this situation is that the problems of the high ground tend to be relatively unimportant to individuals or society at large, however great their technical interest may be, while in the swamp lie the problems of greatest human concern. (Schön, 1987, p. 3)

The low swampy ground of professional practice is also referred to as the indeterminate zone of practice (Schön, 1983; 1987). Schön's division of professional activity into a high hard ground and indeterminate zones of practice is congruent with other descriptions of the dilemmas of professional practice (e.g., Argyris, 1982; Argyris et al, 1985). The dilemmas of professional practice can also be divided into single-loop and double-loop problems. The single-loop problems are the everyday, routine issues that typically require unilateral and rapid action responses. Time and context restraints often do not permit reflection in single-loop problem solving. Although learning can occur as a result of addressing single-loop problems, deeper learning results from addressing double-loop problems. Double-loop problems are the non-routine, challenging dilemmas of professional activity that allow practitioners to critically examine their underlying assumptions and frames. Schön (1983) found that when model practitioners were asked to explain the process used to resolve these double-loop types of problems, they failed to speak of technical solutions or rigorously applying basic principles. Instead, "they speak of experience, trial and error, intuition, and muddling through" (p. 43).

A similar situation is evident in the coaching domain. It has recently been argued that much of the coach education program curriculum is irrelevant for coaches in the field, both at the elite sport and the youth sport levels (Abraham & Collins, 1998; Gilbert & Trudel, 1999a). Coach education programs are largely based on the technical rationality model. They have been designed from a top-down approach based on information processing theories of learning. Scientifically derived coaching knowledge is packaged into modules and transmitted in a classroom environment to coaches from a diverse range of sports and contexts. Abraham and Collins are extremely critical of this approach to coach education program design; “despite the considerable research base [in coaching] that exists, there is little or no evidence for the systematic application of this literature to the development of coaching expertise outside the rarified atmosphere of academe” (p. 60). This critique of coach education is further supported by empirical evidence from a recent study with a youth ice hockey coach who completed a Level 2 coaching course in Canada (Gilbert & Trudel). It was revealed that most of the course material was inappropriate for the reality of the youth sport context. The coach indicated after the course that although he found the course material to be of interest to him as a coach, it was impossible to apply all of the course concepts because of the context in which he coached.

Schön’s Experienced-based Learning Theory

Epistemological Assumptions

Six assumptions underlie an experienced-based learning theory perspective: (a) learning is best conceived as a process, not in terms of outcomes, (b) learning is a continuous process grounded in experience, (c) the process of learning requires the resolution of conflicts, (d) learning is an holistic process of adaptation to the world, (e) learning involves transactions between the person and the environment, and (f) learning is the process of creating knowledge

(Kolb, 1984). Experienced-based learning theory is closely aligned with the epistemological foundations of situated cognition. As opposed to the epistemological assumptions of information processing, situated cognition affords primary emphasis to the experience and context in which learning occurs (Lave & Wenger, 1991). All cognitive processes are fundamentally embedded in the context and activity (Packer & Winne, 1995). Information processing is considered 'the culture of acquisition' and situated cognition is described as 'understanding in practice' (Lave, 1997).

Theorists from a situated cognition approach claim that information processing theories don't apply to the 'real-world' context or genuine activity and conclude that traditional school-based transmission of knowledge at best "can only induce a new and exotic kind of practice contextually bound to the 'educational' setting" (Lave, 1997, p. 33). Observation and experimentation in authentic practice dilemmas are key processes in the situated cognition view of learning (Brown, Collins, & Duguid, 1989). In summary, experienced-based learning theory assumes a view of learning as knowledge construction through personal experience in genuine and meaningful activities. This differentiates experienced-based learning theory from the information processing approach that assumes learning can occur out of context and then be transferred to everyday activity.

Contributions of John Dewey

The origin of experienced-based learning theories is often attributed to the writings of the American philosopher John Dewey. Dewey (1910; 1938/1963) extolled a philosophy of progressive education for the school environment, particularly the elementary school level. It was a philosophy concerned with creating a democratic social arrangement in education; a more humane and enjoyable experience for learners in which personal freedom and meaningful

experience are valued. He believed that all genuine education was a result of personal experiences, “that there is an intimate and necessary relation between the processes of actual experience and education” (Dewey, 1938/63, p. 20).

Dewey’s (1910; 1938/63) philosophical writings were borne out of a personal concern with deficiencies in the traditional education system of the United States in the late 19th century. Students were expected to remain silent and stationary to absorb subject-matter knowledge transmitted by the teacher (Archambault, 1964; Handlin, 1959). This traditional view held that students were devoid of subject-matter knowledge until they received the knowledge from a teacher. Knowledge was used as ‘educational food’ and considered static and passed on to eager students, “learning here means acquisition of what already is incorporated in books and in the heads of the elders” (Dewey, 1938/63, p. 19). Dewey’s disillusionment with the structure of elementary school was similar to Schön’s (1983) concern with professional education programs. Both authors were critical of the traditional models of education dominant at the time of their writing.

Although personal experience is central to Dewey’s (1910; 1938/63) philosophy, he realized that not all experience is educative. He conceded that indeed all students have personal experiences in school, yet it is often the wrong types of experience. Two aspects that determine the quality of an educational experience for the learner are the level of enjoyment derived from the experience and its influence on future experiences. The latter was considered the principle of continuity of experience, or the experiential continuum. The principle of the experiential continuum is an “attempt to discriminate between experiences that are worth while educationally and those that are not” (Dewey, 1938/63, p. 33).

Reflection

At the heart of all experienced-based learning theories is the process of reflective thought (Dewey, 1938/63; Jarvis, 1987; Kolb, 1984; Schön, 1983). Reflection is the process that mediates experience and knowledge. Without reflection, experiences remain isolated, disconnected events. The learner must make important connections between the experience and prior experiences. Dewey referred to this as 'connectedness in growth.' There is no intellectual growth unless these links are established through reflecting on experience.

Reflection, as described by Schön (1983), is the cognitive process of reflecting-in and on-action while engaged in genuine activity. It is a dialectic process of thought and action not to be confused with random trial and error (Kruse, 1997). The reflective process is a series of deliberate moves with the objective of improving a dilemma of practice; it is action oriented. Schön concluded that the way practitioners solve challenging problems and learn through experience is a process "whose underlying structure is the same: a reflective conversation with a unique and uncertain situation" (p. 130). Furthermore, knowledge construction is a process of critical reflection-in and on-action that is dependent on uncertainty and dilemmas. If a practitioner's decision leads to the anticipated result, there is no need to critically reflect on underlying theories of action. In contrast, when a decision or action leads to an unexpected outcome, this stimulates (in some practitioners) a process of critical inquiry. When a move fails to do what is intended and produces consequences considered on the whole to be undesirable, the inquirer surfaces the theory implicit in the move, criticizes it, restructures it, and tests the new theory by inventing a move consistent with it. The learning sequence, initiated by the negation of a move, terminates when new theory leads to a new move which is affirmed (Schön). Reflecting-

in and on-practice dilemmas is the greatest source of practical professional knowledge (O’Gorman, 1989).

Schön (1983; 1987) was not the first theorist to propose reflection as the process used to transform experience into knowledge. In fact, Dewey (1910) preceded him by many decades. The concept of reflection was introduced by Dewey, and is considered central to the process of learning from personal experience, yet it is reflection divorced from activity. He stressed the importance of taking time to ‘stop and think.’ For Dewey (1938/63), reflection and thus thinking, “is a postponement of immediate action, while it effects internal control of impulse through a union of observation and memory, this union being the heart of reflection” (p. 64). Reflecting on personal experiences is critical to form new judgments and action strategies. This requires learners to have opportunities to work through real-world practical problems or situations. The process of reflective thought requires clarification of the problem and development and testing of hypotheses by overt or imaginative action.

Schön (1983; 1987) makes a special contribution to experienced-based learning theories by focusing on the reflection that occurs in the course of action, referred to as reflection-in-action. Reflection-in-action is a tacit process of logical trial-and-error, on-the-spot improvisation, comprised of a sequence of intuitive actions and moments of reflection-on-action. It includes the process of thinking about one’s actions while in the midst of practice. Reflection-in-action is bound by the temporal boundaries of the practice dilemma, also referred to as the action-present, “what distinguishes reflection-in-action from other kinds of reflection is its immediate significance for action” (Schön, 1983, p. 29). It is also described as the process in which practice dilemmas are reframed, or how a practitioner “sees a professional puzzle differently” (Munby &

Russell, 1989, p. 77). It includes a cognitive and a behavioral component and contributes to the development of practical professional knowledge.

Reflection-in-action is different from reflection-on-action as described by Schön (1983; 1987). Reflection-on-action is the process of thinking about one's thinking or actions in the course of action, a form of metacognition characterized as a 'stop-and-think' type of reflection (Schön, 1987). It is described as "reflective thinking *about* an action as it transpires. This can be described as a metacognitive activity" (Munby & Russell, 1989, p. 77). Like reflection-in-action, reflection-on-action is also bound by the temporal boundaries of the practice dilemma. The critical difference between reflection-in and reflection-on-action is that the latter is a conscious process and the former is tacit and inseparable from doing.

To summarize the discussion on reflection, two types of reflection are evident in the literature: (a) reflection-in-action, and (b) reflection-on-action. It has been nearly a century since Dewey (1910) proposed reflection as the process used to transform experience into knowledge. Schön's (1983) unique contribution to the literature on reflection is his accentuation on reflection-in-action. This emphasis is the distinguishing feature of Schön's theory of reflective practice (Grimmett, 1989).

Major Themes in Schön's Theory of Reflective Practice

For Schön (1983; 1987), professional growth through experience is accomplished through a process of reflecting-in and on-practice dilemmas, referred to as a reflective conversation. As well as reflection, four other themes are central to Schön's theory: (a) role frames, (b) problem setting, (c) experiments, and (d) professional repertoires. A graphical representation of the reflective process is shown in Figure 1. This display was prepared based on the researcher's

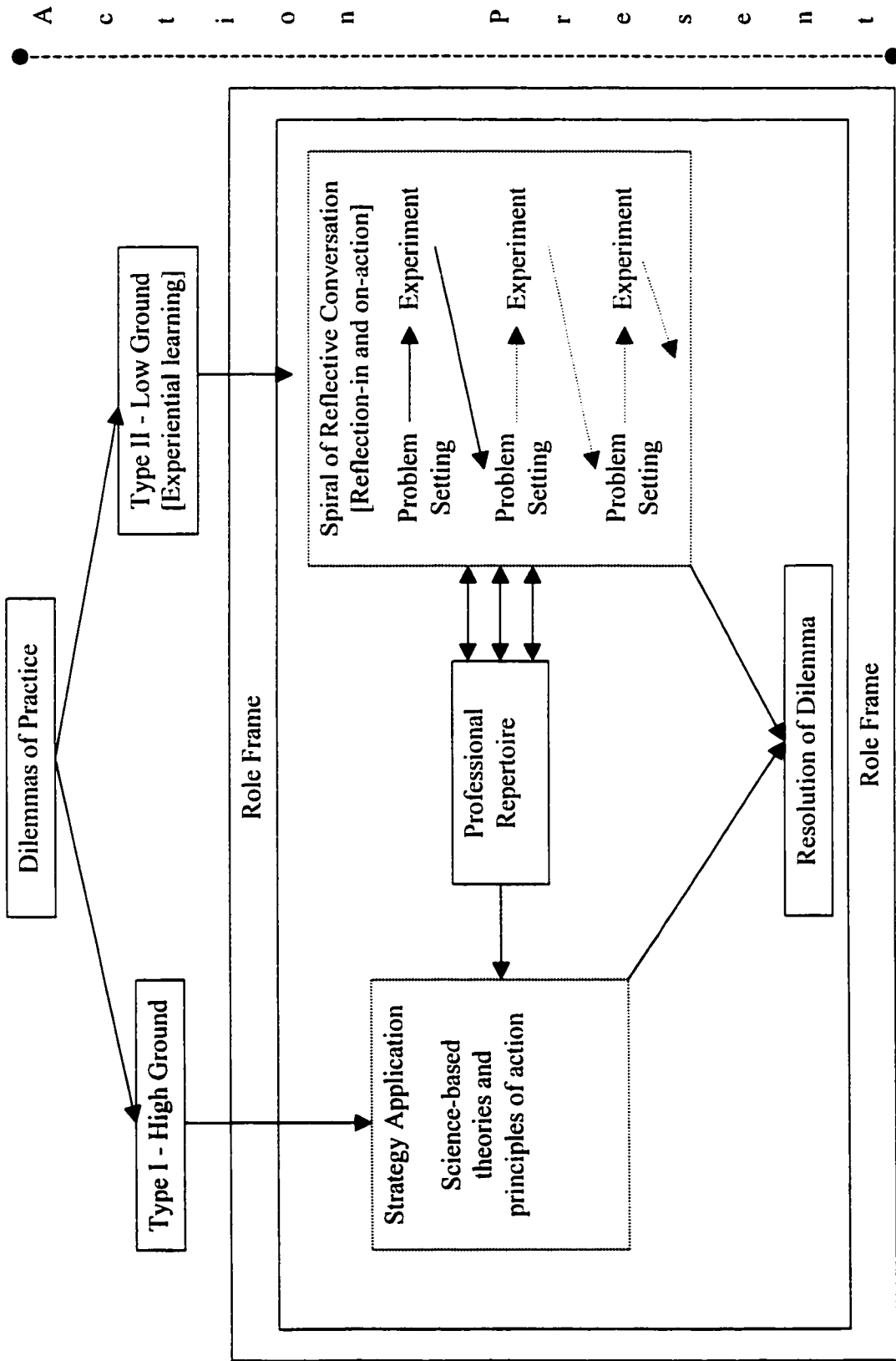


Figure 1. Adaptation of Schön's (1983) Theory of Reflective Practice

interpretation of Schön's texts as no such graphical depiction could be found in Schön's own work or reviews of his work (D.A. Schön, personal communication, November 16, 1997). The way a practitioner views his or her professional role is referred to as role framing. Role frames guide practitioners' practice and direct their attention to certain types of dilemmas and strategies. Dilemmas of practice are then organized through a process of problem setting. A practitioner's repertoire is the source of ideas and action strategies that are the basis of experiments.

Experiments are continually evaluated, referred to as listening to back-talk, which in turn informs further problem setting. Either the problem is resolved or reset in another way that permits the continuation of a reflective conversation. Depending on the degree of challenge posed by the dilemma, the practitioner may engage in numerous iterations of the reflective cycle. Each cycle is referred to as a local experiment, and a series of local experiments is referred to as a global experiment. Schön (1983) described the reflective process as a repeating spiral of appreciation (problem setting), action (experimenting), and reappreciation (problem setting) until a satisfactory outcome is produced.

The pace and duration of the reflective process will vary with the pace and duration of the situation (Schön, 1983). The episodes are bound by "the zone of time in which action can still make a difference to the situation" (p. 62). Schön refers to this temporal zone as the action-present, which can range from a few seconds (athletic performance) to several months (legal casework). After completion of the episode, time is taken to reflect-on the decision and the outcome. The combination of reflection-in-action and reflection-on-action is characteristic of how model practitioners develop practical professional knowledge, or professional repertoires. In the proceeding sections, each of the four themes central to Schön's theory of reflective practice is reviewed in more detail.

Role Frames

Schön (1983) found that reflective practitioners engage in a process of framing their roles. Regardless of whether frames are considered psychological constructs (Tversky & Kahneman, 1981) or social constructs (Goffman, 1974), the common feature of role frames is they are used by individuals to interpret situations. Bateson's (1972) analogy of a picture frame illustrates the idea of delimiting certain features of a situation based on an individual's frame of reference. The picture frame analogy is a useful one to interpret Schön's use of the term frame when discussing how practitioners frame their role. Schön defines role framing as "the ways in which they [practitioners] *construct* the reality in which they function" (p. 310).

Within any profession, each practitioner may frame his or her role differently. For example, in youth sport coaching, some coaches may see themselves as principally responsible for the social and moral development of youth, whereas other coaches may view their primary role as a teacher of sport specific techniques and tactics. For Schön (1983), the way practitioners frame their role determines what information is most salient for them. Differences in role frames help to explain what type of knowledge is viewed as important, and therefore what type of knowledge is constructed. Role frames act as filters through which problems are constructed and strategies are developed.

Role frames are considered relatively stable over time and tend to be self-reinforcing (Schön, 1983). In this regard, role frames can act to severely limit a practitioner's reflection and learning by attending only to those issues that are within his or her role frame. Furthermore, role frames are often tacit, yet developing an awareness of one's role frame is critical to professional growth (Schön). Although role frames are somewhat fixed, Schön also believes that it is possible to modify one's role frame. Unfortunately he does not provide any empirical support for this and

contends that role frames are likely only altered over extended periods of reflecting-in and on-practice.

Problem Setting

A second theme in the reflective process is problem setting. Instead of characterizing practitioners as technical problem solvers who apply standard rules and procedures based on academic theory to resolve everyday dilemmas, Schön argued that problem setting is critical to professional practice. Because the terms problems, dilemmas, and puzzles are used interchangeably throughout Schön's (1983) text, a concise definition of a problem is needed. A problem is defined as "any question or matter involving doubt, uncertainty, or difficulty" (Random House Webster's College Dictionary, 1995, p. 1075). Reflective practitioners reframe (set) problems in a way that allows them to develop a solution. Although practitioners may recognize many familiar aspects in the dilemma, they treat the situation as a unique case. Each situation is compared to the practitioner's repertoire that consists of examples, images, and actions based on past experiences. Therefore, each situation is seen as both familiar and different. This process provides a frame of reference for the practitioner to construct new, or modify existing strategies.

Problem setting addresses the main flaw in the assumptions that underlie the model of technical rationality; namely that practice dilemmas are objective, clear, independent problems for practitioners to solve. Instead, practice dilemmas must be set by the practitioner (Argyris et al., 1985). Schön referred to this process as problem setting, while Argyris and colleagues used the term discovery. Regardless of rhetorical differences, professional practice is regarded as a process of problem setting, not problem solving.

In real-world practice, problems do not present themselves to the practitioner as givens. They must be constructed from the materials of problematic situations which are puzzling, troubling, and uncertain. In order to convert a problematic situation to a problem, a practitioner must do a certain kind of work. He [sic] must make sense of an uncertain situation that initially makes no sense....When we set the problem, we select what we will treat as the 'things' of the situation, we set the boundaries of our attention to it, and we impose upon it a coherence which allows us to say what is wrong and in what directions the situation needs to be changed. Problem setting is a process in which, interactively, we *name* the things to which we will attend and *frame* the context in which we will attend to them. (Schön, 1983, p. 40)

The problem setting process itself is not a technical problem. Problem setting is a subjective process of determining what aspects of a practice dilemma are attended to, or as Schön (1983) described it 'setting the boundaries of attention.' The process of problem setting allows practitioners to organize and distinguish the results that are desired and the means of attaining closure or resolution of the dilemma. The objective in problem setting is to reconstruct the dilemma in such a way that allows the practitioner to address it based on his or her repertoire of professional strategies. Problem setting doesn't provide the solution, but instead clarifies the method of inquiry that should be used to develop or generate a potential solution. Ultimately, successful problem setting is most valuable in nurturing the reflective process by keeping the inquiry moving towards resolution.

Experiments

Once the problem has been set, strategies for addressing the dilemma are subject to experimentation. Experimentation ultimately leads to growth in practical professional

knowledge. Experimentation is a process of hypothesis testing in which hypotheses are generated as possible solutions to the practice dilemma. These hypotheses are then tested on the dilemma for their efficacy. Schön (1983) described hypothesis testing as a game with the situation. A practitioner's moves influence the situation while at the same time the ever-changing situation influences the practitioner's moves. Experimentation is conducted both with new strategies, as well as modifications of existing strategies from the practitioner's repertoire.

In the most general sense, experimenting is defined as the process of taking action to see what will happen (Schön, 1987). Schön identified three kinds of experiments: (a) exploratory, (b) move-testing, and (c) hypothesis testing. Exploratory experiments are conducted without any preconceived expectations or predications. They are undertaken simply to see what will result of taking the action. Move-testing experiments are actions taken with a specific goal or end identified. Lastly, hypothesis testing is a kind of experimentation in which the objective is to discriminate between a series of possible moves, also referred to as action strategies (Argyris et al., 1985). Schön is quick to note that these three kinds of experiments are much easier to differentiate in theory than in practice. Typically in practice all three kinds of experiments are interwoven into the reflective conversation.

As well as different kinds of experiments, Schön (1983; 1987) discussed different experimental contexts. Experiments can be conducted in artificial contexts and in the real world context. Experiments in artificial contexts rely on the creation of virtual worlds. A virtual world is "a constructed representation of the real world of practice" (Schön, 1983, p. 157). Virtual worlds create opportunities for professionals to practice or try out their hypotheses, without risk of the consequences that would accompany failure in real world experimentation. For example, an architect plays with designs on a sketchpad or computer simulation, and engineers use scaled

down models. The practitioner is not bound by time, resources, expenses, or environmental limitations. Virtual world experimentation is not always conducted, but when employed it precedes real world experimentation and serves as a trial run. The value of a virtual world experiment is dependent on its reliability as a graphical representation of the real world. The results of hypothesis testing in a virtual world must be transferable to the real world context. A virtual world, then, is a context “for experiment within which practitioners can suspend or control some of the everyday impediments to rigorous reflection-in-action” (Schön, 1983, p. 162).

In theory, the process of experimenting can proceed indefinitely. However, in actual practice, experimenting is bound by the need to generate a hypothesis that produces an acceptable outcome or resolution of the dilemma. The primary objective in hypothesis testing is action and change. In this sense it differs from experiments conducted under the rubric of basic science where the goal is to develop general theories and increased understanding of phenomenon. Experimenting in the reflective conversation is still considered rigorous, but only if the practitioner remains open to the changing situation. If the practitioner does not acknowledge the ever-changing conditions that result from hypothesis testing, he or she will fall into a self-fulfilling prophecy. The practice dilemma is considered a moving target, that is continually modified based on the influence of the practitioner’s experiments.

Experimentation also includes the process of evaluation. Evaluation is not identified as a distinct stage in the reflective process; rather it is subsumed within the experiment stage. Schön (1983; 1987) referred to evaluation as a process of listening to the ‘back-talk’ from the experiment. This reinforces the dialectical nature of a reflective conversation. After each move,

or experiment, the reflective practitioner will listen to the outcome of the experiment and in turn reset the problem if the result is not satisfactory.

Professional Repertoires

The art of professional practice ultimately hinges on a practitioner's professional repertoire (Schön, 1983). A professional repertoire is described as a compilation of exemplars, facts, rules, categories and descriptions specific to professional practice (Argyris et al., 1985; Schön). A repertoire is a source of ideas with which to experiment. Learning occurs when a practitioner modifies or expands his or her professional repertoire through the process of reflecting-in and on-practice dilemmas. Repertoires are considered somewhat constant in that they don't change often or rapidly. Repertoires are enriched through the reflective dialogue. A repertoire is used to compare and contrast dilemmas with previous experiences, to look for similarities in the situation to facilitate problem setting and experimentation. Any similarity between the new dilemma and previously experienced situations function as metaphors, or precedents. The reflective practitioner will view each new dilemma as similar, yet different, to a previously experienced dilemma. Schön noted that most practitioners are unaware of this process, as it may proceed unconsciously.

Critiques of Schön's Theory of Reflective Practice

Although Schön's (1983; 1987) theory has provided insight into the experiential learning process of practitioners in the context of professional activity, it is not infallible. First, reflection-in-action typically is described as a linear, well-defined process exhibited by model practitioners (Schön, 1983; 1987). However, this has not been found in the education context with teachers. As one example, Kruse (1997) found the teachers in her study often reflected-in and on-numerous issues at the same time: "The cycle (of reflection) suggests that a professional's

thinking follows a linear pattern of thought clearly focused on the solution of a single 'felt difficulty.' Teachers' descriptions of classrooms filled with diverse and concurrent problems suggest otherwise" (p. 56-57).

Second, Schön's (1983; 1987) theory essentially has two stages: problem setting and experimentation. Each stage contains implicit processes that are needed to move between the stages yet they are not clearly described. For example, what is the process used to move from problem setting to experimenting? Although Schön indicated that action strategies are generated from a practitioner's repertoire, there is no explicit stage for this process. In addition, there is no intermediary stage between experimentation and a return to problem setting. Furthermore, Schön discussed evaluation of the experiment as a requisite step but it is condensed within the experimentation process itself. This limitation of Schön's theory is partially addressed by his research colleague Argyris (1982), who completed a similar body of work on the experiential learning process. In the theory developed by Argyris, two separate mediating stages are included; one between problem setting and experimentation and the other between experimentation and a return to problem setting (see Figure 2). Although the terminology used is different, the two theories are similar except that in the Argyris theory, the stages of strategy generation and evaluation of experiments are identified. For Argyris, the reflective learning process starts with discovery of a problem (another term for problem setting) upon which an action strategy is invented. The strategy is then produced (tested or experimented) and then evaluated for its effectiveness on resolving the dilemma.

Third, a key process in the reflective conversation that Schön described is experimentation with hypotheses, or action strategies for resolving practice dilemmas. These strategies are assumed to reside in the practitioner's repertoire and accessed by employing personal theories of

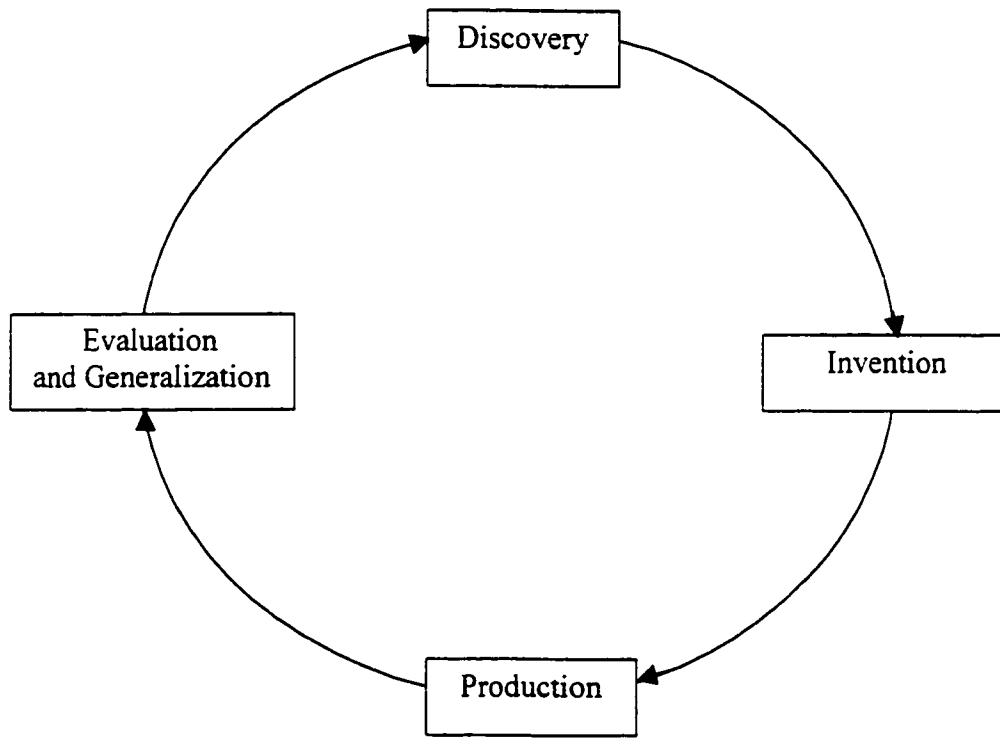


Figure 2. Experiential Learning Process (Argyris, 1982)

action (Schön, 1983). Therefore, a practitioner's repertoire is afforded primary importance as the source of action strategies. This may in fact be the only source of ideas when the action-present is brief and the context is limited. However, when the action-present is longer and the context provides for other sources of ideas, a practitioner may consult numerous sources.

For example, research with adult learners has repeatedly shown that numerous sources of information are consulted in the experiential learning process (Brookfield, 1981; CAC, 1996a; Tough, 1966). Sources other than an individual's repertoire include peers, books and videotapes. Peers in particular appear to serve as a valuable source of information in the experienced-based learning process. In Brookfield's study of 25 adults who achieved a high level of expertise without any formal training, it was found that the most valued source of information was peers, "subjects would mention influential books and magazines but would preface these comments by declaring that their 'real' source of information was their fellow enthusiasts" (p. 21). Furthermore, Tough showed that fellow enthusiasts were not the only type of peers to be consulted. Types of peers consulted in the experiential learning process can vary widely from acquaintances and family members to experts in the field of interest. Therefore, Schön's (1983) theory of reflective practice is limited because he does not fully explore other possible sources for generating action strategies.

A fourth limitation of Schön's (1983, 1987) work is the lack of description of his research methodology. His methods of data collection and analysis have not been made explicit, which makes it difficult for theorists to make informed judgments on the validity of the theory or to attempt to replicate or extend it (Usher, Bryant, & Johnston, 1997). Schön is not considered unique in the experience-based learning literature for omitting a methodological discussion of his work, yet it warrants consideration that he has never explicated his methodology. Furthermore,

Schön has stopped short of explicating the underlying cognitive processes that drive movement between each stage in the reflective cycle (Russell & Munby, 1994). Although Schön provides a fresh perspective on experiential learning and reflection, he did not extend his analysis deep enough to uncover the fundamental cognitive mechanisms of the reflective process.

Lastly, Schön has been criticized for proposing a theory of reflection-in-action that rests on reflexivity as the central concept, yet he does not exhibit reflexivity in his own text (Usher et al., 1997). On the one hand he introduces a theory based on a critique of the traditional model of education and learning in which formal theory is given special standing over practice, yet on the other hand he proposes a formal theory of reflective practice that is intended to serve as a guide for practitioners and educators. He does not address this apparent epistemological contradiction in his work (Usher et al.).

To conclude, because the purpose of the present study was to examine how model youth team sport coaches develop knowledge for coaching through experience, Schön's (1983, 1987) theory of reflective practice provides the most appropriate theoretical framework to use as a conceptual guide (Gilbert & Trudel, 1999). Although other theorists have made significant contributions to experienced-based learning theory (e.g., Argyris et al., 1985; Dewey, 1938/63; Kolb, 1984), the critical difference between them and Schön is found in their respective focal points. For example: Dewey offered a philosophy of experienced-based learning specific to the school context; Kolb proposed a theory of experienced-based learning that applies across the life-span and all contexts, complete with individual learning styles and different modes of experiential learning; and Argyris and colleagues developed a theory of experienced-based learning based on research in organizational settings with an emphasis on the organizational culture, group learning, and reflection-on-action. Schön developed a theory of experienced-based

learning specific to the construction of knowledge for professional practice in the context of professional activity. Furthermore, Schön's theory has been adopted by educational researchers to examine how teachers develop knowledge for teaching (e.g., Geddis & Wood, 1997; Kruse, 1997; Munby, 1987; Schön, 1991), thereby providing a body of literature with which to compare and nest the findings of the present study. In addition, Schön's theory stands apart for its focus on the development of practical professional knowledge in the context of professional activity. In one sense, it could be considered a micro theory of experienced-based learning compared to Dewey's (1938/63) philosophy of experienced-based learning. Furthermore, Schön has made a unique contribution by providing empirical support for Dewey's philosophy. This is considered one of Schön's most significant contributions to experienced-based learning theories.

Schön has made progress by advancing an epistemology on the back of evidence – in this instance the case studies. For this reason we are disposed to consider his work as moving epistemology towards empirically testable theory. In this fashion, we view his account of the epistemology of practice as offering a new level of discourse, one which brings a fresh light to analyses of the relationship between theory and practice. (Munby & Russell, 1989, p. 75)

Lastly, similarities between the context of youth sport coaching and an environment that is conducive to reflective practice provides further justification for using Schön's (1983; 1987) framework. According to Schön (1983), reflective practice is most likely to be found in a practice environment where there is "a high priority on flexible procedures, differentiated responses, qualitative appreciation of complex processes, and decentralized responsibility for judgment and action" (p. 338). Many of these features are evident in the typical youth team sport environment in Canada. For example, there is no curriculum that youth sport coaches must adhere to and they have sparse supervision, or none at all. In essence, youth team sport coaches

in Canada are their own 'boss' and work in isolation and therefore have tremendous freedom in the content they select to teach and in the way they structure training programs for their athletes.

Research Questions

Grand Tour Question

The purpose of the present study was to explore how coaches develop knowledge for coaching through experience. Restated in a grand tour question, the purpose reads: How do youth team sport coaches develop knowledge for coaching through experience? To answer the grand tour question numerous sub-questions, based on a review of the coaching literature and Schön's (1983; 1987) theoretical framework, were also posed. For example, when a coach states that he or she learns a strategy through experience, what does that mean? How is experience transformed into knowledge for coaching? What are the steps, or stages, in the experiential learning process? Furthermore, do youth sport coaches proceed through the experiential learning process alone or do they consult other sources? If other sources are consulted, how, when, and why are they referenced in the experiential learning process?

Regardless of one's learning theory orientation, a theoretical assumption that underlies all learning theories is that challenging experiences provide the impetus for learning, "problems are the stimulus to thinking...[cognitive] growth depends upon the presence of difficulty to be overcome by the exercise of intelligence" (Dewey, 1938/63, p. 79). Therefore, although all types of coaching issues were discussed and reviewed, special attention was afforded to the non-routine, challenging coaching issues. By focusing on coaching issues, several other sub-questions were raised: What types of coaching issues are experienced by youth sport coaches, and; How and why are coaching issues identified?

Lastly, an examination of how coaches frame their approach to coaching was also required. Because role frames constitute boundaries on professional practice and professional knowledge, an explication of a coach's role frame was needed to contextualize the experiential learning process. In addition, no research in coaching has examined how coaches frame their roles. Examples of sub-questions that were posed about coaches' role frames include (a) What are the components of a coach's role frame? and, (b) Do common components exist across coaches?

Chapter 3

Methodology

A qualitative research multiple-case study approach was used to answer the research questions outlined in Chapter 2. Qualitative research has traditionally been defined either from an epistemological paradigmatic approach (e.g., Guba & Lincoln, 1994) or from a methodological tradition approach (e.g., Creswell, 1998). The definition of qualitative research that was used in the present study is one that focuses on methodological traditions. Creswell defines qualitative research as a “process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting” (p. 15). A focus on methodological traditions avoids the inappropriate need to locate oneself in a specific qualitative paradigm (e.g., postpositivism, critical theory, constructivist) and instead allows the researcher to focus on the research strategy, or methodological tradition, used to guide the inquiry.

Although the qualitative term is perhaps more appropriate for describing research methods than research paradigms (Guba & Lincoln, 1994), it is commonly accepted in the research community as a label used to describe alternative approaches to the traditional positivistic research model. Qualitative research is best viewed as a continuum of approaches as opposed to distinct paradigms (Miles & Huberman, 1994). Because of the diversity of epistemological and ontological assumptions within qualitative research, qualitative research means different things to each reader. Therefore, it is important to at least make one’s assumptions about reality and truth explicit. Although there are no clear boundaries between paradigms, my ontological views

most closely align me within a post-positivist approach. I believe that a reality does exist and can be partially explained by theories grounded in everyday practice. However, any theory used to explain a social phenomenon must remain open to revision; unlike positivism where theories are tested and conflicting results (outliers) are often discarded, postpositivist theories must be continually adapted to represent the data. As defined by Schwandt (1997), postpositivism rests on the epistemological assumption that “the best we can do is develop contingent, fallible knowledge claims” (p. 121). This belief system influenced all components of the research design in the present study.

Returning to qualitative research as a methodological tradition, the present study was guided by the case study tradition. Within the case study tradition there also is a diversity of approaches (Creswell, 1998). Yin’s (1994) case study approach was used for the present study. According to Yin, a case study approach is most appropriate when “a ‘how’ or ‘why’ question is being asked about a contemporary set of events, over which the investigator has little or no control” (p. 20). Case studies can be either quantitative or qualitative, and their use will be shaped by the objectives of the researcher and the specific research project. The strength of Yin’s approach to case study is the rigor and comprehensiveness with which it is presented. The case study approach then, as defined by Yin is “an empirical inquiry that: investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (p. 23). A case within a case study approach, like the unit of analysis in quantitative research, is determined by the research question and can therefore represent an individual, a group, an organization, an event or a social process (Schwandt, 1997). For the purpose of the present study, each coach was a case.

The sources of evidence used in the present study included various types of interviews, documents, and observations. During the interviews the coaches were questioned about current coaching issues they set and how they addressed the issues. Statements made by the coaches were triangulated with documents (team, sport association, media) and direct observations of the coaches during games and practices. This type of in-depth case-study approach is advocated as the research design of choice for exploring the experiential learning process (Schön, 1983; Geddis & Wood, 1997). For example, similar qualitative case studies have been conducted in the field of education to uncover how teachers develop professional knowledge for teaching (Geddis & Wood; Grossman, 1989; Munby, 1987; Kruse, 1997). Geddis and Wood concluded that more case studies are needed to provide examples of the complexity of teaching, “teaching practice is both complex and messy and practitioners’ knowledge about it is similarly complex. Case studies such as this one can provide a useful medium for portraying this complexity” (p. 624). This argument is also applicable to coaching because of the similarities between the teaching and coaching processes (Gilbert, Trudel, & Haughian, 1999).

The multiple-case studies were preceded by two focus groups. The focus groups served as a pre-study and were conducted for several reasons. One purpose of the focus groups was to sensitize the researcher to the youth sport coaching context of the local sport associations from which the case studies were later selected. The focus groups were also required because very few studies have documented the coaching issues that youth sport coaches typically encounter (Spallanzani, 1988; Streat, 1995). The focus groups provided a portrait of the types of coaching issues that youth sport coaches address and the coaching strategies used. Furthermore, an analysis of the focus group data directed initial data collection in the case studies. Upon review of the focus group data, the researcher developed a heightened sensitivity to the types of

coaching issues set by coaches in the local sport context. An overview of the procedures used in the present study is provided in Figure 3. To facilitate management and analysis of data, the QSR NUD.IST (Qualitative Solutions and Research Pty Ltd., 1997) qualitative data analysis software program was used throughout the entire data analysis process, both for the focus groups and the case studies.

Focus Groups

Focus Group Sample

Two focus groups were conducted, one with coaches of youth soccer and one with coaches of ice hockey. Each focus group was conducted prior to the beginning of the regular playing season for each sport. Seven coaches participated in the soccer focus group and six coaches participated in the ice hockey focus group. This is consistent with the number of participants (5-12) recommended for effective focus groups (Krueger, 1994). The demographic profiles for the coaches in the soccer and ice hockey focus groups are presented in Table 1 and Table 2 respectively. None of the coaches selected for case studies participated in the focus groups.

To obtain participants for the focus groups an administrator in each of the local sport associations (soccer and ice hockey) was contacted and briefed on the project and the purpose of the focus group. Any coach who was currently coaching a competitive level youth sport team in the respective associations was encouraged to participate in the focus groups. This criteria was respected with the exception of two coaches in the soccer focus group who were coaching a recreational level youth sport team. These two coaches were permitted to participate in the soccer focus group because they both were experienced youth soccer coaches (six years experience each) and they were eager to participate.

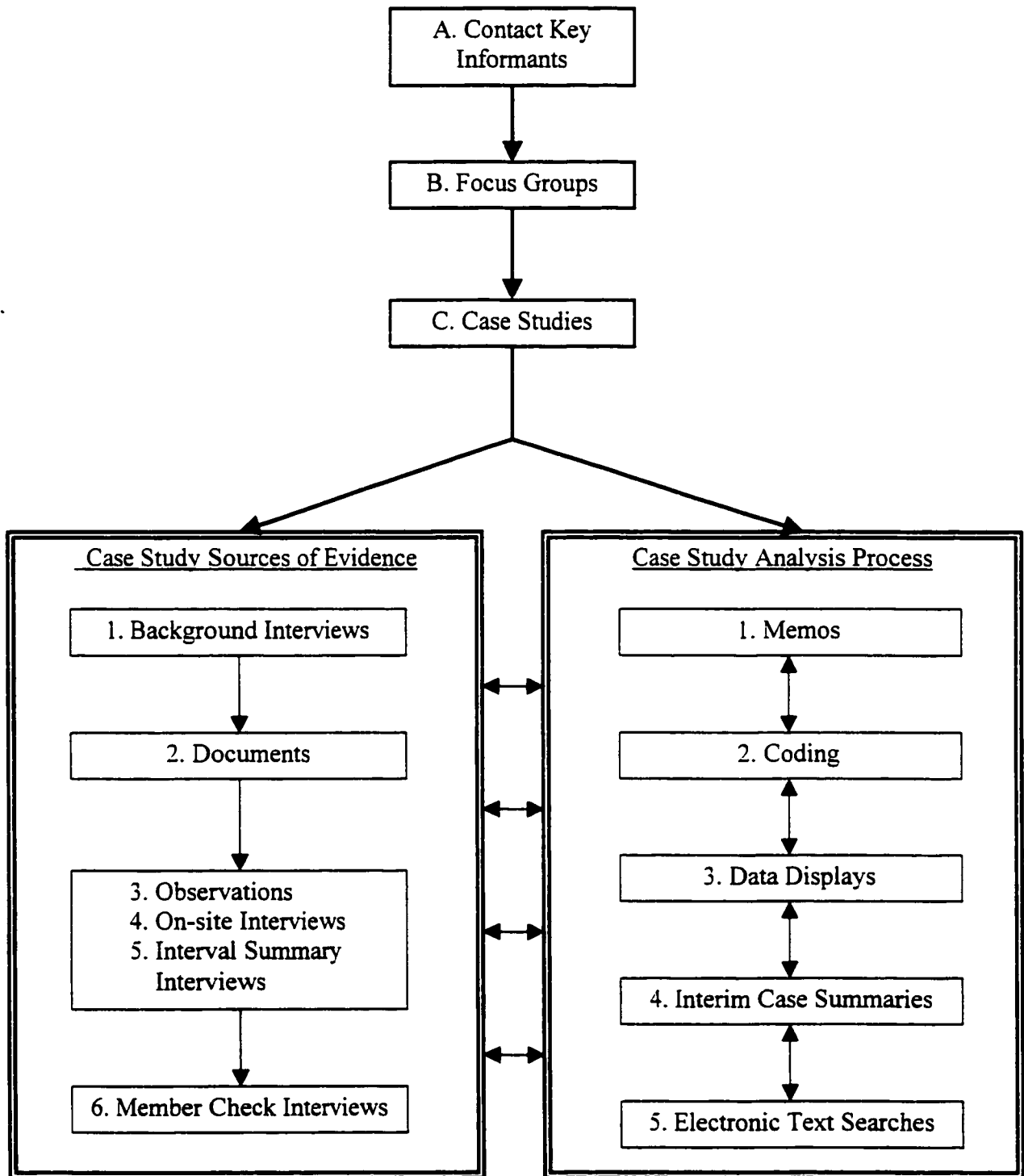


Figure 3. Overview of Procedures

Table 1

Demographic Profile of Soccer Focus Group Coaches

Coach Identification	Current Team	Coach Gender	Years Coaching	Years Playing	Coaching Certification	Parent-Coach ¹
1	U15 (14-15 years) boys competitive	Male	12	35	Level III	Yes
2	U14 (13-14 years) girls competitive	Female	4	9	Level I	No
3	U14 (13-14 years) girls competitive	Female	2	11	Level I	No
4	U10 (9-10 years) boys competitive	Male	6	24	Level I	Yes
5	U12 (11-12 years) girls competitive	Male	22	20	Level III	Yes
6	U10 (9-10 years) girls recreational	Male	6	2	None	Yes
7	U10 (9-10 years) boys recreational	Male	6	3	Level I	Yes

¹Indicates having at least one of his or her children participating as athlete on the team

Table 2

Demographic Profile of Ice Hockey Focus Group Coaches

Coach Identification	Current Team	Coach Gender	Years Coaching	Years Playing	Coaching Certification	Parent-Coach ¹
1	Bantam (14-15 years) boys competitive	Male	5	41	Level II	Yes
2	Atom (10-11 years) boys competitive	Male	7	40	Level II	Yes
3	Bantam (14-15 years) boys competitive	Male	10	11	Level II	No
4	Bantam (14-15 years) boys competitive	Male	4	25	None	Yes
5	Pee wee (12-13 years) boys competitive	Male	3	15	Level II	No
6	Pee wee (12-13 years) boys competitive	Male	15	5	Level II	No

¹Indicates having at least one of his or her children participating as athlete on the team

Focus Group Procedure

Potential participants for the focus groups were informed about the project by telephone. Each focus group was held immediately following a regularly scheduled coaches' meeting. The meetings, and the focus groups, were held at regional community centers. Recommended protocols for conducting focus group interviews were followed, including the use of a limited number of probe questions, an assistant moderator, audio recording of the interview, and provision of snacks and refreshments (Carey, 1994; Krueger, 1994). An assistant moderator, who was a fellow graduate student in sport pedagogy, helped prepare for the interviews and recorded field notes. Participants were also provided with name tags to facilitate discussion. The coaches were asked to provide demographic information on a sign-in sheet attached to the consent form when they arrived at the focus group interview.

Three questions were asked during the focus groups: (1) What are some of the coaching issues that you typically experience during the season? (2) What coaching strategies do you use to address these issues?, and (3) What is the source of these coaching strategies, i.e., how did you learn these strategies? The assistant moderator paraphrased the responses after each question was completed to allow the participants to validate their responses. Twenty minutes were allocated to each question to ensure the focus group interviews would last no longer than 60 minutes.

Focus Group Data Analysis

Each focus group was analyzed separately. Analysis of the focus groups was completed in three stages. In the first stage, the analysis of the focus groups started on-site (Krueger, 1994). The researcher and the assistant moderator debriefed immediately after each focus group and discussed what were considered (a) the most important themes or ideas expressed, (b) the most noteworthy quotations, and (c) unexpected or unanticipated findings. Notes on this discussion

were recorded as analytic memos.

For stage two of the focus group analysis, the researcher transcribed each focus group interview and initiated the formal coding process. The transcripts were then read by the researcher and coded. A code is defined as a tag or label “for assigning units of meaning to the descriptive or inferential information compiled during a study” (Miles & Huberman, 1994, p. 56). The category list, or general coding scheme, corresponded to the three probe questions used in the focus groups – issues, coaching strategies, and origin of strategies. This type of coding process, in which a general accounting scheme is defined beforehand and specific codes are then inductively developed, is considered a middle ground approach between well-defined a priori codes and a completely inductive approach (Miles & Huberman). This initial coding process was completed concurrently by the researcher and a peer (research advisor) familiar with the study and the youth sport context. The respective lists of codes and definitions were then compared and the coding list and coding definitions were modified. After the peer review, and a second reading of the transcript, similar codes were regrouped based on a more interpretive level of analysis that went beyond description. The qualitative data analysis software program NUD.IST was used to facilitate stage two of the focus group analysis. All segments of the focus group interview transcripts that were coded to one of the three coding categories were indexed (stored) in NUD.IST. The three categories were represented as nodes in the software program (see Appendix A for a sample focus group node report).

The objective of stage three of the focus group analysis was to assign a level of importance to each of the codes. This stage of analysis is unique to focus group data because of the diversity of the responses often elicited and the varying magnitude of the responses (Krueger, 1994). For example, a brief response by one person in a focus group that passes quickly without comment

from other participants cannot be evaluated similarly to a response that elicits several minutes of discussion and concurrence from numerous other respondents. A coding scheme used to assign a level of importance was developed based on analysis procedures used by Boyd and colleagues (1997) and Krueger. Each of the codes developed in stage two of the focus group analysis was subjected to the following level of importance queries: (a) frequency, (b) extensiveness, (c) internal consistency, (d) consensus, (e) intensity, and (f) specificity. Each code was then assigned a global level of importance rating based on a three level rating scale similar to the one used by Boyd and colleagues. The level of importance queries, and the global rating criteria, are defined in Table 3. Lastly, to facilitate the coding process in stage three, a coding matrix was prepared (see Appendix B).

Case Studies

Case Study Sample

Sampling logic. Six youth team sport coaches comprised the case studies; three in soccer and three in ice hockey. All six coaches instructed athletes on competitive youth sport teams. A competitive youth sport team comprises a group of athletes competing at an intense level of sport involvement, where the number of participants is restricted and positions on the team are determined through skill tryouts (Wankel & Mummery, 1996). Each case, or coach, was considered a separate study on its own. Coaches from the team sports of soccer and ice hockey and were selected for several reasons. First, these sports have two of the highest team sport participation rates for youth in Canada (Statistics Canada, 1995). The predominance of soccer and ice hockey in Canada increases the likelihood that the results of the present study will be applied to youth sport and coach education. This is referred to as the study's pragmatic validity (Kvale, 1989) or practical significance (Vogt, 1999). Second, the playing seasons minimally

Table 3

Level of Importance Rating Scale for Focus Group Data Analysis

Level of Importance Query	Rating	Example
Frequency	**	Code raised for discussion by coaches in both focus groups
	*	Code raised for discussion by coaches in one focus group only
Extensiveness	**	Code cited by two or more coaches
	*	Code cited by one coach only
Internal Consistency	**	No contradiction within a coach
	*	Contradictory statements within a coach
Consensus	***	Supporting comments from one or more coaches
	**	No comments from other coaches
	*	Disagreement among coaches
Intensity	***	Strong language (“Key” “Really important” “Major”)
	**	Moderate language (“This works well”)
	*	Weak or neutral language (“I do this”)
Specificity	***	Real and specific example provided
	**	Hypothetical example only
	*	No example provided
Global Rating	***	Strong - mentioned and discussed by several or all of the coaches, many supporting comments and specific examples, typified by strong language in description such as “Always” “Really” “Critical”
	**	Moderate - typically mentioned and discussed by more than one coach and may be supported by some specific examples
	*	Weak- although mentioned in one of the focus groups, not considered to be a major point, may only be mentioned very briefly by one coach with no specific examples and no supporting comments from other coaches

overlap, which allowed for a practical data collection schedule. Third, the researcher has extensive experience as an athlete in these two sports, as well as coaching certification in ice hockey. Although not considered an absolute requirement, a researcher's familiarity with the context in which the phenomenon is being studied is a valuable asset that can facilitate the data collection and data analysis processes (Rubin & Rubin, 1995).

Consistent with qualitative research tenets, and case study sampling guidelines, a purposeful replication sampling logic guided selection of the cases (Miles & Huberman, 1994; Yin, 1994). With this type of sampling procedure cases are chosen because similar results may be expected across the cases based on initial propositions about the phenomenon. This type of replication logic is referred to as literal replication.

The number of cases to select in a multiple-case study is a discretionary choice "that depends upon the certainty you want to have about your multiple-case results" (Yin, 1994, p. 57). The objective was to select a number of cases that would provide sufficient data to develop an accurate and comprehensive description of how youth sport coaches transform experience into knowledge for coaching. At the proposal for the present study, nine cases were suggested. During data collection and analysis, however, it was decided to conclude with six cases. The decision to end the project with six cases was a result of achieving saturation early after starting data collection and analysis with the three ice hockey coaches (data collection with the three soccer coaches was completed prior to starting data collection with the three ice hockey coaches). Furthermore, six cases were judged to be sufficient based on the amount of time required for data collection and analysis with each case. For example, data was collected over an entire playing season and an average of 25 interviews and 10 observation sessions were completed with each coach (see Table 4). Besides the time required for data collection,

Table 4

Summary of Case Study Data

Cases	Background Interviews ¹	Documents ²	Observed Events ³	On-site Interviews ¹	Interval Summary Interviews ¹	Member Check Interviews ¹	Pages of Interview Transcript	Coaching Issues Discussed
Soccer								
Jackie	1(11)	6	9(3G/6P)	18(20)	3(35)	1(8)	74	13
Barbara	1(16)	25	9(4G/5P)	20(23)	3(33)	1(5)	77	15
Jennifer	1(10)	4	9(5G/4P)	18(17)	3(41)	1(5)	73	13
Hockey								
Bren	1(11)	10	11 (6G/5P)	22(32)	3(36)	1(3)	82	18
Richard	1(6)	6	10 (6G/4P)	20(33)	3(46)	1(7)	92	16
Duane	1(10)	42	11 (6G/5P)	22(25)	3(32)	1(3)	70	14
Totals	6	93	59	118	18	6	468	90

¹Interviews -- number of single-spaced transcript pages for interviews in parentheses

²Documents -- number of pages of printed material

³Observed Events -- number of games (G) and number practices (P) in parentheses

additional time was needed to transcribe the interviews, code the transcripts and maintain the case study database. Over 100 hours was spent collecting, analyzing, and maintaining the data for each case. This estimate does not include the time spent on cross-case analysis.

Case identification criteria. The identification of the coaches for case study was based on the qualitative sampling procedure referred to as reputational case selection (Miles & Huberman, 1994). The cases were selected based on the recommendation of key informants; individuals who were highly knowledgeable about the local youth sport culture (Miles & Huberman; Rubin & Rubin, 1995). The key informant for the soccer coaches was the technical coaching director for a local soccer association in the Ottawa-Carleton region. The key informant for the ice hockey coaches was the vice-president of coaches for an ice hockey association in the Ottawa-Carleton region. Each informant was first contacted by telephone and was briefed on the purpose of the study. These two individuals expressed a strong interest in the project and were asked to suggest names of coaches that fit the criteria of a model youth sport coach.

Although not empirically supported, it has been suggested that only certain types of coaches learn from their experience (Bell, 1997; Douge & Hastie, 1993, Martens, 1997). Schön (1983) also stated that not all practitioners would engage in reflective conversations to transform experience into knowledge. He concluded that only competent, or model, practitioners reflected-in and on their experience to generate new strategies. Therefore, for the present study only model youth sport coaches were sought in order to increase the likelihood of finding coaches who engaged in experiential learning. The following criteria were used to identify model youth sport coaches as coaches who: (a) were well respected in the sporting community for their commitment to youth sport and exhibit positive coaching behaviors (e.g., encouragement, support, equitable treatment of all athletes), (b) were generally considered good leaders, teachers

and organizers (Leblanc & Dickson, 1997), (c) kept winning in perspective and encourage children to respect the rules of the game, fellow competitors and the officials, (d) demonstrated an interest in learning about the theory and practice of coaching (i.e., coaches who were active learners), and (e) were willing to participate in the study. This last point was critical to ensure comprehensive and valid data due to the intensive nature of the case study data collection protocol. A coach's win-loss record was not considered as a selection criterion. The individual coaches selected for case study were contacted first by the key informant and then by the researcher. All six coaches who were suggested as case studies agreed to participate. This type of sampling procedure is consistent with that used by Schön to develop his experienced-based learning theory. Schön's competent, or model, practitioners were identified based on recommendations by knowledgeable informants.

Case study profiles. The demographic profile of the six coaches is presented in Table 5. In many regards the profile of the coaches is consistent with that of other youth sport coaches (Gould & Martens, 1979; Spallanzani, 1988; Weiss & Sisley, 1984). All six of the coaches were volunteers and four of them had one of their own children on the team. In addition, no coach had obtained higher than level 2 coaching certification. Five of the coaches were male and one was female. However, in an effort to protect the identities of the participants all identifying features of the participants have been changed. Two of the coaches asked that their information remain confidential, therefore requiring the identities of all of the coaches to be disguised. Although only one of the soccer coaches was female, all three of the soccer coaches are portrayed as females in order to protect her anonymity. All three of the hockey coaches were male so only their names have been altered.

Table 5

Demographic Profile of Case Study Coaches

Coach Identification	Sport	Current Team	Years Coaching	Years Playing	Coaching Certification	Parent-Coach
Jackie	Soccer	U14 ² (13-14 years) boys competitive	10	3	Level II	Yes
Barbara	Soccer	U11 ² (10-11 years) girls competitive	5	3	Level I	Yes
Jennifer	Soccer	U13 ² (12-13 years) boys competitive	11	7	Level II	Yes
Bren	Hockey	Atom ¹ (10-11 years) boys competitive	15	30	Level II	Yes
Richard	Hockey	Atom ¹ (10-11 years) boys competitive	3	15	Level II	No
Duane	Hockey	Major Pewee ¹ (13-14 years) boys competitive	20	10	Level II	No

¹Age-group classifications for youth ice hockey²Age-group classifications for youth soccer

Every one of the coaches also had experience as an athlete in the sport they coached. The coaches selected for case study did, however, differ from most coaches in their experience as a youth sport coach. The coaches had been coaching for an average of 10.7 years (Range = 3-20). All three of the soccer coaches taught competitive youth soccer teams in the Eastern Ontario District Soccer Association (EODSA). The EODSA is the governing body for organized outdoor soccer in eastern region of the province of Ontario. Over 28,000 players compete annually in leagues affiliated with the EODSA (Eastern Ontario District Soccer Association, 1999). The EODSA, in turn, is affiliated with the Ontario Soccer Association and the Canadian Soccer Association. Numerous soccer associations, or clubs, prepare teams to compete in the EODSA leagues. The teams of the three coaches were all members of the same club. Each team played a 15 game regular season schedule. On average, the teams participated in 30 games and 35 practices over the course of the season (includes exhibition, tournament and playoff games).

The three hockey coaches taught competitive youth ice hockey teams in the Ottawa and District Minor Hockey Association (ODMHA). The ODMHA is a branch of the Ottawa District Hockey Association and by virtue of this affiliation is also a member of the Canadian Hockey Association. More than 28,000 youth, on approximately 1700 teams, participate annually in ice hockey leagues subsumed in the ODMHA (Ottawa and District Minor Hockey Association, 1999). The ODMHA consists of 13 regional districts that cover the geographical regions of the province of Ontario stretching from Kingston to Hawkesbury and from Cornwall to Ottawa. The teams of the three coaches all competed in the same district of the ODMHA. Each team played a 36 game regular season schedule. On average, the teams participated in 60 games and 26 practices over the course of the playing season (includes exhibition, tournament and playoff games).

Case Study Sources of Evidence

Case studies are characterized by data from two or more sources that converge on the results (Yin, 1994). Six sources of evidence provided the data for the case studies, background interviews, documents, observations combined with video and audio recording, on-site interviews, interval summary interviews, and member check interviews (see Table 6). Data were collected over one playing season with each coach. The outdoor soccer season in the Ottawa-Carleton region typically lasts five months from late May to late September. The playing season for competitive ice hockey in the Ottawa-Carleton region lasts approximately six months, from early October to late March. In order to obtain data representative of an entire playing season, while working within the practical constraints of collecting data with three case studies at a time (three in soccer and three in ice hockey), the playing season for each sport was divided into three intervals. The three intervals of case study data collection were early season (first third of the season including tryouts), mid-season (second third of the season) and late season (last third of the season including playoffs if available). Each interval of data collection covered a period of 7 to 12 days.

Background interviews. After each coach was contacted by telephone and agreed to participate in the study, a preliminary background interview was scheduled at the coach's convenience. The background interview consisted of a series of questions on demographics, coaching issues and coaching strategies (see Appendix C). Background interviews typically lasted 30 to 60 minutes. However, it was not critical to obtain all of the information from a coach at this interview because there were many more discussion opportunities over the course of the

Table 6
Description and Purpose of the Sources of Evidence for the Case Studies

Source of Evidence	Description	Purpose
1. Background interviews	<ul style="list-style-type: none"> - One-time interview with each coach - Structured interview guide - 30-60 minutes 	<ul style="list-style-type: none"> - Obtain demographic information - Create natural conversational environment - Develop rapport and trust with participant
2. Documents	<ul style="list-style-type: none"> - Team newsletters, guidelines, schedules - Local sport association publications - Local media coverage 	<ul style="list-style-type: none"> - Validate factual information - Corroborate other sources of evidence - Increase researcher sensitivity to context
3. Observations (video and audio recording)	<ul style="list-style-type: none"> - Video camera across from coach - Coach wore wireless microphone - 3-5 events¹ per interval² per coach - 60-120 minutes each 	<ul style="list-style-type: none"> - Gain insight into important coaching issues - Validate interview data
4. On-site interviews	<ul style="list-style-type: none"> - Pre- and post-event interview (2 per event) - Semi-structured interview outline - 5-10 minutes each 	<ul style="list-style-type: none"> - Obtain information on new or current coaching issues
5. Interval summary interviews	<ul style="list-style-type: none"> - Within one week of end of each interval - Semi-structured interview outline - Follow-up questions - 45-90 minutes each 	<ul style="list-style-type: none"> - Explore coaching issues in-depth - Complete missing data and update previously discussed coaching issues - Test emergent propositions
6. Member check interviews	<ul style="list-style-type: none"> - Upon completion of data collection and preparation of case summary reports - Semi-structured interview outline - 20-80 minutes each 	<ul style="list-style-type: none"> - Validate the data and the findings - Complete missing data

¹A regularly scheduled game or practice ²Each interval of data collection covered 7 to 12 days during the playing season

playing season. One of the main objectives of this initial interview with each coach was to begin to establish rapport and trust, to increase the participant's willingness to share information (Rubin & Rubin, 1995). The background interview was an opportunity to discuss the purpose of the project in more detail, explain why the coach was selected, share youth sport experiences, and talk informally. Each background interview was transcribed before progressing to the next phase of the case study data collection procedure.

Documents. Documents are important sources for validating factual information (names, dates, etc.) and supporting other sources of evidence. Written documents included materials prepared by each coach or team, documents from the local sport association, and media publications. Every coach in the study prepared, or had prepared by a member of the coaching staff, some type of formal and / or informal team documents that were distributed to the athletes and parents. This included, but was not limited to, team guidelines, newsletters, and regular season and tournament schedules. A sample team document from one of the ice hockey teams is provided in Appendix D. In addition, each local sport association prepared various publications for coaches, athletes, parents and officials. The goals and profile of the sport association were typically expressed in these types of publications. On occasion the local news media also covered the teams by publishing league standings and other notable stories. With the advent of the Internet, several web sites were accessed as well to gain insight into the context of the local sport associations.

Observations. Each coach was video and audio taped in a series of regularly scheduled games and practices (9-11 events per coach). The video camera was setup across the playing surface from the coach and players' bench and both the coach and the game play were recorded. The coach also wore a wireless microphone. The researcher wore headphones to listen to the

coach's dialogue during the game or practice. The capability to hear the coach's dialogue raised the researcher's awareness of coaching issues. For example, during one game an ice hockey coach commented to his assistant coach about the players staying on the ice too long. This observation was recorded in field notes and the coach was then queried about this observation after the game. Although in theory, video and audio equipment was not necessary to hear the coaches, it was not practical to stay within hearing distance of the coaches in the context of soccer and ice hockey during games and practices. It would have been more intrusive for the researcher to follow coaches all over the playing surface than to use the videotape method. Games and practices in the ice hockey context typically lasted 50 to 60 minutes. For soccer, the games ranged from 60 to 90 minutes and the practices were 90 to 120 minutes.

The video and audio taping was supplemented by non-participant observation. For each game or practice the researcher arrived at the site 30-45 minutes before the event and remained on-site for 30-45 minutes after the event. During this time, the researcher observed the coach and the members of the team (athletes, parents, coaching staff), participated in informal discussions and recorded observations and insights in field notes (see Appendix E).

On-site interviews. At each game and practice that was recorded, the coach was interviewed on-site prior to and after the event. These interviews were semi-structured and the questions were based both on the immediate context and on previous interviews. The purpose of the on-site interviews was to obtain information about new or current coaching issues with which the coach was struggling and also to obtain updates on previously cited coaching issues. The justification for focusing these interviews on coaching issues is based on the experiential learning assumption that problems or dilemmas constitute the most meaningful learning opportunities (Dewey, 1938/1963; Jarvis, 1987; Schön, 1983).

Although the duration of these brief interviews ranged from 5 to 30 minutes, they typically lasted less than 10 minutes each. Furthermore, these interviews were scheduled at the convenience of the coach and therefore were conducted at different time intervals before and after the recorded event. For example, it was not uncommon for the post-event interview to be conducted 30 minutes or more after the recorded event because the coach was involved in discussions with parents, athletes and/or administrators. All on-site interviews were audio taped and transcribed (see Appendix F). The transcription of each on-site interview was completed before returning for the next interval of data collection with each coach.

Interval summary interviews. Within one week of the completion of each interval of data collection with each coach, a semi-structured interval summary interview was completed. An interview guide was prepared for each interval summary interview based on a review of the videotapes and on-site interviews specific to that interval of data collection. Previous data collected with the coach was also reviewed to look for coaching issues that contained incomplete information. The purpose of the interval summary interviews was threefold. The first purpose was to explore in-depth the coaching issues that were raised by the coach in the on-site interviews. Second, the interval summary interviews were used to validate coaching issues that were discussed in previous interval summary interviews. Third, the interval summary interviews were invaluable as a testing ground for propositions developed in preliminary analysis of within-case and cross-case data. The interval summary interviews, then, consisted of a series of follow-up questions. Follow-up questions add the depth needed to develop comprehensive theories about the data, “by pursuing themes that are discovered, elaborating the context of answers, and exploring the implications of what has been said” (Rubin & Rubin, 1995, p. 151).

Although interval summary interviews varied in duration depending on the number and

complexity of coaching issues that were discussed in each data collection interval, the interviews seldom exceeded 90 minutes. On average the interval summary interviews lasted 60 minutes. Interval summary interviews were audio taped and transcribed. The transcription of each interval summary interview was completed before returning for the next interval of data collection with each coach. See Appendix G for an interval summary interview guide and Appendix H for an interval summary interview transcript.

Several limitations of relying on coaching issues as the focal points for data collection can provide insight for future research. Because the coaches determined which issues, and how many, were discussed, the comprehensiveness of the data collected for each issue varied both within and between the case study coaches. Although a positive rapport was established between the researcher and each of the case study coaches, their selection of issues to discuss was ultimately a personal and subjective decision. Furthermore, upon reflection it is believed that perhaps too many issues were raised for discussion, resulting in an unintended slant towards quantity over quality. In an effort to correct for this error, and enhance the validity of the results, any issue for which complete information was unavailable was discarded for the final analysis. If a similar study were to be conducted, it would be beneficial to focus on fewer issues with each coach and explore the issues to complete saturation. An issue was considered saturated once it was resolved or abandoned by the coach (nine issues were not 'saturated' and therefore excluded from the final analysis). Saturation was achieved with all of the issues that were retained for the final analysis. Also, because the data with each coach was collected in three intervals, the issues raised for discussion in latter intervals could not be explored to the same depth as issues that emerged early in the first interval with each coach. Therefore, the issues that were raised early in the data collection may have inadvertently contributed more substantially to the final results.

Member check interviews. Upon completion of data collection during the playing season with each coach, an interview was arranged. The member check interviews served two objectives. First, the interviews provided an opportunity for each coach to validate the accuracy of the data and the researcher's interpretations. Second, propositions developed through the process of data analysis were tested with each coach and any gaps in information were addressed. However, because member check interviewing was used primarily as a tactic to address the validity of the data and the conclusions, it is described in more detail in the Validity Tactics section of this chapter. An example of a member check interview is provided in Appendix I.

Case Study Data Analysis

One of the most prevalent critiques of qualitative research is that the process of data analysis - how the mountain of qualitative data is transformed into a logical and accurate summary - is rarely described in sufficient detail (Lonkila, 1995; Miles, 1990; Morse, 1994). Researchers often describe their data analysis process as an inductive one in which the conclusions mysteriously 'emerge' from the data. This is problematic because there are numerous analytic options and various types of coding procedures in qualitative data analysis (Creswell, 1998; Tesch, 1990). Therefore, to avoid misinterpretation a detailed description of the analysis process is provided to explain how the results 'emerged' from the data. It should be noted that data collection and data analysis were done concurrently. All interviews were transcribed and subjected to preliminary analysis as the data was collected. Therefore, initial data collection and analysis guided subsequent data collection and analysis.

Based on a review of the qualitative data analysis literature, two distinct levels of data analysis were addressed: analytic strategies and analytic methods. To briefly summarize, the data

analysis process used in the present study was a modified version of Yin's (1994) case study analysis procedures combined with aspects of more general qualitative data analysis procedures (e.g., Maxwell, 1996; Miles, 1990; Miles & Huberman, 1994; Morse, 1994). Although Yin provides a detailed framework for a case study data analysis strategy, he does not address specific analytic methods. The case study data analysis process is summarized in Table 7.

The first task in preparing for case study data analysis is to specify a general analytic strategy. Yin (1994) described two general analytic strategies for case studies: relying on theoretical propositions and developing a case description. Relying on theoretical propositions is advocated as the preferred strategy, and therefore was the strategy used to guide the data analysis process. Relying on theoretical propositions is preferred when the purpose of the research is to explain a social process, or to answer a 'how' question (How do youth team sport coaches develop knowledge for coaching through experience?). Developing a case description, on the other hand, is more appropriate when the research objective is to remain at a descriptive level of analysis, or a 'what' question. Relying on theoretical propositions "helps to focus attention on certain data and to ignore other data" (Yin, p. 107). The propositions that guided the analysis were based on Schön's (1983) theory of experienced-based learning. In terms of coaching, the two general propositions were that (a) coaches develop knowledge for coaching through coaching experience and (b) the underlying cognitive process is one of reflection in- and on-action.

Explanation-building is the primary objective of relying on theoretical propositions as an analytic strategy (Yin, 1994). Yin explains that "the gradual building of an explanation is similar to the process of refining a set of ideas, in which an important aspect is again to entertain other *plausible or rival explanations*" (p. 111). Explanation-building is an iterative process of

Table 7

Case Study Data Analysis Procedures

Level of Analysis	Procedures	Purpose	Tools
Analytic Strategy	<ul style="list-style-type: none"> - Relying on theoretical propositions 	<ul style="list-style-type: none"> - Focus attention on relevant data - Explanation-building (develop and test emergent propositions about the phenomenon) 	<ul style="list-style-type: none"> - Issue checklist matrix - Data accounting matrix - Proposition matrix - NUD.IST
Analytic Methods	<ul style="list-style-type: none"> - Memos - Coding (descriptive and pattern) - Data displays - Case summaries - Electronic text searches 	<ul style="list-style-type: none"> - De-contextualizing and re-contextualizing data - Develop propositions - Facilitate data management, storage and retrieval 	<ul style="list-style-type: none"> - Notepads - Coding schemes - Issue review matrix - NUD.IST

comparing the findings of an initial case, or initial interval of data collection, to the within-case and theoretical propositions. Propositions take the form of emerging hypotheses and are defined as “connected sets of statements, reflecting the findings and conclusions of the study” (Miles & Huberman, 1994, p. 75). The propositions are then revised to fit the data until the next interval of data collection, at which time the process is repeated. A proposition matrix was developed for each coach to facilitate explanation-building. Each proposition was continually modified to fit the new data and interpretations throughout the project until saturation was achieved, and data collection was completed. Completed proposition matrixes for each of the case study coaches are presented in Chapter 5.

Two types of data analysis matrices (Miles & Huberman, 1994) were constructed to facilitate the analysis procedure. In the first matrix, referred to as the issue checklist matrix (see Appendix J), the cells in the matrix originally corresponded to the initial theoretical propositions and the research questions (i.e., issue setting, coaching strategy, strategy development, experimentation, evaluation, and process summary). An issue checklist matrix was prepared for each of the coaching issues discussed with each coach. A version of the matrix was developed prior to data collection and analysis. However, consistent with the more inductive nature of qualitative data analysis the matrix was continually modified throughout the project to reflect the data and the revised propositions. A running narrative (vignette) of each issue was written on the back of each issue checklist matrix. The issue checklist matrix for each issue was continually updated throughout the data collection and analysis process. Major strengths of data matrices are that they force the researcher to stay up-to-date on the data because collection, analysis and writing are done concurrently, and “it permits rapid and coherent cross-case analysis” (Miles, 1990, p. 48).

A second type of data analysis matrix, the data accounting matrix, was used concurrently with the issue checklist matrix to summarize and monitor the coaching issues that were discussed with each coach (see Appendix K). With each coach, several issues were raised for discussion only by the researcher, based on analysis of the focus groups and the other case studies. Therefore, some coaching issues were considered non-issues by some coaches. These non-issues were also included in the analysis because they provided insight into coaching strategies developed by the coaches in previous seasons.

Nested within the general analytic strategy, the methods of analysis describe the analysis process at an operational level. Methods of analysis are the specific analytic procedures, and also serve to facilitate data management and retrieval. Five methods of qualitative data analysis were used: memos, coding, data displays, interim case summaries, and electronic text searches (Kelle, 1995; Maxwell, 1996; Miles & Huberman, 1994; Yin, 1994).

Memos. Memoing is considered an essential data analysis method for any qualitative research project (Miles & Huberman, 1994). Reflective memos were hand-written in notepads throughout the study. Memos were recorded on-site while collecting data and off-site while reflecting on all aspects of the study. Although memos are sometimes described only as a conceptual theory formulation tool (e.g., Strauss & Corbin, 1990), memos “can also go well beyond codes and their relationships to any aspect of the study – personal, methodological, and substantive” (Miles & Huberman, p. 72). Memos were dated, titled according to the major theme (e.g., analysis, data collection, research design, theory) and constantly reviewed throughout the study. An example of reflective memos is included in Appendix L.

Coding. Coding is perhaps the most ambiguous term used in qualitative research, as most qualitative reports allude to the process of coding. Coding, therefore, is generally considered

synonymous with qualitative data analysis. For example, Strauss and Corbin (1990) define coding as “the process of analyzing data” (p. 61). Miles and Huberman (1994) are more succinct, and simply state that “coding is analysis” (p. 56). Coding is to qualitative research what statistical testing is to quantitative research. It is no less inappropriate in a qualitative study to simply report that the data were analyzed through a process of coding than it is to report in a quantitative study that data were subject to statistical testing.

There are countless variations of coding. Some examples of the diversity of the types of coding in qualitative research include open coding, axial coding, selective coding (Strauss & Corbin, 1990), factual coding, referential coding (Seidel & Kelle, 1995), descriptive coding, interpretive coding, and pattern coding (Miles & Huberman, 1994). For the purpose of the present study, coding is defined as an analytic strategy to fracture the data for the purpose of reorganizing it “into categories that facilitate the comparison within and between these categories and that aid in the development of theoretical concepts” (Maxwell, 1996, p. 78-79). A code is a descriptive label assigned to data in the coding process.

The coding process commenced immediately after the first interview was transcribed. Therefore coding and data collection was done concurrently and the initial coding influenced subsequent data collection. Two levels of coding were completed – descriptive coding and pattern coding. The first step in the coding process was to review each interview transcript and code it at a descriptive level. This is referred to as descriptive (Miles & Huberman, 1994), or referential (Seidel & Kelle, 1995) coding. Descriptive coding is the process of reading the transcripts and marking text segments with codes that “can denote a text passage containing specific information in order to allow its retrieval” (Seidel & Kelle, p. 52). This initial step is also referred to as de-contextualizing the data (Maxwell, 1996; Miles & Huberman; Tesch,

1990).

Each interview transcript was initially coded using a broad two-category coding scheme. The two categories, role frame and coaching issues, corresponded to the initial research questions and were used to break the interview data into meaningful chunks of text for further coding. Each line of each interview transcript that corresponded to these two categories was coded to a corresponding node in the QSR NUD.IST qualitative data analysis software. A node is a storage area in the computer program for all of the coded data. All segments of the interview transcripts in which the coach discussed his or her responsibilities as a coach, or personal approach to coaching, were coded to the role frame category. A separate node was created in NUD.IST for each coach's role frame references. Within the coaching issue node, additional nodes were created to hold the data on each separate coaching issue for each coach. A graphical representation of the role frame and coaching issue nodes is displayed in Appendix M.

The second step in the coding process was to code reports of the data at a more interpretive level. This is sometimes referred to as pattern coding (Miles & Huberman, 1994). Reports on the nodes for each coach's role frame and coaching issues were periodically generated from NUD.IST. Each report contained all textual references related to the particular role frame or coaching issue (see Appendix N). These reports were then reviewed and coded at a more interpretive level of analysis. This process of assembling and reviewing data about one category, or node, is sometimes referred to as 're-contextualization' of the data (Tesch, 1990). The purpose of this level of coding was to identify and develop themes or concepts related to the research questions.

To code the role frame reports, a provisional start list of role frame codes was developed based on the youth sport coaching literature. Although no empirical research is available on

coaches' role frames, a review of coaching texts provided insight into the suggested components of a youth sport coach's role frame (CAC, 1988; 1989a; Leblanc & Dickson, 1997; Martens, 1997). How practitioners frame their role is central to Schön's (1983) theory of practical professional knowledge development. Furthermore, he cited role frame analysis as one of the main types of reflective research that is needed, yet Schön does not provide a method of analysis to identify practitioners' role frames. Researchers in linguistics, however, have provided ways of identifying individuals' frames through discourse analysis. Tannen (1993) has provided a list of 16 markers that can be used to identify frames. Types of markers that were used in the analysis of coaches' role frames included (a) repetition of ideas and concepts, (b) omission of statements, especially valuable when compared to what is said by other coaches, (c) negative statements, (d) generalizations, and (e) evaluative language.

To code the process used by each coach to address the coaching issues, a provisional start list of codes and code definitions based on Schön's (1983) theory of experiential learning was used. This provisional list included categories for issue setting, issue framing, sources of knowledge, experimentation, and evaluation. The coding list and code definitions were continually revised until all data related to the research questions could be readily classified, known as category saturation (Miles & Huberman, 1994).

This method of creating provisional start lists of codes is advocated because it forces the researcher to establish links to existing literature early on in the analysis process (Miles & Huberman, 1994). Provisional start lists of codes are grounded in "the conceptual framework, list of research questions, hypotheses, problem areas, and/or key variables that the researcher brings to the study" (Miles & Huberman, p. 58). The predefined coding lists remained open to continual revision to fit emerging interpretations of the data, and therefore were considered interim or

temporary lists.

Data displays. The third method of data analysis used was data displays (Maxwell, 1996; Miles & Huberman, 1994). Data displays allow the researcher to regroup and present findings in a graphical or visual fashion, “they make ideas and analysis visible and permanent and facilitate your thinking about relationships” (Maxwell, p. 79). The purpose of the data displays was to sensitize the researcher to emerging concepts and interpretations, and to obtain data comprehensiveness. Types of data displays that were used included issue review matrixes (Appendixes O-T), role frame diagrams, and experiential-learning process models (examples of the latter two types of data displays are included in Chapters 4 and 5).

Interim case summaries. Interim case summaries were written after the second interval of data collection with each coach. The purpose of preparing an interim case summary for each coach is that it “provides a synthesis of what the researcher knows about the case and also indicates what may remain to be found out” (Miles & Huberman, 1994, p. 79). Case summaries are also valuable analytic aids to situate the results in the larger context of the existing literature on the phenomenon (Morse, 1994).

Each interim case summary included sections for Participant Demographics, Data Collection, Propositions, and Methodological Notes/Questions. Information regarding the coach’s background and the team’s record were listed under participant demographics. The data collection section included information on how much and what type of data had been collected. Formal memos in the form of propositions, and supporting evidence were presented in the propositions section. Lastly, questions regarding missing or incomplete data were listed in the methodological notes/questions section. Interim case summaries were revised and updated after the third interval of data collection with each coach.

A modified version of vignettes was also included in the case summaries to support the propositions and to contextualize the results (see Appendix U). A vignettes is a form of narrative used to summarize and describe a single event or period of time in an individual's life (Miles, 1990; Miles & Huberman, 1994). Summaries of the experiential learning process for one or two particular coaching issues were included as vignettes in the case summary reports. Presentation of the results using vignettes to support case propositions is advocated as a valuable mode of presentation for multiple-case studies, particularly when each case is studied for an extended period of time (Miles).

Electronic text searches. An additional method of analysis was completed after the final case summary report was completed for each coach. The text search option in NUD.IST was used to explore, elaborate, and validate the propositions developed for the case summaries. Two types of text searches were performed in NUDIST; string searches (picks up any form of word or words, e.g., if search for learn will pick up learned, learnt, learning) and pattern searches (can search for multiple synonymous terms, e.g., reflect, found, realize, discover). The reports for each text searches were then browsed on screen and edited for appropriateness. For example, a text search for the word 'learn' would return the coach's comments on his or her own learning process, but also any mention of how the athletes or parents learn. This procedure was repeated for each text search and for each coach. Lastly, a report was printed for each of the text search reports and reviewed (see Appendix JJ). The within-case propositions for each coach were then revised to fit the data in the reports.

An example of how a text search was used to answer a question about the propositions developed for one of the hockey coaches is provided. In the background interview the coach indicated that his father had coached for many years and he had co-coached with his father in

previous seasons. Yet throughout the season the coach rarely mentioned consulting with his father on coaching issues. A pattern text search was conducted for the words 'father' or 'dad' in all of the interviews with that hockey coach. It was found that although the coach respected his father, the main reason he didn't consult with him more during the season was because the coach had a respected assistant coach with whom he frequently consulted. He didn't want to disrespect his assistant coach by running back to his father every time there was a coaching issue. Also, his father had a new job posting and he was very busy and was not always available for consultation. Therefore, a combination of wanting to keep the process of resolving coaching issues internal to the immediate coaching staff and the unavailability of his father due to job restraints helped to explain this apparent contradiction in the coach's statements.

Validity

The issue of validity in qualitative research, and the terminology used to discuss it have been widely debated: "the qualitative community has not yet agreed about the meaning and the proper use of the terms 'validity' and 'reliability' in the context of qualitative research" (Kelle & Laurie, 1995, p. 20). Alternative terms suggested for discussions of qualitative validity include authenticity, credibility, confirmability, dependability, transferability, and trustworthiness (Guba & Lincoln, 1994; Lincoln & Guba, 1985; Miles & Huberman, 1994). Regardless of linguistic or philosophical differences, most qualitative researchers agree that standards for evaluating the 'goodness' of research are just as essential for qualitative inquiry as they are for quantitative inquiry. For the purpose of the present study, a fallibilistic approach to validity was assumed (Kelle & Laurie). A fallibilistic approach is considered the middle ground on validity in qualitative research. At one extreme, some qualitative researchers assume an 'implicit relativism' perspective toward validity. They believe that all representations are relative and co-constructed

with the research participants, which necessarily precludes the appropriateness of an external reader making value judgements about the research. However, they do concede that it is important to provide 'thick description' in their reports to support claims that their interpretations are accurate representations of the individuals and/or phenomenon studied. The other extremist view on validity in qualitative research is characterized by those researchers who outright reject the concept of validity because of its association with the traditional, positivistic research paradigm (e.g., Wolcott, 1990). The middle ground, or fallibilistic approach, therefore is described as follows:

The aim of the validation process is not to prove the perfect agreement between research results and 'reality' (an endeavor that would necessarily lead to an infinite regress), but to identify possible sources of error. In this perspective a result can be regarded as provisionally valid if every possible precautionary measure is taken to avoid mistakes.

(Kelle & Laurie, p. 22)

This approach is similar to Miles and Huberman's (1994) critical realist stance on validity in qualitative research where the objective is not to prove an ultimate truth, but to demonstrate how a conclusion isn't wrong. Maxwell's (1996) conception of validity is also congruent with this approach. Validity for qualitative studies is defined by Maxwell as "the correctness or credibility of a description, conclusion, explanation, interpretation, or other sort of account" (p. 87). Lastly, validity in qualitative studies can never be proven because it is an ideal to strive towards, not a tangible product to attain (Maxwell).

Validity Criteria

The standards on which qualitative studies are evaluated are referred to as validity criteria. Validity criteria that were addressed in the present study are based on Miles and Huberman's

(1994) list of validity criteria and supplemented by Maxwell's (1996) validity issues. Reference is also made to Lincoln and Guba (1985) in this discussion because they provide one of the earliest and perhaps the most comprehensive discussion of validity criteria for qualitative research. Furthermore, Lincoln and Guba warrant consideration because their discussion served as the foundation for Miles and Huberman's compilation of qualitative research validity criteria.

The five validity criteria presented by Miles and Huberman (1994) are confirmability, dependability, credibility, transferability, and application. The extent to which the researcher's bias is explicated and accounted for in relation to the data is referred to as confirmability. Dependability addresses the issue of consistency across the data collection and data analysis. Consistency also refers to the thoroughness of a qualitative project (Rubin & Rubin, 1995). The validity criteria of credibility relates to how accurate the findings of a qualitative study are to the original research participants and to readers of the report. Transferability deals with the validity criteria of generalizability. Although generalizing results in a quantitative sense (from a sample to a population) is not an issue for qualitative researchers, generalizing the results across participants in the same study and to existing literature and theory is a concern for most qualitative researchers (Maxwell, 1996). Lastly, application is the validity criteria that addresses the value or impact of the research for the participants and the field of study. Although this final criteria will be a more central concern for certain qualitative researchers, such as those who assume an action research or critical theory perspective, all qualitative research should at least foster increased understanding of the phenomenon under investigation.

Validity Tactics

Validity tactics are the operational strategies used to address validity criteria (Lincoln & Guba, 1985; Maxwell, 1996; Miles & Huberman, 1994). Until recently, few explicit examples of

validity tactics in qualitative research were available. However, with the advent of qualitative research as a viable and ever-increasing mainstream approach, validity tactics have slowly emerged in the literature. Based on a review of the literature, 15 validity tactics were used. These tactics are based on suggestions in the qualitative research texts of Maxwell, and Miles and Huberman. Although Yin's (1994) stance on validity is decidedly more quantitative or traditional, some of his suggestions for validity tactics are included because of their specificity to the case study research tradition. A compilation of the validity tactics used, and the validity criteria they addressed, is presented in Table 8.

Analytic generalization. This tactic was used to partially address the transferability, or generalizability issue in validity. Instead of incorrectly attempting to generalize the results to other coaches, the transferability issue was addressed by situating the results in the context of experienced-based learning theory; "in analytic generalization, the investigator is striving to generalize a particular set of results to some broader theory" (Yin, 1994, p. 44). Concepts from Schön's (1983) theory of reflective practice were used to guide the data collection and analysis, allowing for direct comparison of the results to Schön's theory. However, some concepts were modified to fit the reality of the participants in the present study. A formal comparison of the results found in the present study and their relation to Schön's theory is presented in the Discussion chapter.

Case study data base. The development of a case study data base as a validity tactic is advocated by Yin (1994) and was used to address the validity issues of confirmability and dependability. This tactic is also referred to as an audit trail (Lincoln & Guba, 1985; Miles & Huberman, 1994) and is considered to be one of the most important validity tactics in qualitative research (Lincoln & Guba). The objective of the case study data base tactic is "to make as many

Table 8

Description of Validity Tactics used to address Validity Criteria

Validity Criteria Addressed	Validity Tactic	Description
Transferability	Analytic generalization	<ul style="list-style-type: none"> - Comparison to Schon's (1983) theoretical concepts during analysis and report writing
Confirmability Dependability	Case study data base	<ul style="list-style-type: none"> - Maintenance of detailed records of raw data, memos, interview log and interim reports - Organized storage of all data - Use of NUD.IST software program
Dependability	Case study protocol	<ul style="list-style-type: none"> - Typed overview of the research project, including all procedures and guidelines
Credibility	Comparison	<ul style="list-style-type: none"> - Constant comparison of data within-case, across-case, and to the literature
Credibility Transferability	Detailed description	<ul style="list-style-type: none"> - Demographic profiles of study participants - Descriptions and vignettes of coaching issues
Application	Dissemination of results	<ul style="list-style-type: none"> - Research reports for study participants and key informants - Scientific conference presentations and journal articles
Credibility	Explanation-building analytic technique	<ul style="list-style-type: none"> - Develop and test emergent propositions about the phenomenon

Table 8 (continued)

Description of Validity Tactics used to address Validity Criteria

Validity Criteria Addressed	Validity Tactic	Description
Application Credibility Confirmability	Member checks	<ul style="list-style-type: none"> - On-the-spot validations during interviews - Written case summary reports - Interviews at end of data collection
Credibility	Multiple sources of evidence	<ul style="list-style-type: none"> - Triangulation of methods - Triangulation of data - Triangulation of study participants
Confirmability Dependability	Peer feedback	<ul style="list-style-type: none"> - Peer review - Peer debriefing
Credibility Confirmability	Prolonged interaction in the field	<ul style="list-style-type: none"> - Data collected over entire season with each coach - 23-27 interviews with each coach supplemented with observations
Application	Provision of videotapes	<ul style="list-style-type: none"> - Original copy of all videotaped games and practices returned to each coach
Transferability	Replication	<ul style="list-style-type: none"> - Testing of theoretical and emergent propositions within- and across-cases - Multiple-case design
Credibility Confirmability	Searching for discrepant evidence	<ul style="list-style-type: none"> - Repeated testing of theoretical and emergent propositions within- and across-cases
Transferability	Vignettes	<ul style="list-style-type: none"> - Narrative accounts of each coaching issue

steps as possible as operational as possible, and to conduct research as if someone were always looking over your shoulder” (Yin, p. 45). The set of records maintained for the present study included the raw data (audio and videotapes, interview transcripts, team documents), dated memos, an interview log (see Appendix W) and interim reports to dissertation committee members (see Appendix X). All documents, interview transcripts, and memos collected with each coach were stored in a separate three-ring binder. The source, date, and location were clearly recorded on each piece of evidence. Furthermore, the use of the computer software program QSR NUD.IST to manage the data and facilitate analysis provided an electronic record of the entire analytic process because the program automatically date stamps all changes made while using the software.

Case study protocol. A case study protocol is considered essential for multiple-case study designs (Yin, 1994). As a validity tactic it helps to address the issue of dependability. A case study protocol contains an overview of the research design, including the objectives, field procedures, research questions, and proposed format for the case study report. Essentially, a case study protocol is used as a guide that the researcher checks throughout the study to ensure that data collection and analysis are consistent with the original objectives and research questions. The need for a case study protocol increases with the number of cases to be studied and the length of time spent in the field. A case study protocol was developed at the time of the research proposal (see Appendix Y). Although the case study protocol was used as a guide by the researcher, preliminary data collection and analysis resulted in several modifications to the protocol. This is consistent with qualitative research, and the use of a case study protocol, where the design must remain flexible to the data and emergent findings (Yin).

Comparison. Comparison is a validity tactic used to address the credibility of a study.

Because there is no control group with which to compare and contrast the findings, comparison was instead made to the literature on coaching and experienced-based learning. Coaches were also asked to compare their experienced-based learning process to earlier stages in their coaching careers (where applicable). In addition, the results from each coach were compared to each other to highlight notable patterns and themes. The use of comparison allowed for the development of propositions that were validated within and across cases, and with the literature.

Detailed description. This tactic addresses the two validity criteria of credibility and transferability. The objective of this tactic is to provide a context-rich description that allows readers to evaluate the report and to make their own generalizations to other settings and participants (Miles & Huberman, 1994). It is inappropriate for qualitative researchers to generalize their findings outside of the immediate context of their study. However, by providing enough detail in description of the context in which the data was collected they allow readers of the report to make their own generalizations; “the responsibility of the original investigator ends in providing sufficient descriptive data to make such similarity judgments possible” (Lincoln & Guba, 1985, p. 298). Demographic profiles of the focus group participants and the case study participants have been provided earlier in this chapter, as well as a thorough description of the context in which the case study participants coached. A separate section in the Results chapter is devoted to the coaching issues that were discussed. Lastly, vignettes are used to support the propositions that were developed, thereby providing further description of the context but in the words of the case study participants.

Dissemination of results. To address the criteria of application (in combination with member check reports and provision of videotapes) the results will be disseminated to the participants and

to the scientific community. A final research report will be submitted to all of the case study participants and the two key informants. A modified version of the dissertation will be prepared by reducing the length of the document and omitting research jargon. If a coach or key informant requests a copy of the complete dissertation this will also be provided. It is hoped that the key informants will use the information to make structural changes to the coaching environment to facilitate the experiential learning process found in the study.

This is already evident as the key informant for soccer has started to organize peer support coaching groups in the soccer organization. Although not a direct result of the research report, which the informant has not yet seen, the researcher and the informant discussed the value of peer support coaching groups based on preliminary findings. Furthermore, one of the hockey coaches has recently assumed an administrative position in the local hockey association and has decided to provide more peer support for the coaches by attending practices with the coaches and discussing their coaching strategies.

Lastly, the research findings will be shared with the scientific community through conference presentations and research publications. Preliminary results have already been presented at five conferences (Gilbert, 1998a; Gilbert, 1998b; Gilbert, 1999; Gilbert, Gilbert, & Trudel, 1998; Gilbert, Trudel, & Gilbert, 1998) and an article on the conceptual framework has been published in an academic journal (Gilbert & Trudel, 1999b).

Explanation-building analytic technique. Although the explanation-building technique is described primarily as a mode of analysis, its use also contributes to the validity of a case study (Yin, 1994). It is a process of experimenting with different models to explain the results, or finding the 'best fit' to explain the findings. Explanation-building is a continual process of developing propositions and testing them against the data. Propositions must continually be

modified to fit all data, “theorizing is the process of constructing alternative explanations and of holding these against the data until a best fit that explains the data most simply is obtained” (Morse, 1994, p. 33). Therefore, by repeatedly testing the validity of the emergent propositions against the data, explanation-building can be viewed as a validity tactic that addresses the validity standard of credibility.

Member checks. Member checking, also referred to as informant reviews (Yin, 1994) or informant feedback (Miles & Huberman, 1994) is the single most important tactic for addressing the overall credibility of a qualitative project (Lincoln & Guba, 1985; Maxwell, 1996). This tactic also serves to address the validity criteria of confirmability by allowing the participants to review and comment on the accuracy of both the data and the interpretations. Two types of member checks were performed, on-the-spot member checks and post-data collection and analysis member checks (Lincoln & Guba; Miles & Huberman). On-the-spot member checks take place while the researcher is in the field collecting the data. When used to its full potential, this type of member check procedure provides instant validation of the data and the researcher’s initial interpretations. Interview techniques such as probes, paraphrases, and follow-up questions were used as on-the-spot member checks (Rubin & Rubin, 1995). Throughout the interviews the researcher would occasionally pause to summarize what the participant said, thereby allowing the participant an opportunity to immediately validate or correct the data. During the interviews the researcher also tested initial propositions about the data by asking the participants to elaborate on previously discussed material.

Upon completion of each case study, a case summary report was prepared and submitted to each participant for verification (post-data collection and analysis member check). Each report contained a summary of (a) the demographic profile of the coach and the team, (b) the coach’s

role frame, including a role frame diagram, (c) the coaching issues that were discussed, and (d) the within-case propositions. Included with each report was a cover letter thanking the coach for his or her participation in the study and instructions for how to review the member check report. As a guideline, each participant was asked to review the report within four weeks. The written reports were double-spaced and the right margin was set at two inches to allow the coaches to record their comments directly on the report. A member check interview was then scheduled with each coach to discuss in-depth their views on the accuracy of the report. Each member check interview was audio taped and transcribed. The length of the interviews varied among the coaches, but ranged from 20 to 80 minutes.

All of the coaches indicated that the case summary reports were extremely accurate. Only minor corrections were made to the final case summaries based on the member check interviews. Supporting comments from two of the coaches are provided to illustrate the accuracy of the case study reports. The researcher's questions are typed in capital letters and all names and identifying features have been changed.

DO YOU HAVE ANY COMMENTS ON THE REPORT?

Pretty much I was impressed with the whole thing. It made sense. It was good, you broke it down for every problem I had. There was one point that I never really thought of, like how on the one hand I talked a lot about asking Sean and Jay for advice but then for a lot of things I just made the decision right on my own without their opinions. Besides that everything else I was basically aware of. I didn't have any other conclusions, especially your last page where you kind of talked about how I never really wanted to bench any players because I thought they were too young but then how I ended up doing it to teach them discipline and how you kind of tied everything in with the age-group, I would have never

concluded that on my own. It was good. Everything was very accurate. [Richard validation interview]

I made some comments in here. But what I realized is that when I read your parts I only read them for, if I felt that you had accurately stated, I mean these are your perceptions, I can't change your perceptions, but what I did do is I read them and if there was any case where I thought your perception was incorrect then I made a statement. I think that happened only once or twice. [Barbara validation interview]

The post-data collection and analysis member check reports also served to partially address the validity criteria of application. Providing each coach with a comprehensive written description of their profile as a coach and their experiential learning process provided the coaches with a previously unavailable external review of their coaching. Although the reports were not evaluative in nature, the coaches used the information to arrive at their own conclusions about areas they could improve on as a coach. For example, one of the soccer coaches noted that the role frame component 'fun' was not central to his approach as a youth sport coach. Upon first glance he did not agree with this conclusion, but after reading the entire report he conceded that indeed it was a peripheral component. He commented that he would be more cognizant of this in the future and strive to make fun a more central component of his approach to coaching.

I was really surprised to see this out here (fun), and that sort of cued me and I looked back on the season a little bit and it wasn't quite the same as other seasons. It wasn't as much fun as other seasons. So that may be accurate and so it makes me think maybe I was a little too serious. I know some of the kids on the team were serious and they were intent on doing well and finishing well in the league and developing their individual skills, and maybe I was taking that a little too serious as well. So that was interesting. But this is one (fun) that I

would hopefully learn from and say that I should have spent a little bit more time sometimes, maybe it would have been better to lighten up instead of getting more intense. There are different ways to accomplish your goals, maybe I was thinking one-track.

DO YOU FEEL THAT YOU BENEFITED FROM THIS AT ALL?

Oh yeah. It got me thinking a lot about coaching, about my priorities and what I want to do as a coach. Yeah it was beneficial. If I was head coach next year I would change some things next year, one of them I think I would give them some more fun or easy time.

Dedicate an hour of each practice to technical or skill development and dedicate an hour to either just scrimmages or fun games. Watching those practices for two hours, you don't notice it when you are there, but the kids must notice it. You come to realize that they are doing a lot. So I think definitely more time would be given to letting them have some fun time. [Jackie validation interview]

Multiple sources of evidence. The use of more than one method of data collection, and more than one type of data, is strongly advocated as a validity tactic in qualitative research (Maxwell, 1996; Miles & Huberman, 1994; Lincoln & Guba, 1985; Yin, 1994). This tactic, also commonly referred to as triangulation, is perhaps the most often discussed validity tactic in qualitative research. The use of multiple sources of evidence is used "to support a finding by showing that independent measures of it agree with it or, at least, do not contradict it" (Miles & Huberman, 266). Combining various data collection methods and types of data is critical to establishing the credibility of a case study. The different sources of evidence used in this dissertation can be organized into three types of triangulation: (a) triangulation of methods (interviews and observations), (b) triangulation of data (interview transcripts, documents, videotapes and memos), and (c) triangulation of participants (case studies, focus groups, and key informants).

Peer feedback. Peer feedback “is an extremely useful strategy for identifying validity threats, your own biases and assumptions, and flaws in your logic or methods” (Maxwell, 1996, p. 94). Peer feedback is a validity tactic used to address the dependability and confirmability of a qualitative study. Two types of peer feedback were used, peer review and peer debriefing. Peer review is a comprehensive type of peer feedback in which one or more colleagues review and comment on the research at various times throughout the project (typically in both verbal and written form). Peer review meetings were scheduled throughout the project at irregular intervals, but at least twice a month on average. The research advisor and a fellow doctoral candidate acted as the peer reviewers. Prior to peer review meetings, the researcher prepared a formal written document for the reviewers to read and critique. The peer reviewers’ comments were then discussed in-depth during peer review meetings. Verbal and written comments made by the peer reviewers were then used to modify the research design or interpretations where appropriate.

Peer debriefing is a less formal and shallower form of peer feedback. Weekly or bimonthly meetings with 3-5 colleagues familiar with the objective of the present study and qualitative research methods were held early in the data collection phase. The purpose of the peer debriefing meetings was to solicit feedback and group discussion on data collection procedures, analysis issues and emerging interpretations. As the project proceeded, the meetings became less formal and more sporadic (also due to the work demands of the peers in the discussion group). Colleagues were seldom asked to read or review written drafts of material at these meetings.

Prolonged interaction in the field. Two types of bias, or reactivity, can occur as a result of fieldwork in qualitative studies – researcher influence on the participants and the setting, and the setting’s influence on the researcher. Although not sufficient on its own, spending an extended period of time in the setting with the participants can help to address reactivity as well as the

validity criteria of confirmability and credibility. Prolonged interaction in the field serves several purposes; (a) to learn about the context, (b) to check incomplete or misinformation, and (c) to develop trust and rapport with the participants (Lincoln & Guba, 1985). The researcher attended 9 to 11 events (games or practices) with each coach spread over three intervals during the sport season. Furthermore, between 23 and 27 interviews were conducted with each coach (see Table 4).

Although prolonged interaction in the field is a valuable tactic used to increase validity in qualitative research, it can also reduce the validity of the project if certain guidelines are not followed. For example, it is preferable to distribute field visits into segments to prevent the researcher from becoming too much a fixture of the setting and possibly dulling his or her observational capacity (Miles & Huberman, 1994). In addition, it is recommended to conduct some interviews off-site in a congenial social environment to partially mediate the researcher's influence (Miles & Huberman). For example, most of the interval summary interviews were conducted off-site in the coaches' homes.

Provision of videotapes. One of the tactics used to address the validity criteria of application was to provide each of the coaches with the original videotapes of all their games and practices, upon completion of the member check interview. One of the main concerns of the application criteria is what the study can provide for the participants in terms of personal improvement or education. The coaches were promised at the beginning of the study that as a result of their participation they would receive a copy of all of their videotapes. Although the videotapes are raw data and do not represent findings or conclusions of the study, all of the coaches indicated they enjoyed and benefited from watching the videotapes. Similar to the member check reports, the videotapes provided the coaches with a unique opportunity to review their coaching

behaviors. Comments from two of the coaches are provided as support.

But definitely the videos helped me an awful lot on my approach. I found there were things like, I yell too much, so I may have to tone that down even though I think, I hope, that the kids understand why I yell. It is not to downgrade a kid, it is really to get their attention, to say 'Hey guys, pay attention, this is how I want this drill to go and you are not doing it.' But that is going to help an awful lot and I think I may be able to get better rapport with them. I may tone it down instead of yelling all the time.

DID YOU END UP WATCHING ALL THE TAPES?

Pretty much. I think there was one area on one of the practices where I was really hard on Richard (athlete) but then after you've done it you realize that this kid doesn't grasp very well the instructions, it is visual. So when you see it on tape and it comes back, I certainly will approach it differently, because I singled the guy out in the practice and I didn't like that. I realized that after. [Duane validation interview]

DID YOU END UP WATCHING THE VIDEOTAPES?

Yeah, it was weird.

WERE YOU SURPRISED?

Yeah, it is very much different because when you are there the time goes by very quick because you are watching and you are thinking and, you know, when you are watching a drill you are analyzing all kinds of little things. In a game, you know you have to stop at some point and give some coaching points. But when you are watching yourself watching a drill, it is like, What is he doing? He is standing here for 10 minutes, he is not doing anything, that must be boring. But in reality there is an awful lot going on in your mind.

IS THERE ANYTHING THAT YOU WOULD CHANGE AFTER HAVING SEEN

THAT?

Yeah, I think I would change, get back to talking more with the boys. I think I would probably spend more time stopping and just talking and making points and so on, just reinforcing. That is primarily what I got out of it. [Jackie validation interview]

Replication. Searching for common patterns and testing propositions across cases is a powerful tactic to increase the transferability of a qualitative project (Miles & Huberman, 1994; Yin, 1994). It is more credible to begin testing propositions early in a study as opposed to waiting until all the data has been collected (Miles & Huberman; Yin). For this reason, the initial theoretical propositions and the emergent propositions were tested early and repeatedly across all six case studies. The propositions were recorded in a cross-case proposition matrix and continually revised to fit the data. Once such replication of findings has been demonstrated in multiple cases, one may reasonably expect to find consistent results in other similar cases that were not included in the sample (Yin). Replication of findings in different cases is a strong measure of the transferability, or robustness, of the conclusions (Miles & Huberman).

Searching for discrepant evidence. This validity tactic is used to test, or falsify, emergent propositions about the phenomenon (Maxwell, 1996; Miles & Huberman, 1994). Searching for rival explanations is an important tactic used to address the confirmability and credibility validity criteria. The purpose of this tactic is to deliberately search out disconfirmation of what is thought to be an accurate conclusion. Within-case and cross-proposition matrices were used to store emergent propositions. These propositions were frequently and continually tested in the field. When warranted, the propositions were then modified to fit the new data.

The refinement of the 'sounding board' proposition developed in the present study is provided as an example of how this tactic was used. It was found early in the study that each

coach had a 'sounding board' or coaching peer with whom they discussed coaching issues. However, by repeatedly testing this proposition during subsequent data collection and analysis, it was discovered that this proposition was much more complex than originally thought. For example, sounding boards varied from coach to coach, ranging from assistant coaches, parents of athletes, and relatives to co-workers and league administrators. Furthermore, coaching peers were mostly consulted on general coaching types of issues (i.e., pedagogical, discipline, attendance) as opposed to sport specific types of issues (techniques and tactics of the game). Lastly, for a peer to be considered as a sounding board, certain criteria set by the coaches had to be met. A sounding board must be an individual who is respected, trusted, and considered highly knowledgeable about coaching the specific sport. These more elaborate propositions were subsequently tested, and supported, through further data collection and analysis (See the Results section for a more detailed discussion of 'sounding boards').

Vignettes. Although vignettes are often described as a data collection and analysis technique (e.g., Miles & Huberman, 1994; Miles, 1990), they are also a valuable validity tactic used to address the transferability of a qualitative study. A vignette is a "focused description of a series of events taken to be representative, typical, or emblematic in the case you are doing. It has a narrative, storylike structure that preserves chronological flow" (Miles & Huberman, p. 81). Furthermore, vignettes are generally limited to one idea or event. As data were collected, a vignette was written for each coaching issue that was discussed. The vignettes were a sort of running narrative of each coaching issue, and were updated as new data was collected. The vignettes were printed on the back of the issue summary matrices for each coaching issue.

Definition of Terms

Research terminology of particular relevance to the present study was defined as it was presented in the first three chapters of the present study. However, a synthesis of important terms and how they were defined is provided as a point of reference for the reader, if needed.

Action-present is a temporal concept proposed by Schön (1983; 1987). He defined it as the “period of time, variable to the context, during which we can still make a difference to the situation at hand” (Schön, 1987, p. 26).

Action strategies are defined as a move, or a series of moves, generated and used for experimentation to address issues in professional practice (Argyris et al., 1985).

Coaching issues are synonymous with Schön’s (1983) problems of professional practice, “situations characterized by uncertainty, disorder, and indeterminacy” (p. 15-16). Coaching issues then, are those situations encountered in the process of coaching that are confusing or puzzling and cause the coach to take action to resolve, or at least address, the situation.

Coaching repertoire is based on the definition of a professional repertoire which comprises “the skills, techniques, etc., used in a particular field or occupation” (Random House Webster’s College Dictionary, 1995, p. 1141). It also includes examples, images, understandings and actions, “a practitioner’s repertoire includes the whole of his experience insofar as it is accessible to him for understanding and action” (Schön, 1983, p. 138). Therefore, a coaching repertoire comprises the whole of a coach’s experience that is used to address coaching issues.

Community-based sport comprises athletic programs “offered by the local municipal authority in collaboration with other local agencies” (Wankel & Mummery, 1996, p. 27).

A competitive team comprises a group of athletes competing at an intense level of sport involvement, where the number of participants is restricted and positions on the team are

determined through skill tryouts. Synonymous terms include representative or select team (Wankel & Mummery, 1996).

Experienced-based learning is “the process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p. 38). Learning, for the purpose of the present study, is also defined as the “process in which people discover a problem, invent a solution to the problem, produce the solution, and evaluate the outcome” (Argyris, 1982, p. 38).

General coaching knowledge is a term developed for the present study based on Abraham and Collins (1998) definition of coaching knowledge and Shulman’s (1987) definition of general pedagogical knowledge. Abraham and Collins define coaching knowledge as “the knowledge required to set up optimal learning environments” (p. 68). They claim that coaching knowledge is a set of general concepts or procedures easily transferred between sports. This type of knowledge is also similar to general pedagogical knowledge described by Shulman in the context of teaching as “broad principles and strategies of classroom management and organization that appear to transcend subject matter” (p. 8).

Knowledge “encompasses all that a person knows or believes to be true, whether or not it is verified as true in some sort of objective or external way” (Alexander, Schallert, & Hare, 1991, p. 317). From an experienced-based learning perspective, knowledge is “being continuously created and recreated, not an independent entity to be acquired or transmitted” (Kolb, 1984, p. 38). Furthermore, “knowledge results from the combination of grasping experience and transforming it” (Kolb, p. 41).

Knowledge for coaching is the amalgam of general coaching knowledge, practical professional knowledge, and sport specific content knowledge.

A model youth sport coach is an instructor of athletics in community-based sport who is

respected in the sporting community for his or her commitment to youth sport and positive coaching behaviors, irrespective of a coach's record of success as measured by winning percentage. A model youth sport coach can more generally be defined as "someone who creates an environment that allows athletes to succeed" (Leblanc & Dickson, 1997, p. 119).

Furthermore, model youth sport coaches are good leaders, teachers, and organizers, keep winning in perspective and encourage their athletes to respect the rules of the game, their competitors and officials (Leblanc & Dickson).

Practical professional knowledge is a special form of knowledge held and used by practitioners that is generally specific to a community of practice. It consists of action strategies that are used to address practice dilemmas, "it is contextually dependent, arising out of particular puzzles and uncertainties that professionals are required to manage" (Munby & Russell, 1989, p. 75). It has also be referred to as craft knowledge or the wisdom of practice (Shulman, 1987).

Problem setting is the process of making sense, or setting boundaries of attention, out of a situation that is confusing. "Problem setting is a process in which, interactively, we *name* the things to which we will attend and *frame* the context in which we will attend to them" (Schön, 1983, p. 40). It involves the processes of identifying problems and framing them in a way that allows the practitioner to develop an action strategy.

Reflection-in-action is a tacit process of on-the-spot improvisation, comprised of a sequence of intuitive actions and moments of reflection-on-action (Schön, 1987). It includes the process of thinking about one's actions while in the midst of practice over which an individual has limited control (Russell & Munby, 1991; Schön, 1983). Reflection-in-action is bound by the temporal boundaries of the practice dilemma, also referred to as the action-present, "what distinguishes reflection-in-action from other kinds of reflection is its immediate significance for action"

(Schön, p. 29). It is also described as the process in which practice dilemmas are reframed, or how a practitioner “sees a professional puzzle differently” (Munby & Russell, 1989, p. 77).

Reflection-on-action is a controlled process of thinking about one’s thinking or actions in the course of action, a form of metacognition characterized as a ‘stop-and-think’ type of reflection (Schön, 1987). It is described as “reflective thinking *about* an action as it transpires. This can be described as a metacognitive activity” (Munby & Russell, 1989, p. 77). Like reflection-in-action, reflection-on-action is also bound by the temporal boundaries of the practice dilemma. The critical difference between reflection-in and reflection-on-action is that the latter is a conscious process and the former is tacit and inseparable from doing.

A role frame is a system of domain-specific values and beliefs constructed by practitioners that guides practice, also referred to as “the ways in which they *construct* the reality in which they function” (Schön, 1983, p. 310). Role frames act as psychological boundaries that determine how practitioners view their professional roles and what type of knowledge is constructed. A role frame “bounds the scope of practice and provides a reference which allows a practitioner to build a cumulative repertoire of exemplars, facts, and descriptions” (Schön, p. 274).

Sport specific content knowledge is the type of knowledge used for coaching that includes the techniques, tactics and strategies of a particular sport. This type of knowledge is not considered easily transferable among different types of sports (Abraham & Collins, 1998). For example, the strategies for badminton are very different from the strategies for ice hockey.

Chapter 4

Focus Group and Cross-case Results

The results are presented in two chapters. In Chapter 4, an overview of the findings from the focus groups and the case studies is provided. Abbreviated case summaries are presented in Chapter 5. This format of presenting an overview of the results followed by a separate chapter for detailed presentation of the case study findings is an option recommended for multiple-case study reports (Yin, 1994). The case summaries are used both to support the cross-case findings and to reveal how the coaches differed from each other in subtle but important ways.

Overview of Focus Group Results

The focus groups were a pre-study used to increase the researcher's sensitivity to the types of results that could be expected in the case studies. Three questions were asked at the focus group interviews: (1) What are some of the coaching issues typically experienced during the season? (2) What coaching strategies are used to address these issues?, and (3) What are the sources of these coaching strategies, i.e., how were they learned? The focus group results are organized according to these three questions.

Coaching Issues

The first question at each focus group was posed to obtain a description of the everyday problems, or coaching issues, experienced by youth sport coaches in soccer and ice hockey. The coaching issues were regrouped into five types: athlete, coach, environment, organization and performance (see Table 9). A preliminary version of the category list was inductively developed based on a review of the focus group data. The category list was later revised to fit the case study data and the coaching literature (Côté, Salmela, Trudel, Baria, & Russell, 1995; CAC, 1989b).

Table 9

Type of Coaching Issue Category Description

Type of Coaching Issue	Description
Athlete	Issues related to athlete personal characteristics (physical and psychological) or behaviors that could affect their performance in games or practices.
Coach	Issues related to the role of the coach, teaching, communication, motivation, coaching approach, perceptions or personal life issues that could influence his or her role as a youth sport coach.
Environment	Issues aside from the coach or athletes that could affect the coach's role as a youth sport coach or athlete performance, e.g., parents, facilities, coaching staff.
Organization	Issues related to the coordination of the team before, during, or after games or practices, planning and structuring the sport environment.
Performance	Issues related to technical or tactical skill execution during games or practices, development of sport-specific skills.

A total of 18 coaching issues were discussed in the two focus groups (see Table 10). Three times as many coaching issues were cited in the soccer focus group (16) compared to the hockey focus group (5). Half of the coaching issues were environment types of issues. No issues related to athlete performance were revealed. Only three issues were cited across both focus groups (Lack of athlete commitment / discipline, Coaching own child, and Complaints about playing time). Furthermore, only two issues were discussed in sufficient detail to warrant a 'strong' three-star global rating (Coaching own child and Too much responsibility / not enough time).

The issue of coaching your own child was raised in both focus groups. There generally was group consensus that it was an issue, or at the very least it had the potential to become an issue. All but two of the coaches in the focus groups had one of their own children on the team they coached, or had coached one of their own children in previous seasons. A supporting quotation is provided from one of the coaches in the ice hockey focus group:

What I have found over the years, because being a parent of a player who played on the team as well but no longer does now, you have a tendency sometimes to think that your child is probably one of the better players on the team or is the best player on the team. Every parent out there thinks that but doesn't realize it, no matter who the player is, he is not the best player on the team, and probably what happens with parents and why coaches have conflicts with parents is because of that reason or that attitude, between the player or the parent and the coach. So it can cause problems, it can cause lots of problems. It can cause arguments in corridors of arenas, sometimes out in the lobby or in parking lots. [Ice hockey focus group]

Another coaching issue that was discussed in detail by coaches in both focus groups was related to athlete commitment and discipline. The coaches indicated that they often had

Table 10

Strength of Coaching Issues described in Focus Groups

Type of Issue Issue	Focus Group	
	Soccer	Ice Hockey
Athlete		
Lack of commitment / discipline	**	**
Lack of focus during practices	**	
Coach		
Coaching own child	***	**
Too much responsibility / not enough time	***	
Balancing positive and negative feedback	**	
Teaching to diverse skill levels	**	
Teaching athletes of opposite gender	*	
Teaching young children	*	
Environment		
Parent complaints about playing time	**	*
Parent commitment	**	
Parent lack of knowledge of the sport	**	
Parent disruptive behavior during games	**	
Parent opposition to coach's teaching strategies	**	
Parent pressure on athletes		**
Family situations	**	
Lack of facilities	**	
Association guidelines (playing time for athletes)	**	
Organization		
Designing / preparing effective practices		**

- *** Strong - discussed by most of the coaches, many supporting comments and specific examples, typified by strong language "Always" "Really" "Critical"
- ** Moderate - mentioned by more than one coach, supported by few specific examples
- * Weak- although mentioned in one of the focus groups, not considered a major point, may be mentioned briefly by one coach, no specific examples

difficulties with at least one of their athletes each season. There always seemed to be an athlete on the team who would challenge a coach's teaching style, miss practices without notice, or disrupt other players.

But there are always kids that you come across, like a couple of years ago I had a kid who was, I was not exactly sure what the problem was, we never got into it very much, but she was developmentally challenged in some way - extreme shyness, very difficult to coach - and there is no [guidelines]. I think a lot of the coaching standards are based on average kids. I had one boy I coached who was extremely aggressive, he was 7 or 8 years old, and he was hyper and aggressive and his mother just told me to yell at him and I couldn't do that.

[Soccer focus group]

The differences found between the soccer and the ice hockey focus group results on the question of coaching issues may be attributed to individual coach differences and the context of each focus group. Although a similar number of coaches participated in each focus group (soccer = 7, hockey = 6), the group discussion was more dynamic in the soccer focus group. In the soccer focus group, the researcher was preoccupied with controlling the amount of discussion to ensure that the focus group would be completed within the time limit (60 minutes). In contrast, during the hockey focus group the researcher had to lead the discussion more often to tease out responses from the participants.

Identical procedures were used to conduct each focus group and they both were completed following a coaches' meeting, but the context of the coaches' meetings was different. The coaches' meeting that preceded the soccer focus group was scheduled prior to the start of the playing season. It was an informational type of meeting where schedules were distributed and formal announcements were made by league officials. The coaches were mostly passive

receivers of information and the meeting was fairly brief (45 minutes). During the hockey coaches' meeting, the coaches were active discussants and the meeting was scheduled one month into the playing season. The purpose of the meeting for the hockey coaches was to allow each coach to provide a status report on his or her team to the director of the hockey association. The hockey coaches' meeting lasted approximately 90 minutes. There was a noticeable difference between the soccer focus group and the hockey focus group in the atmosphere and liveliness of the coaches. The soccer focus group coaches were more eager to talk and share information because they had not had an opportunity to do so previously, while the hockey focus group coaches were more lethargic because they had just spent over an hour in group discussion. The coaches in the hockey focus group needed more time to shift their thinking from the coaches' meeting to the focus group.

If focus groups were the main research strategy for the present study, additional focus groups would have been conducted to partially address the contextual influences of individual focus group interviews. However, for the present study the focus groups served as a pre-study and provided sufficient data to allow the research to proceed to the case studies.

Coaching Strategies

The objective of the second question posed at each focus group was to gain insight into the types of coaching strategies that were used to address coaching issues. The strategies were regrouped according to the type of coaching issue to which they corresponded (see Table 11). For example, 'Develop a unique approach for each athlete' was a strategy discussed to address coach type of issues. A total of 24 coaching strategies were raised for discussion in the two focus groups. The number of coaching strategies revealed by the ice hockey coaches (15), was slightly greater than the number of strategies revealed by the soccer coaches (13). The greatest number of

Table 11

Strength Coaching Strategies described in Focus Groups

Type of Issue Strategy	Focus Group	
	Soccer	Ice Hockey
Athlete		
Withhold playing time during games	***	***
Fines (monetary and physical)		***
Release player from team		**
Attendance checklist	**	
Prepare a quality / interesting sport program	**	
Prepare formal written expectations	**	
Increase promotion and awareness of sport	*	
Coach		
Develop unique approach for each athlete	**	***
Scrutinize own child		***
Discuss role with child before season		**
Share coaching duties / co-coach	**	
Age-group specific preparation		*
Environment		
Avoid selecting players of problem parents		***
Mandatory cool-down period (24/48 hrs)		***
Equal playing time for athletes		***
Shared vision / democratic approach	***	
Preseason parent meeting	**	*
Delegate duties / duty checklist	**	
Demonstrate personal commitment as a coach	**	
Teach players to block out parent distractions	**	
Quit coaching		*
Organization		
Develop season and daily plans	**	*
Teach to small groups before practice		**
Get input from athletes		*

*** Strong - discussed by most of the coaches, many supporting comments and specific examples, typified by strong language "Always" "Really" "Critical"

** Moderate - mentioned by more than one coach, supported by few specific examples

* Weak- although mentioned in one of the focus groups, not considered a major point, may be mentioned briefly by one coach, no specific examples

coaching strategies was related to the environment type of issues (9). Numerous strategies were also revealed for the athlete type of issues (7). Only four strategies were cited across both focus groups (Withhold playing time during games, Preseason parent meeting, Develop season and daily plans, and Develop unique approach for each athlete). Eight strategies were discussed in sufficient detail to warrant a 'strong' three-star global rating.

A commonly used strategy that emerged in both focus groups to address various athlete related coaching issues was to withhold playing time from the athletes during games. This strategy, also referred to as 'benching', was discussed in detail by most of the coaches. The coaches found it to be an effective strategy to combat athletes who were disruptive or did not exert a full effort during practices or games, and also for athletes who skipped practices without informing the coaches. The dialogue on withholding athlete playing-time in the ice hockey focus group is provided as an example of how coaches used this strategy.

Coach1: It [withholding playing-time] is a way of sending a message too. If you have a kid that you really need to wake-up, and that is the one thing that any hockey player hates is to lose ice time. So if you really have to get a message across to somebody you can specifically and tactically say you are not going on this shift or you are going to sit out two shifts or something. That might occur. But again you would still do that within a framework of trying to ensure as much as possible that everybody had equal ice-time.

IS BENCHING SOMETHING THAT HAPPENS A LOT?

Coach1: We do it kind of progressively. I mean the first time, usually it is for not showing up. You know, you were supposed to be at practice and you weren't there. And first time you do that, we will talk to you and we would like to know why you weren't there. If it

keeps up, then it will be time to sit a couple of shifts, and you will be sitting a period if you keep going, but we have never had to go that far.

Coach6: I have a situation this next game and what I told the kids, if they were late, like they have to be dressed and all that kind of stuff, but if the clock in the arena is at a 7:00 p.m. and they are on at 7:02 p.m., well that is two minutes of my time, so he owes me two minutes of ice, and he will sit. And then I approach the parents and tell them same thing, and they said I can't see a problem with that. And I don't think it will happen ever again. [Ice hockey focus group]

Another strongly rated strategy to emerge in both focus groups, this time to address coach related issues, was to develop a unique approach to interacting with each athlete on the team. The coaches in both focus groups admitted that this was a difficult strategy to implement because of the time needed to develop an awareness of each athlete's preferred learning style and emotional profile. However, they agreed that it was one of the most effective strategies for teaching a diverse group of young athletes.

Coach2: I think that you have to be very flexible and you have to take a really individualistic approach when it is required because you sort of want to treat everyone the same on the team but really that is impossible. You have some kids who are very independent and you can tell them what to do and they go ahead and do it. Others really need to be watched and sort of continually encouraged and that sort of thing.

Coach4: You have to develop a relationship with each and every player on the team. I find nowadays that kids have so many pressures and something will set one kid off that wouldn't set another kid off. You have to get to know what is going on inside their head sometimes. [Soccer focus group]

Source of Strategies

The third and final question raised in the focus group interviews was used to elicit information on how the coaches learned their coaching strategies. More specifically, what were the sources of the coaching strategies? Unlike the coaching issues and coaching strategies, the sources were not regrouped into categories. The coaches did not provide specific details on the source for each strategy. Instead they discussed the sources at a more general level. Furthermore, the validity of attempting to retrace the original source (or sources) of a coaching strategy through focus group interviews, with coaches who had been coaching for many years, would have to be seriously questioned. Therefore, the results of this third question are presented only at a general level.

A total of nine sources of coaching strategies were revealed in the two focus groups (see Table 12). Eight sources emerged in both focus groups (only one source was unique to each focus group). In addition, six of the nine sources of coaching strategies were discussed in sufficient detail to warrant a 'strong' three-star global rating.

Four sources in particular emerged as notable sources of coaching strategies: (a) coaching experience, (b) observation of other coaches, (c) coaching materials, and (d) consultation with peers. Of the four sources, coaching experience was the only one that warranted a three-star global rating in both focus groups (see Table 12). When coaches were asked to reveal the source of their coaching strategies, the immediate response was 'coaching experience.' Coaches explained that they learned from their experiences, typically the bad ones, to develop and modify coaching strategies. For example, coaches often spoke of 'trial-and-error', 'lessons of life', and 'remembering mistakes' as the methods used to develop coaching strategies from experience.

Table 12

Strength of Sources of Coaching Strategies described in Focus Groups

Source	Focus Group	
	Soccer	Ice Hockey
Coaching experience	***	***
Observation of other coaches	***	**
Coaching materials (books, videotapes)	***	**
Consulting with peers	**	***
Coaching clinics	***	*
Experience as an athlete	***	*
Watching televised professional sport	**	*
Input from athletes		**
Being a parent	*	

- *** Strong - discussed by most of the coaches, many supporting comments and specific examples, typified by strong language "Always" "Really" "Critical"
- ** Moderate - mentioned by more than one coach, supported by few specific examples
- * Weak- although mentioned in one of the focus groups, not considered a major point, may be mentioned briefly by one coach, no specific examples

When coaching materials were cited, they were always sport-specific. For example, the soccer coaches listed several books and videotapes that were developed by an internationally renowned soccer coach. Coaching peers were also mentioned as a valuable source for coaching strategies. Peers served as sources of strategies in two different ways. Peers were sometimes consulted directly for assistance and at other times peers were observed while they were coaching. When viewed together (consultation and observation), peers are one of the most important sources of coaching strategies for the coaches who participated in the focus groups. An example of both ways that peers acted as sources of coaching strategies is provided in quotations from the focus groups.

Consultation with Peers

Coach1: I talk to other people [about strategies]. If I don't know how to handle something I will talk to my assistant coaches, I will talk to some of the parents, talk to my manager, talk to somebody else I know who is coaching.

Coach6: Also you have a convenor for the association and I usually rely on that person if I ever have to deal with serious problems, I always go to them and say 'This is my situation.'

[Ice hockey focus group]

Observation of Peers

Coach1: The other thing that I have done is try to go out to watch other coaches run practices, coaches who have a good reputation, try and get out and watch them at practices.

Coach4: I mean I can watch a bad coach, and I'll learn something from him. It may be what not to do.

Coach6, Coach5: Yeah, sure.

Coach4: So I think observation is pretty important. I can watch any coach and say I'll get something from him. It maybe something I'll never do again.

Coach1: The other thing I learn a lot from is watching coaches in other sports. You know, my daughter plays a bit of basketball and I go out and watch my wife coach and I learn a lot, like it is not soccer, but the coaching techniques and stuff like that are kind of consistent.

You learn from the negative things as well as the positive. You know, like there are a lot of things when you coach against other coaches you see things that they do and you say, 'Oh god, I think I've done that.' I think if you watch other coaches, you learn what they do right but you also see the stuff that you don't want to emulate. [Soccer focus group]

The results obtained from the focus groups supported the case study research design that was proposed in the present study. Comments from the focus group coaches about common sources of strategies reinforced the belief that youth sport coaches learn most of their knowledge for coaching through experience. Also, the frequent mention of trial-and-error and learning from mistakes provided support for using Schön's (1983) theory of reflective practice as a conceptual guide for case study data collection and analysis. Lastly, the primary objective of the focus groups was achieved by allowing the researcher to develop an awareness of the types of coaching issues, strategies, and sources of strategies that could be expected to be found in the field with the case study coaches.

Overview of Cross-case Results

Based on a review of the findings from the case studies, a portrait of the experiential learning process was prepared (see Figure 4). Consistent with most forms of qualitative research, the portrait of the experiential learning process presented in Figure 4 is a result of both an inductive (emergent) and deductive (relying on existing theory) process. Although the

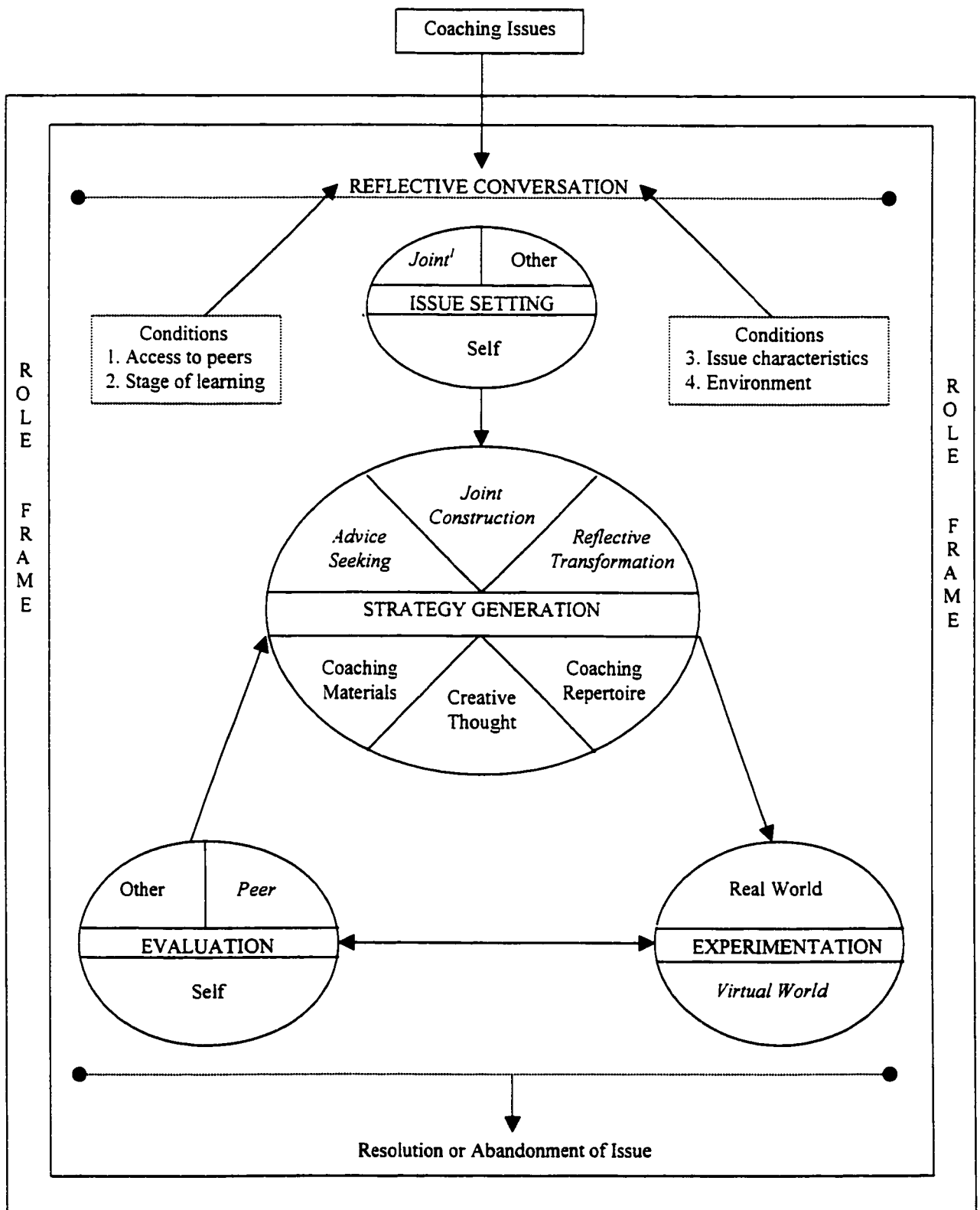


Figure 4. Experiential Learning Process and Reflective Conversation

¹Peer options are typed in italics

components in the experiential learning process emerged with each of the coaches, many of the terms used to describe the components are borrowed from Schön's theory of reflective practice. It is important to stress that the concepts were not forced on the data, but when evidence was available existing concepts from the literature were retained. Only those theoretical concepts that were empirically supported by the data were included in the final results. If a reader was to start a review of the present study at the experiential learning process presented in Figure 4, he or she may incorrectly conclude that more of a deductive approach was assumed and Schön's theory was simply replicated and slightly modified. Indeed many of Schön's concepts are evident in the figure (e.g., role frame, issue setting, reflective transformation, repertoire, experimentation, and virtual world experiment), but they are all firmly grounded in the data of the present study.

In fact, one of the concepts - reflective transformation - was used to explain the results only after the dissertation had been distributed to members of the review committee for preliminary evaluation. This strategy generation option, used by coaches when they observe another coach and then 'model' and reconstruct a coaching strategy, was originally labeled reflective modeling. However, upon the recent review of a book chapter written by Schön (1988), it was discovered that what he described as reflective transformation was identical to the reflective modeling process described in the present study. Therefore, to maintain consistency with the terminology already used to describe concepts in experiential learning theory, and facilitate comparison, the term for the concept inductively developed in the present study (i.e., reflective modeling) was replaced with Schön's terminology (i.e., reflective transformation).

Summary of the Experiential Learning Process

Six components characterized the experiential learning process: (a) coaching issues, (b) role frame, (c) issue setting, (d) strategy generation, (e) experimentation, and (f) evaluation (see

Figure 4). Each component is summarized in Table 13. Prior to explaining each component, and the options within each component, a summary of the experiential learning process is provided.

Coaching issues provided the impetus for the coaches to reflect and engage in the experiential learning process. Coaching issues, however, did not simply present themselves to the coaches. The process of identifying an issue, and deciding why it is an issue, is referred to as issue setting. When a coach set a puzzling or troublesome situation as a coaching issue to be addressed, it typically initiated the cycle of reflection used to generate and test new coaching strategies. Once an issue was set, a coach then proceeded to the strategy generation stage. After one or more strategies were generated, an experiment would be conducted. The effectiveness of the experimented strategy on resolving the issue would then be evaluated. Once an experiment was evaluated, a coach would either exit the reflective conversation, because the issue was resolved or considered unworthy of further reflection, or return immediately to the strategy generation stage. For the stages of issue setting, strategy generation, experimentation, and evaluation, various options were described by the case study coaches (see Table 14). The selection of options at each of these four stages was in turn influenced by four conditions: (a) access to peers, (b) stage of learning, (c) issue characteristics, and (d) environment. The options, and the conditions, are described in detail in separate sections of this chapter.

The three stages of strategy generation, experimentation and evaluation comprised a sub-loop of reflection within the larger cycle of a reflective conversation. For example, the coaches would often cycle through this sub-loop numerous times, without returning to the issue setting stage, to address a coaching issue. However, on those occasions where the coach exited the reflective conversation only to experience the same issue later in the season then the issue was set again, but it was set outside of the original reflective conversation. In this sense, issues were

Table 13

Summary of Experiential Learning Process Components

Component	Results
Coaching issues	89 coaching issues were identified and discussed. Athlete issues were the most predominant (29), followed by organization (26) and performance (22) issues. Ten environment issues and 3 coach issues were experienced.
Role frame	Approach to coaching comprised two boundary components and eight internal components. The two boundary components were age group and competitive level of the athletes. The eight common internal components were discipline, emphasis on team, equity, fun, modeling behavior, personal growth and development, sport specific growth and winning.
Issue setting	Three options for setting coaching issues emerged: joint, other and self. Personal observations made alone (self) was the most common issue setting option. Issues are typically set in multiple components of a coach's role frame.
Strategy generation	Six strategy generation options were found. Three were dependent on coaching peers: advice seeking, joint construction, and reflective transformation. The other three were independent of coaching peers: coaching materials, creative thought, and coaching repertoire. The most commonly cited options were creative thought and coaching repertoire.
Experiment	Two experiment options were revealed: real world and virtual world. Real world experiments were always conducted. Although virtual world experiments were seldom divulged, evidence suggests that virtual world experiments were quite common.
Evaluation	Three evaluation options were cited: other, peer, and self. Similar to the issue setting stage, personal observations (self) was the most frequently mentioned option in the evaluation stage.

Table 14

Definitions of Reflective Conversation Components and Options

Component Option	Definition
Issue Setting	How issues are identified and framed
Joint	Issue set by the coach and one or more coaching peers
Other input	Comments from parents and/or players, league administrators, team managers
Self	Coach's own personal observations
Strategy Generation	Sources consulted to develop a coaching strategy
Advice seeking	Asking peers or 'expert coaches' for suggested strategies, one-way relationship
Joint construction	Mutual development of a strategy with one or more peers, ideas are tossed around and discussed, two-way relationship
Reflective transformation	Observation (visual / auditory) of another coach's strategy
Coaching materials	Formally prepared coaching resources (e.g. books, videos)
Creative thought	Introspective, personal cognitive process, 'inside the head'
Coaching repertoire	Existing strategy from repertoire of coaching strategies
Experimentation	Implementation and testing of a coaching strategy
Real world	Trial in actual context
Virtual world	Trial-run in simulated context (graphical display or peers)
Evaluation	Review of coaching strategy effectiveness
Other	Evaluative comments from players and / or parents
Peer	Evaluative comments from one or more peers
Self	Introspective review based on personal observations

never re-set within the same reflective conversation but instead were set anew at a later time within a new, but related, reflective conversation (typically a few weeks or a month later). The final component in the experiential learning process, a coach's role frame, or approach to coaching, bracketed a reflective conversation.

Although cycling through the sub-loop in a reflective conversation runs clockwise, if a virtual world experiment was conducted and positively evaluated, then the coach would return immediately to the experimentation stage to conduct a real world experiment with the coaching strategy. The coaching strategy would then be evaluated once again (based on its real world experiment) and the coach would either exit the reflective conversation or attempt to generate another more effective strategy. If, however, a virtual world experiment was not positively evaluated then the coach would proceed forward to the strategy generation stage before returning to experimentation.

Connected cycles through a reflective conversation often resulted in what coaches believed were sudden insights or discoveries. These apparently spontaneous moments of revelation were in fact the result of numerous cycles through a reflective conversation strung together to provide the foundation for an 'aha' experience. Evidence to support this proposition is seen in the coaches' statements characterized by terms such as 'realization' or 'discovery.' This conclusion is supported in one of the soccer coach's (Jackie) explanation of how she developed a pedagogical strategy used in practices. She realized that as a coach it is best to only plan a few activities for each practice, as opposed to her early experiences when she overloaded the athletes with information.

YOU MENTIONED THAT YOU CAN ONLY GIVE THEM THREE OR FOUR THINGS DURING PRACTICES, YOU DON'T WANT TO OVERLOAD THEM. HOW DID YOU LEARN TO TAKE THAT APPROACH?

I'm not sure, just common sense I guess. If you are giving them too much then the kid is going to think he is not doing anything right and he will be second-guessing everything he is doing on the field. Whereas if you talk sort of in general strategy, you know maybe there is not enough support around the ball or maybe we are not moving the ball fast enough, two touches, and things like that, you give them things that the whole team can benefit from. I guess through experience I just realized that you can confuse them if you overload them.

An example of how an episode of reflection was actually composed of three separate yet connected episodes, that covered more than one week of coaching, is provided from the ice hockey coach Richard. One of the dilemmas Richard experienced during the 1997-98 ice hockey season was how to wean the players off of their reliance on the coaching staff to tie their skates. Although at first glance this may not appear to be a major issue, it was set as a significant challenge by Richard because before every game and practice the coaching staff had to spend 5-10 minutes tying skates instead of covering their plan for the event. This in turn took away from time on the ice and player preparation. In the ensuing dialogue, three cycles through a reflective conversation are evident (offer to tie skates if laced, Christmas deadline for tying skates, deadline of next practice for tying skates).

The players don't know how to tie their skates. A lot of them had problems tying their skates, and Don (trainer) would be doing seven pairs a night, I would be doing the odd three. So one day, and there were only about seven or eight of them that needed their skates tied, the rest can do it themselves. So one day I came in and I said 'Okay, you guys, whoever

needs their skates tied, you have five minutes to have your skates on and then we will come around and do all your skates.' Well, the whole team took advantage of that. So five minutes were up, boom, we had 17 skates to tie. It was just getting ridiculous. We did the same thing for the second game, same thing. They all took advantage of us. So I said 'Okay, after Christmas, everybody is tying their own skates. If you don't tie your skates, and I don't care if your dad comes in and does them, but we are not going to do them and if your dad is not there to tie them and you can't tie them, you are not playing.' 'Okay, okay, no problem' is what they said. Christmas was still a long time off and they just kept taking advantage. I mean, it was ten minutes before the game and we still had six pairs to tie. So last Friday we had a game, I told them, it was short notice, I said, by tomorrow's practice we are not tying any more skates. Saturday everybody tied their skates, everybody. Some were loose, but hey, you are going to learn. So everybody did and we haven't tied a pair of skates since. So that was excellent.

SO YOU WILL CONTINUE WITH THAT POLICY?

Oh yeah, oh yeah, because it just got really brutal. Because the kids would sit there and say, 'My hands hurt. And we are like, 'Hey, we are doing eight pairs, our hands are hurting too.' And it is going to be better for the kids to be dressed on time now, because they don't have to wait around for us to come around.

WAS THAT YOUR IDEA?

That was my idea, because it was just getting out of hand. And I even told Shawn (assistant coach) and Don (trainer), even if the kid is crying, I don't want you touching his skates. Apparently that got to the kids, because the next day all the skates were tied. [Richard, Interval 2 summary interview]

A more detailed presentation of the results for each of the six components of the experiential learning process, starting with coaching issues, is presented in the remainder of this section of Chapter 4.

Coaching issues. A total of 89 coaching issues were identified and discussed with the case study coaches (see Table 15). To facilitate presentation of the results, the issues were regrouped into subtypes within each of the five types of coaching issues. The most frequently discussed type of coaching issue was athlete issues (e.g., attendance, focus, discipline, work ethic). Organization issues related to the management of the team were the next most often discussed type of coaching issue. The least frequently discussed type of coaching issue was the coach type of issue (communication, teaching, personal concerns). Issues from the coach category were not discussed at all in four of the case studies.

Based on the data collected with the case studies, organization issues appear to demand an immense amount of the coaches' time and energy. Each of the coaches solicited the assistance of parents to volunteer as members of a 'management team.' For example, most of the case study coaches recruited parents at the beginning of the season to distribute team responsibilities and to keep parents involved. Yet despite their efforts to minimize the amount of time they spent on organization issues, the coaches still addressed organization issues more than any other type of issue except athlete issues.

I have two managers, I just coach the team. One of them is the day to day manager and the other one does the tournaments and registering the team for tournaments and accommodations and keeping the parents informed and all that. I've got people that bring out ice, I've got people that put up the nets, I've got people that bring out tarps when it rains and set up a little tent for the kids. It has been just absolutely fabulous. I don't touch the

Table 15

Cross-case Coaching Issues

Type of Issue Sub-type	Coach					
	Jackie	Barb	Jennifer	Bren	Richard	Duane
Athlete (n=29)¹						
Attendance	X				X	X
Fitness level	X					
Focus	X	X		X		
Discipline			X ²	X ²	X	
Leadership (team captain)			X			
Pre-game preparation				X ²	X ²	X
Team morale			X	X ²		
Work ethic	X	X ²	X		X ²	
Coach (n=3)						
Communication		X				X
Game strategy approach						X
Environment (n=9)						
Attendance (coaching staff)	X					
Fundraising		X	X			X
Parent comments (negative)			X ²			X ²
Organization (n =26)						
Assigning player positions	X					X
Assigning team captain			X			
Distribution of playing time	X		X ²	X	X	X
Game planning		X				
Practice drill effectiveness	X	X ²			X	
Practice planning		X ²				
Practice scheduling	X		X			
Skill development		X				
Team selection			X		X	X
Performance (n=22)						
Individual tactics	X			X	X ²	X ²
Individual techniques	X ²	X		X		X ²
Team tactics	X			X ²	X ²	

¹Represents total number of separate issues within one type of issue

²Represents occurrence of one or more separate issues within a sub-type of issue

nets, I don't touch the corner flags. I've got parents volunteering to do the lines and it has been a real easy year that way. [Jackie, Interval 3 summary interview]

Interestingly, the case study coaches indicated that they did not learn the strategy of distributing team responsibilities through coaching materials or coach education programs. Instead they claimed to have learned this strategy through trial-and-error, or reflecting on their coaching experience.

I had written in the letter for the kids who were trying out that there is going to be 16 positions on the team for the players but in addition there would be 16 parental positions. So in order for you to continue be prepared to volunteer, be prepared to do something. I have a list of job descriptions written out.

THAT LIST OF DUTIES, IS THAT ALSO SOMETHING YOU DEVELOPED ON YOUR OWN OR DID YOU PICK THAT UP FROM SOMEONE ELSE?

No, I started that years ago when I was coaching hockey. I did it on my own and because I've fulfilled a number of those positions, all the details you could think of I just kept adding. Things that I used to do as a coach that I felt weren't part of my role I would just add them to the job description for another role. [Jennifer, Interval 3 summary interview]

Twelve subtypes of coaching issues were experienced and discussed by at least 50% of the case study coaches (see Table 15). Five of these subtypes of issues were in the athlete category, three in performance, three in organization and one in the environment category. The most frequently cited subtype of coaching issue, cited by 5 of the 6 case study coaches, was related to the distribution of playing time (in the organization category). Because of structural differences in soccer and ice hockey, this issue was discussed more often by the ice hockey coaches. In soccer, the distribution of playing time for athletes was generally only an issue related to the

goalies. Most of the soccer teams carried 15 or 16 players and the games typically required 10 players on the field at all times (excluding the goalie). In ice hockey, the distribution of playing time for goalies was also an issue, but so too was the distribution of playing time for all other athletes. Similar to soccer, the ice hockey teams generally comprised 15 or 16 players. However, unlike soccer, only five players were allowed on the ice at most times during a hockey game (excluding the goalie). As a result the ice hockey coaches developed a myriad of strategies to monitor the amount of playing time each athlete received in a game. Most of the ice hockey coaches limited each player to one or two minutes of ice-time per shift (before another player is substituted) thereby ensuring that the playing time would be equitably distributed among the players. One of the hockey coaches occasionally even asked his team manager to record the number of shifts that each player received in a game. This information was then evaluated and the coach would alter his strategy accordingly.

Like last night I asked my manager just to check the number of shifts of everybody. I started looking at it this morning and they are almost identical shifts. Like the three lines [of players], they are almost getting three shifts a period each, which is nine shifts.

ARE YOU GOING TO HAVE YOUR MANAGER MONITOR SHIFTS ALL THE TIME NOW?

No, not all the time, just now and then. Just to make sure that we don't stray. [Duane

Interval 1 summary interview]

Regardless of the type, or subtype, of coaching issue, issues served as important triggers for a reflective conversation (see Figure 4). This proposition is supported by many examples of the coaches deciding *not* to engage in a reflective conversation, or to cease a reflective conversation, because a situation was not set as a challenge. The issue of team attendance or commitment was

cited by several of the coaches (both in the case studies and the focus groups) yet several of the coaches never developed a coaching strategy to address this common issue. For example, Duane never set it as a general coaching issue and therefore never developed a coaching strategy. Therefore, no new coaching strategies related to team attendance were generated and a reflective conversation was never triggered.

WITH ATTENDANCE, YOU'VE NEVER REALLY SAID IT WAS A BIG PROBLEM.

No.

BUT I NOTICED JUST GOING OVER THE INTERVIEWS, YOU SAID AT THE PRACTICES IT SEEMS THAT YOU NEVER CAN GET ALL THREE LINES THERE.

No, there is always one kid, always one kid that is missing for whatever reason.

AND THEN YOU ALSO MENTIONED THE SAME THING FOR THE GAMES.

Yeah, in the games often, with the five defense, sometimes I've had to bring up a defense. I haven't had a full team every time. Like last night I was missing three kids. So I've got to shuffle and shuffle, and Tony is one of the kids I want on the ice in the last two minutes and he wasn't there, he was in Toronto. I haven't kept an attendance checklist, who comes and who doesn't, because they all have good excuses.

SO BASICALLY WITH THE ATTENDANCE THERE IS NOTHING THAT YOU HAVE PLANNED TO DO THERE?

No, no. It has been okay. It has not been a major problem, it is just a minor irritant more than anything else. [Duane, Interval 2 summary interview]

Role frame. A composite of the role frame diagrams developed for each of the six case study coaches is presented in Figure 5. To illustrate the relative importance of each role frame component, the number of case study coaches in which a component was evident is included in

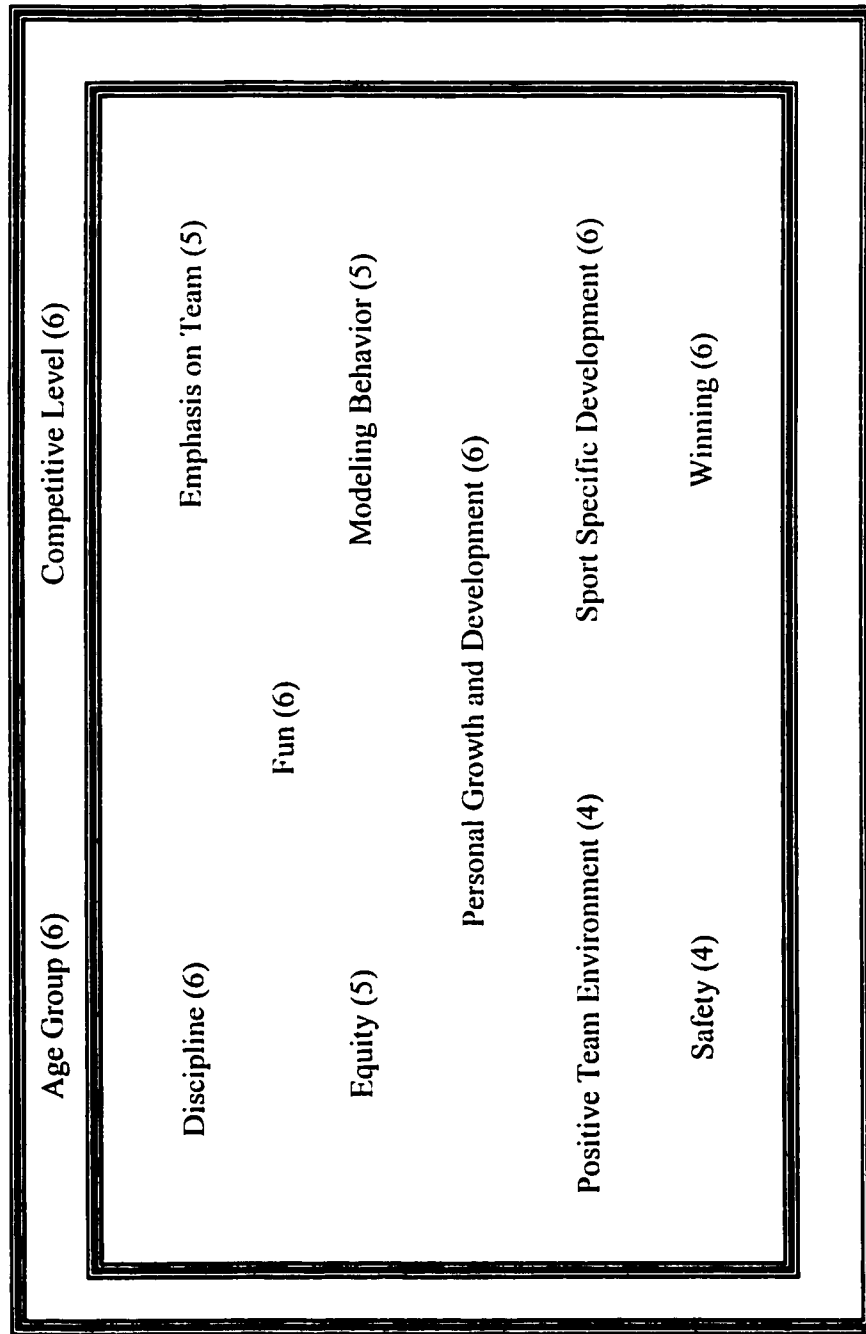


Figure 5. Composite Role Frame Diagram
 (n) = number of case study coaches in which component emerged

parentheses. On average, the coaches' role frame comprised two boundary components and 10 internal components. The boundary components influenced, or bound, all of the internal components (internal to the coach's role frame). Boundary components are objective conditions of the environment that can influence an individual's approach to coaching (e.g., age of athletes and level of competition). Internal role frame components are personal views a coach holds regarding youth sport coaching (e.g., equity and modeling behavior).

Although the boundary components remain fixed, their status directly influences the structure of the internal role frame components. For example, the age of the athletes may always be considered as a boundary component, but the organization of the internal components of a coach's role frame will vary according to the age of the athletes. In this sense, the internal components of a role frame are fluid; their organization is dependent on the status of the boundary components.

The two boundary components that were found for all six case study coaches were the age group and competitive level of the athletes (see Table 16). The gender of the athletes was only cited by two coaches, both of whom had experience coaching athletes of the opposite gender. They explained that they discovered, only through their experience, the importance of adjusting their role frame components based on the gender of the athletes. For example, the soccer coach who taught a girls team explained the need for pre-practice social time and quick transitions between practice drills because of the different behaviors of young girl soccer players compared to young boy soccer players. Perhaps this finding would have been more prominent if additional coaches of gender different than their athletes' gender were included in the case study sample.

Table 16

Cross-case Role Frame Components

Level of Component	Coach					
Component	Jackie	Barb	Jennifer	Bren	Duane	Richard
Boundary						
Age group	X	X	X	X	X	X
Athlete gender	X	X				
Athlete goals	X					
Community				X		
Competitive level	X	X	X	X	X	X
Time of season	X					
Internal						
Discipline	X	X	X	X	X	X
Emphasis on team	X	X	X	X	X	X
Equity	X	X	X	X	X	X
Foster love of sport		X	X			
Fun	X	X	X	X	X	X
Modeling behavior	X	X	X	X	X	X
Personal development	X	X	X	X	X	X
Positive team environment		X	X	X	X	
Safety	X		X	X	X	
Sport specific development	X	X	X	X	X	X
Winning	X	X	X	X	X	X

What I am going to try and do again this year is to encourage the girls to be there 10-15 minutes before the practice starts, or actually give them that 15-minute window. Say, 'Okay, here are 15 minutes that you can arrive at this time, the first 15 minutes you can talk,' because the difference between girls and boys that I have found is that for the girls it is a real social activity. You also have to be very quick to go from one drill to the next because sometimes they take too much time during the water breaks to socialize, which is not an entirely bad thing because they are more team oriented. [Barb, Background interview]

Although 11 internal role frame components were evident, 10 were found for at least four of the six case study coaches (see Table 16). In addition, five of the internal role frame components emerged with all six case study coaches: discipline, fun, personal growth and development, sport specific development, and winning. Although athlete development (both sport specific and personal) and winning are situated as internal role frame components, their diametrical nature often created a psychological conflict for the coaches. On the one hand, the coaches espoused the benefits of sport participation on athlete personal and motor skill development, yet at the same time they frequently tried to balance that objective with team success (i.e., winning).

I like to think that development is my key issue but I have to admit nagging in the back of my head is I would really love to win. Like the game last night, they played a great game. It will take me a day or two to get over the fact that mistakes were made. So yes, it is a balance. The key for me, I would like to say that development is the key but there are nagging voices in the back of my head that say it is nice to win. It is human nature.

Everyone is under pressure to win more and I still don't believe that is the right thing. I want to say 'No, winning doesn't matter,' but there is a part of you that says 'Yeah, you have to win!' [Barbara, Interval 2 summary interview]

Issue setting. The first stage within a reflective conversation is issue setting. Issue setting included two related phases: issue identification and issue framing. To first be considered a coaching issue, an event or situation must first be identified (in a sense the coach has to 'find' the issue). The issue identification phase is a conscious process that sometimes involves peers. Once an issue is identified, it is then framed (i.e., why it is considered to be an issue worthy of attention). Issue framing is mostly an unconscious process engaged by a coach before attempting to generate a coaching strategy.

Three issue setting options were found: joint, other, and self (see Figure 4). Most coaching issues were set based on the coaches' own observations (self) without consultation with other individuals. For example, coaches typically identified issues based on their personal observations of events. This trend was found for all types of coaching issues with the exception of team performance issues. A process of joint identification of performance issues was clearly evident in five of the six case study coaches. Joint identification is the process used to identify coaching issues when a coach and one or more peers, typically an assistant coach, engage in a dialogue to determine (or set) coaching issues that need to be addressed. Joint identification of coaching issues was generally accomplished through informal discussions between a coach and a peer on-site at the arena or soccer field, before or after a game or practice. A third, and less common option, in the issue setting stage included comments from parents and team management (other). This option was typically found only for some organization and environment issues.

Once a coaching issue was identified, it was often considered to be an issue based in multiple components of a coach's role frame. For example, athlete attendance could be set as a coaching issue for several reasons, such as a coach's concern for: (a) the athlete's sport specific development - if they do not attend practices they will not have enough time to learn how to

execute the skills, (b) winning - if enough athletes don't attend games and practices then the team will not experience success, and (c) personal growth and development - if athletes only attend games and practices when they want to they are not learning commitment and respect. This finding also illustrates that coaching issues were often more complex than they outwardly appear.

Strategy generation. Six options for generating coaching strategies were found. Three were dependent on coaching peers: advice seeking, joint construction, and reflective transformation (see italicized options in Figure 4). The other three were independent of coaching peers: coaching materials, creative thought, and coaching repertoire. Overall, the most frequently cited option was creative thought. Generating coaching strategies through a process of creative thinking was predominant in all six case study coaches. Creative thought was evident in coach statements such as 'I have to think about that', 'I am mulling it over,' or 'I need to sleep on it.' Creative thought was also frequently used in conjunction with other strategy generation options. For example, four of the six case study coaches also relied heavily on their personal repertoire of coaching strategies. When coaches referred to their personal repertoires they often described it as 'digging into my bag of tricks' to generate a strategy.

Another common option for generating coaching strategies was to jointly construct strategies with a coaching peer, typically one or more assistant coaches. All of the case study coaches described occasions when a coaching strategy seemed to emerge from a conversation with their peers. This option, labeled joint construction, is a dialogue between a coach and one or more peers to generate coaching strategies. When the coaches explained the process of jointly constructing a strategy, they typically used words like 'we' or 'us' as opposed to 'I' or 'me' and they could not attribute the coaching strategy only to either themselves or their peers. Both

parties equally contributed to the process of generating a strategy by sharing ideas or possible strategies until a new strategy was developed. Although this finding was evident to some degree with all six of the case study coaches, it was more prevalent with the ice hockey coaches. It is possible that the different environment of each sport accounts for some of this difference.

For example, in ice hockey the coaches and athletes typically arrived 30-40 minutes before each game or practice and then didn't leave until 20-30 minutes after each game or practice. In soccer, the coaches and athletes typically arrived 5-10 minutes before games and practices and left 5-10 minutes after the completion of games or practices. Because of the amount of equipment used by ice hockey athletes, they require more time to prepare than soccer athletes. In addition, in ice hockey the playing surface must be prepared and cleaned between each game or practice, whereas in soccer the athletes simply walk onto the field once they arrive. The extra time afforded to ice hockey coaches before and after each game or practice provided them with more opportunities to discuss coaching issues and coaching strategies with their coaching peers. For example, the ice hockey coaches were frequently observed in discussion with their assistant coaches or parents in the hallways outside the dressing rooms or in the arena lobbies.

Advice seeking was similar to joint construction only in that possible coaching strategies were discussed with one or more coaching peers. Whereas joint construction was a shared generation option, in advice seeking the coach was a passive receptor of possible strategies from a coaching peer. For example, occasionally a coach would contact another respected coach and ask for strategies to help resolve a challenging issue. A third option used to generate coaching strategies, in which peers were consulted, is referred to as reflective transformation. Most of the case study coaches mentioned that they occasionally observed or listened to other youth sport coaches to generate coaching strategies. Although this method of generating strategies was

inductively discovered in the present study, the term reflective transformation is borrowed from Schön (1988). Reflective transformation is the process of observing another practitioner's strategy and then modifying and testing it in another environment. It differs from mere observation and transfer of a strategy, because the strategy is transformed to fit the practitioner's unique role frame and environment. Therefore, observation of coaching strategies used by other coaches does not lead to mechanical replication of the strategy. For example, although a coach may observe another coach using a practice drill and decide to use it with his or her own team, typically the drill will first be modified.

However, reflective transformation was not a deliberate and frequent form of strategy generation used by the coaches in the present study. The coaches explained that generally they would only have an opportunity to observe or listen to other coaches when they were: (a) present at tournaments where they could watch many games in a short period of time, (b) waiting for another team to leave the playing surface before a scheduled practice or game, or (c) attending a game or practice with one of their children who participated on another team. Therefore, reflective transformation was a valued option for generating coaching strategies but none of the coaches scheduled time specifically for this purpose. When asked about this conclusion all of the coaches indicated that they were simply too busy with their regular jobs, volunteer coaching, and parenting (five of the coaches were parents, three of whom also had children participating on other teams at the same time they were coaching).

Coaching materials such as books and videotapes were rarely mentioned when discussing coaching issues. However, when the case study coaches were questioned about this finding they explained that coaching materials were indeed a valuable option for generating strategies even though they did not regularly refer to these materials.

Experimentation. The two types of experiments, real world and virtual world, were found with each of the case study coaches (see Figure 4). Real world experiments were the true test of any coaching strategy. The only time a real world experiment was not conducted was when the action-present for the issue had passed (e.g., after the season was finished and there was no opportunity for real world experimentation). Virtual world experiments were not conducted as often, but the use of a virtual world experiment was found at least once in each case study. Virtual world experiments were conducted in one of two mediums, graphical display or peer sounding boards. An example of a graphical display virtual world experiment is when a coach uses a piece of paper and a pen to test different strategies before implementing them in the real world (e.g., practice drill design, tactical arrangement of athletes).

The more common medium for conducting virtual world experiments was peer sounding boards. Five of the six case study coaches used peer sounding board virtual world experiments to address at least one of the coaching issues they discussed. Peer sounding boards were usually a member of the coaching staff, such as an assistant coach. To conduct this type of virtual world experiment a coach would typically generate a strategy and then test it on his or her peer sounding board (some coaches described this as 'running it by' their peers). Only if the virtual world experiment was positively evaluated by the peer sounding board was it considered ready for real world experimentation.

Evaluation. After experimentation with a coaching strategy, the coaches evaluated its effectiveness (i.e., Did it resolve the coaching issue?). Three evaluation options were found: other, peer, and self (see Figure 4). In general, the case study coaches preferred to make evaluations of experiments on their own (self). Occasionally the coaches also solicited feedback from their coaching colleagues (peer), or parents, team management, and athletes (other).

Evaluative comments from colleagues or others, however, were generally restricted to those occasions when a virtual world experiment was conducted.

Evaluation of an experiment resulted in one of three outcomes: (a) termination of the reflective conversation, (b) repetition of the reflective conversation cycle beginning with strategy generation, or (c) abandonment of the issue. If an experiment was positively evaluated because of its effectiveness at resolving the coaching issue, the reflective conversation and experiential learning process specific to that issue was concluded. If, however, an experiment with a coaching strategy did not have the intended impact on the coaching issue, then typically a coach would continue the reflective conversation and return to the strategy generation stage. Yet other times when an experiment was negatively evaluated, a coach would simply abandon the issue. For example, if a coach felt that he or she had too many issues to address, or if an issue was considered chronic and part of a life as a youth sport coach, it was sometimes ignored.

Conditions on the Profile of a Reflective Conversation

Although numerous cycles through a reflective conversation were often completed, the profile of a reflective conversation varied both within and between coaches. This finding may appear to suggest that the coaches' reflection did not follow any pattern. However, a review of the data revealed four conditions that help to explain how a coach would 'turn the wheel of options' at each stage in a reflective conversation. The profile of a reflective conversation was found to depend on (a) access to knowledgeable peers, (b) stage of learning, (c) issue characteristics, and (d) environment. To unlock the profile of a reflective conversation, the turn of the wheel of options at each stage is similar to a combination lock. A coach will turn the wheel at each stage to the option that best fits the four conditions. This analogy is not to be taken literally; the coaches were not found to engage in a conscious process of reviewing each option

every time they experienced a challenging issue. Instead, the turn of a combination lock provides a metaphor to explain why the profile of a reflective conversation varied. Furthermore, no single condition alone was sufficient to determine the profile of a reflective conversation; yet, neither were all four conditions always considered.

Access to knowledgeable peer sounding boards. If a coach had convenient access to one or more coaching peers, referred to as peer sounding boards, then it is likely that peer-related options would be selected in a reflective conversation (see italicized options in Figure 4). However, the simple presence of coaching peers was not enough to lead a coach to select peer options. Although peer sounding boards must be accessible, they must also be respected and trusted for their knowledge of coaching. Two specific examples are provided to further support this proposition.

Jackie's assistant coach was highly regarded for his competence as a youth soccer coach, yet she seldom had access to him. During the 1997 soccer season, Jackie's assistant coach was absent from many games and practices because of his work schedule and family situation. Because of limited access to her assistant coach, Jackie modified her selection of peer-related options at most of the stages of the reflective conversation, other than issue setting. Jackie and her assistant coach generally would jointly set issues but then Jackie would proceed through the remainder of the stages in the reflective conversation without consulting her assistant coach.

A lot of what has happened this year is, because we (Jackie and assistant coach Bob) are so busy, it is hard for Bob and I to get together. We haven't jointly planned any practices. I thought at the beginning of the season we would have done more of that and I had good intentions of doing that, getting together and maybe planning out a season plan, but it is hard. So the way it has been working is primarily Bob will make some observations and his

observations are pretty accurate. He has been around the game quite a while and he has coached a lot and quite often his observations match mine so then, okay, we should address this. So then it comes back to me to plan something, to fit it in. Or the odd time I will ask Bob, 'What do you suggest for this? What drills do you have, what games do you have for this?' He has his own mind full of different drills and games he uses. All coaches are like that and some of his stuff won't work for me, but some of his stuff will and does and when I see it I know it. [Jackie, Interval 3 summary interview]

In the second example, the reverse situation is evident. Barbara generally had access to two of her assistant coaches but she did not consider them knowledgeable enough to serve as peer sounding boards. Therefore, Barbara mostly selected non-peer types of options at each stage in the reflective conversation. She repeatedly stated that she wanted to involve two of her assistant coaches more in the coaching process. However, she realized that one in particular was not knowledgeable enough about coaching soccer to be considered an option at any stage in a reflective conversation.

Stage of learning. A second condition that influenced the profile of a reflective conversation was a coach's stage of learning. Identical statements from each of the case study coaches supports the existence of a continuum of learning stages. At one extreme the coaches appear to rely mostly on acquisition types of strategy generation options (e.g., coaching materials and advice seeking). The other end of the learning stage continuum is characterized by a reliance on construction types of strategy generation options (e.g., creative thought, joint construction).

Each of the case study coaches indicated that with their perceived development as a coach, they gradually decreased their reliance on coaching materials. For example, one of the coaches indicated that early in his coaching career he carried a coaching book in his pocket with him at

all times. Other coaches explained that when they first started coaching they frequently visited libraries in search of ‘knowledge’ for their coaching.

A large amount of time was dedicated to increasing coaching knowledge in the first three or four years until a comfort level was achieved. I put an awful lot of work in at the front end. I took some courses, purchased some books, watched some videos. When I look back at the 13 issues that had to be resolved, 90% of them were resolved by either creative thought or personal repertoire and I think there were two or three with other coaches or coaching staff. Year one or two of my coaching that would have been radically different. If I wanted to do something on finishing I would have to go and watch a video and I would make notes while I was watching the video, or if I needed some drills I would go to a book and find some drills, or maybe talk to another coach. But once you have used a lot of this stuff it just becomes second nature and you know what works and what doesn’t work. In the first (few years of coaching) I was just acquiring (knowledge), I was just trying to learn as much as I could. Learn as much about the game and then you really start to construct it. [Jackie, Validation interview]

Issue characteristics. Issue characteristics, such as the type of issue and the complexity or challenge of the issue, were also found to influence the profile of a reflective conversation. Of the five types of coaching issues (see Table 9), performance issues stood apart as a condition for determining the profile of a reflective conversation. For routine performance issues (e.g., techniques or tactics) the coaches would often rely on coaching materials as a strategy generation option. Early in the study most of the coaches reported that they had accumulated extensive personal libraries of coaching materials. However, while discussing specific coaching issues the coaches seldom referred to their coaching materials as a source for generating strategies. When

questioned about this apparent contradiction, each of the coaches revealed that they did indeed refer to the coaching books and videotapes, but mostly to address performance related issues.

Coaching strategies derived from coaching materials were typically in the form of practice drills.

BUT WHEN YOU GO TO THOSE BOOKS IT IS MOSTLY JUST FOR DRILLS?

Oh yeah, for drills, for practices, for things where we want some variation. Or like I say I will often take a drill designed for a higher level of hockey and modify it for the division that I am coaching.

BUT OTHER TYPES OF ISSUES THAT WE TALKED ABOUT, DO YOU GO TO THE BOOKS FOR THAT TOO?

No, no. I just use my own experience. [Duane, Validation interview]

In addition to the type of coaching issue, the degree of challenge in the issue was a strong determinant of a reflective conversation profile. For example, if an issue was perceived by a coach to be of minor significance and expected to be resolved easily, any consultation with peers or creative thought was likely bypassed. Instead the coach would typically generate a strategy from his or her coaching repertoire, or possibly from a coaching material if it is a performance type issue, conduct a real-world experiment only and conduct self-evaluation. Just the opposite pattern was found when the coaches experienced very challenging dilemmas in their practice.

Environment. The fourth condition that emerged was the environment in which each coach was situated. For example, parental support for competitive youth sport was cited as an environmental condition that influenced the profile of a reflective conversation. As a case in point, one of the ice hockey coaches decided early in the 1997-98 season to experiment with special teams (units of players selected to play at critical times during the games). This was a strategy generated through creative thought and it was the first time that he was going to

experiment with the strategy (he believed it was appropriate because of the age group and competitive level of the athletes). After the initial experiment, however, he received extremely negative evaluations from one of the parents on the team. From that point on he reverted to strategies from his repertoire to address the issue (play all players equally; use best players in last two minutes of close games only). Therefore, creative thought and experimentation were stifled because the coach felt restricted in his freedom to coach. He also received other parental complaints about minor issues throughout the season. During one interview in the middle of the season he summarized how the environment (parents) choked his ability to engage in creative thought and experiment with novel coaching strategies.

So we've had three problems with parents, beginning at the start of the year with my powerplay, I haven't had one since then. It seems to me they [parents] don't appreciate what you are doing. When little things happen, you shut-up and you take it, it is competitive hockey. Coaches do things, or they make decisions for a reason and it is not for them to start right away jumping on the coach. The other night I had a reason for doing it [powerplay] but they cut my legs. Now I know there are some parents talking behind my back saying I am not a good coach or saying I am not coaching competitive hockey, I am more coaching the style of house league because I am just opening the door and sending three out and three back. The reason I am not doing it is because I don't want to get accosted again. So at this level I am not allowed to coach the way I would like to coach. [Duane, Pre-practice 4 interview]

As well as parental support, other environmental variables such as support from the sport association (resources, finances, facilities), the profile of the community and the level of competition were cited. For example, the ice hockey coaches repeatedly expressed a concern over the lack of support from the community and their local sport association. In at least one case

the coach believed that the profile of the community in which he coached, and the lack of importance placed on competitive sport, severely restricted his ability to generate and experiment with creative strategies.

It depends on your parents, you know. You will notice around town there is, like there are some programs there that are very serious. I notice it right away, very serious. But the parents that are there, are right in line with those coaches, they are gung-ho. Those kids were there an hour before (the game). I mean that is ultimately what you would like to have but I am in a different environment in our neighborhood. The lifestyles are different. Hockey is not that important, it is more recreation oriented than, less regimented. Those programs are always the envy to me when you see how more successful they are, I think, from that perspective.

[Bren, Interval 1 summary interview]

Chapter Summary

An overview of the focus group and case study results was provided in the present chapter. The results of the focus group interviews, that served as a pre-study to prepare the researcher for the in-depth case studies that followed, provided support for the assumption that youth sport coaches frequently develop knowledge for coaching through experience. Furthermore, based on a review of the types of issues and strategies revealed in the focus groups, the researcher was better prepared to conduct the case studies.

The experiential learning process found in the case studies comprised six components: (a) coaching issues, (b) role frames, (c) issue setting, (d) strategy generation, (e) experimentation, and (d) evaluation. Central to this experiential learning process is a cycle of reflective conversation. The profile of a reflective conversation sometimes varied within across the case study coaches based on the influence of four conditions: (a) access to peers, (b) stage of learning,

(c) issue characteristics, and (d) environment. Examples of the experiential learning process, and how the four conditions impacted the reflective conversation embedded within it, are presented in case summaries in the following chapter.

Chapter 5

Case Summaries

Based on the data collected through a discussion of coaching issues experienced by each coach, five propositions related to the experiential learning process were developed (role frame, issue setting, strategy generation, experiment, and evaluation). To facilitate the presentation of results for the five propositions, three types of data displays are included for each coach. The propositions are summarized in proposition matrixes; each coach's role frame is displayed graphically in a role frame diagram; and the options used in each stage of a reflective conversation for each coaching issue are presented in issue review matrixes.

Soccer Coach 1 - Jackie

Jackie discussed 13 coaching issues that she experienced during the 1997 soccer season. At least one issue from four of the five categories of coaching issues was experienced and discussed by Jackie. The only type of coaching issue that was not discussed were issues in the coach category. An equal number of athlete (4), organization (4), and performance (4) types of coaching issues were discussed. The proposition matrix for Jackie is presented in Table 17.

Role Frame

Jackie's approach to coaching comprised five boundary components and nine internal components (see Figure 6). The five boundary components were the age group of the athletes, athlete gender, competitive level of the team, goals of the athletes and the time of the season. Although the boundary components remain fixed, their current condition directly influenced the structure of the internal role frame components. For example, the age of the athletes will always bound Jackie's approach to coaching, but the organization of the internal components of

Table 17

Proposition Matrix for Jackie

Proposition	Summary
Role frame	Approach to coaching comprised five boundary components and nine internal components. Five boundary components were age group, athlete gender, competitive level, athlete goals and time of the season. Two levels of internal components; 1) discipline, emphasis on team, modeling behavior, personal growth and development, safety, and sport specific growth and development 2) fun and winning.
Issue setting	Three methods of identifying and setting coaching issues emerged: joint input, other input and self. Assistant coach was frequently consulted to identify and set coaching issues. Coaching issues were typically framed in multiple components of role frame.
Strategy generation	Most common sources of coaching strategies were creative thought and personal coaching repertoire. Other valued methods of generating coaching strategies were advice seeking and reflective transformation. He seldom consulted with his assistant coach at this stage because of context. Coaching materials were never cited.
Experiments	All strategies were subject to real world experiments. Two types of virtual world experiments were also found, thought experiments and peer sounding board experiments. Three factors influenced use of virtual world experiments: degree of challenge posed by issue, depth of coaching repertoire and context.
Evaluation	Experiments were generally evaluated on her own in the form of self-evaluation. Occasionally feedback was also solicited from her assistant coach and other individuals involved with the team. She has always preferred to make evaluations on her own, although the depth of her evaluations has increased with experience.

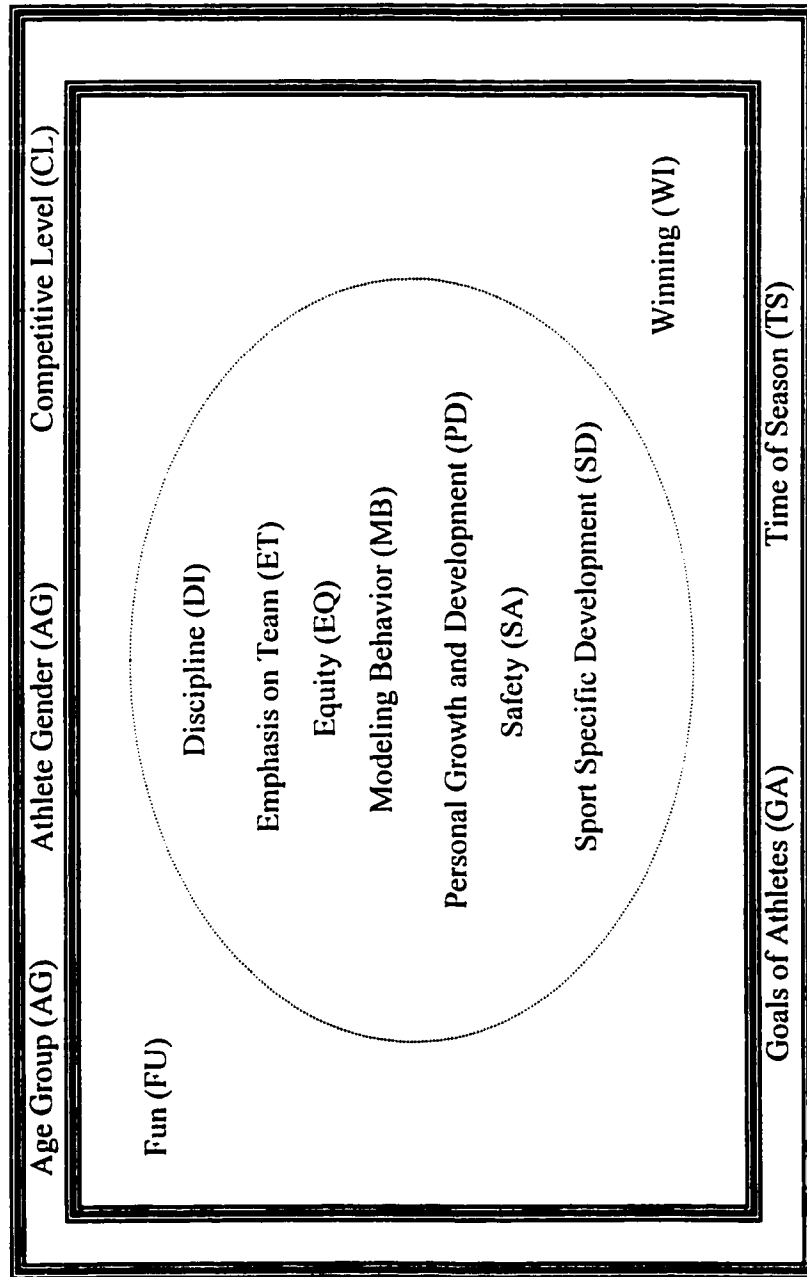


Figure 6. Role Frame Diagram - Jackie

her role frame will vary according to the age of the athletes she is coaching at the time. In this sense, the internal components of her role frame are dynamic. Their organization is dependent on the conditions of the boundary components.

This (role frame) is very fluid. This would change depending on a lot of factors, like if the players age, if this was two or three years ago this would change substantially. Discipline is not really an issue for players at that age, they just want to get out there and do well and they will do whatever you ask them to do. And I think the fun thing would be in the center and the discipline would flip out and emphasis on team would probably not be as important because you are trying to develop individual skills. A lot of it has to do with the makeup of the team. Number one – the age of kids. I found myself doing and saying things that I never had to say before because they were getting to that age where the teenage years are just starting to kick in and challenging and that kind of stuff. The level of competition would certainly affect this model. If you were coaching house league, or if you were coaching girls' soccer where the social part of the game, for a lot of them that is primary. This (role frame) would change at different times of the season as well. Like if you are going into the playoffs, you have to get them more focused, more intense. At certain times in the year discipline is an issue and then it isn't an issue and then all of a sudden something else comes to the fore. [Validation interview]

Also, Jackie declared that her role was framed by the individual and team goals of the particular group of athletes that she was coaching. She believed that the main goal for most of the players on the team was to experience a high quality level of soccer competition.

For the internal components of Jackie's role frame there were two levels of importance. The first, and more central level of importance is depicted by the inner circle of components in the

role frame diagram (see Figure 6). The first level comprises seven role frame components: discipline, emphasis on team, modeling behavior, personal growth and development, safety, and sport specific development. These role frame components were central to Jackie's approach to coaching, for the team she was coaching at the time of the present study. For example, Jackie believed that one of her primary roles as a youth soccer coach, within the conditions of the boundary role frame components, was to promote not only sport skill development but also personal growth and development. An emphasis on personal growth and development included life skills that were transferable outside of the sport domain, such as codes of conduct, personal responsibility and work ethic.

I'm trying to turn them into young men. I'm pretty strict with what I will and will not allow, on or off the field, whether we are going to a tournament and they are in a hotel, there is still a standard of behavior that I would expect from them. So I don't just, I'm not there just to teach them the skills and send them on the field to win the game. [Background interview]

I will go with the best 15 if all 15 are working hard in practice, then all 15 will play. I will go with kids who have the right attitude and work ethic and want to improve their game over somebody who has the natural athletic ability that is out there just floating through. [Interval 1 summary interview]

The second level of Jackie's role frame consisted of the fun and winning role frame components (see Figure 6). These two components were considered peripheral components of Jackie's role frame and are therefore positioned outside the circle of inner components. These are considered secondary components because they did not appear with the same intensity or frequency of the primary components. For example, although winning (team success) was important it was not as important as the central role frame components. This is supported by

another example from how Jackie distributed the playing time for the goalies. During a local tournament they were playing a visiting team from France. Because each team is typically only guaranteed a few games (3-4) the outcome of every game in a tournament is critical for proceeding to the next round of play. However, instead of only playing the more skilled goalie, Jackie allowed both of her goalies to play one-half of the game because she realized they both wanted to have an opportunity to play against a foreign team. Although this decision was counter to her typical strategy for distributing playing time for goalies and the game was very important, the primary role frame component of equity took precedence.

Issue Setting

Three options for identifying coaching issues emerged with Jackie: joint input (JO), other input (OT) and self (SE). Ten of the coaching issues that were discussed were identified by either joint input (5) or self (5). Interestingly, joint input was the only method used to identify coaching issues in the athlete category (see Issue Review Matrix in Appendix H). Jackie's assistant coach was frequently consulted to identify coaching issues. Issue identification using this method was a collaborative effort where Jackie and her assistant coach (Bob) discussed their observations of athlete and team performance. Jackie would typically make note of an observation related to a potential coaching issue. But before searching for a coaching strategy, the observation would be discussed with Bob to verify that it was indeed an issue that needed to be addressed. Support for this proposition is drawn from statements made by Jackie while discussing the issue of poor fitness level of the athletes late in the season (issue 2). Jackie was asked about her reasons for re-introducing conditioning drills into the practices, and if she had discussed this as an issue with her assistant coach.

YOU MENTIONED THAT YOU WANTED TO REINTRODUCE RUNNING AND SPRINTS INTO THE PRACTICES. IS THAT SOMETHING THAT YOU DECIDED TO BRING BACK ON YOUR OWN OR DID YOU DISCUSS THAT WITH BOB?

Bob noticed that as well, especially at the recent tournament. I had noticed it and Bob came up to me and said, 'You know, some of those teams looked a lot crisper on the field than we were.' So we decided it was time to start working them a little harder. [Interval 3 summary interview]

Jackie and Bob were also observed discussing possible coaching issues while a game was in progress. They would both roam the sidelines following the game play and then occasionally meet to share their observations and set those coaching issues that would need to be addressed. When she read the case summary report, Jackie qualified this proposition by indicating that Bob was atypical of the assistant coaches she had in previous seasons. Bob was often consulted to identify and set coaching issues because he was respected for his coaching expertise.

Having somebody with a lot of soccer experience, assistant coaches I've had in the past, they just kind of helped me setup cones and organize, look after the kids while I went to another group. While I was away there was no analysis of the coaching. But with Bob it was different, especially in the games. Like I would tell Bob, just watch the game and before half-time come and talk to me and we will compare what we observed. He was pretty sharp with his assessments.

SO THAT WAS DEFINITELY A BENEFIT.

Oh yeah. But the thing is it is so hard to find one competent qualified person who is willing to give up the time to coach a team, let alone get two of them together. I just happen to luck out this year. [Validation interview]

Furthermore, once coaching issues were identified they were typically framed in multiple components of Jackie's role frame. The issue of assigning player positions (issue 6) is presented as an example of how one issue was framed in more than one component of her role frame. The issue of assigning player positions was framed in three components of her role frame: emphasis on team (ET), sport specific development (SD) and winning (WI). When asked why assigning player positions was considered to be a coaching issue, Jackie indicated that it was important that the players understood their role in relation to the rest of the team and had an opportunity to learn different positions, while at the same time striving for the strongest tactical alignment to help the team win games.

Strategy Generation

The most common options for generating coaching strategies were creative thought (CT) and personal coaching repertoire (CR) (see issue review matrix). Creative thought was cited as a source of coaching strategies in seven issues and personal repertoire was cited in five of the issues. Other valued methods of generating coaching strategies were advice seeking (AS) and reflective transformation (RT). Jackie seldom engaged in joint construction (JC) with her assistant coach to generate strategies because of environmental restraints. Lastly, coaching materials (CM) were never consulted to generate a coaching strategy for any of the discussed coaching issues. Regardless of the source, coaching strategies had to be consistent with her approach to coaching (role frame).

Jackie's preferred methods of generating coaching strategies were to engage in creative thought or refer to her extensive repertoire of coaching strategies. An example of creative thought is evident in how she generated a strategy to address an ineffective practice drill on heading (issue 8). The players formed groups of three and one player tossed the soccer ball in the

air towards the other two players who were then to challenge each other to head the ball. Jackie noticed that the players were unable to properly execute the desired skill because of mismatch in the size of the player's who were partnered for the drill. The drill (strategy) was modified through a process of creative thought conducted on-the-spot. Furthermore, the new modified strategy was then incorporated into her coaching repertoire for future reference.

I noticed it was an issue because what they were doing was one player was throwing the ball up and one player was standing and another player was standing behind him and the player behind was practicing jumping up and heading the ball and keeping his shoulder up in front. I just noticed that when the shorter player was behind trying to jump up over the taller player, it was difficult for him. But we would have lost too much time to get things reorganized again and continue and I knew we were going to go on. I was going to pull them in and we were going to go back to something else, so I figured I will just let it keep going like this here rather than get them teamed up again, it probably would have taken five minutes to get everything sort of organized, get them rolling again. They weren't actively challenging for the ball so there was no issue of safety there, just it would of have kind of facilitated the drill a little better, but you know, we learn. Next time I will remember for heading drills that we use two guys who are challenging for the ball matched up by size. But in a game they aren't always matched up.

IS THAT SOMETHING THAT YOU WOULD INCORPORATE INTO YOUR PLAN NEXT TIME?

Oh absolutely. Yeah, I mean it is something that you just get rolling along and you notice, the obvious is right there in front of you and I didn't think of it when we started. So yeah, next time hopefully I will remember and we will get them teamed up by size for that

particular drill. For most things it doesn't matter, but for this particular drill, and that is probably why I never really noticed it because it just doesn't make much difference in soccer size-wise unless you are practicing heading. [Interval 1 summary interview]

A review of the evidence suggests that Jackie already possessed an extensive repertoire of coaching strategies prior to the present study. On one occasion she mentioned how she had so many coaching strategies that sometimes she forgot strategies that she used many years before: "This drill is something that I haven't used for a couple of years. You get so much stuff to work with you tend to forget things" [post-practice 5 interview]. Although Jackie had been coaching for over 10 years, the development of her repertoire was expedited by her career as a school teacher. Support for this conclusion is found in her explanation of how she maintained her focus during practices: "I try to keep my focus because I have a little plan going in my mind and I am trying to move it along and definitely my teaching experience has helped" [interval 1 summary interview]. Another example of the value of her teaching experience for her development as a youth sport coach relates to the issue of player discipline. Although this can be a major issue for youth sport coaches (see focus group results and other case study summaries), it was not considered an issue by Jackie. She already had developed a comprehensive repertoire of strategies for dealing with discipline problems.

You have to realize that I have been working with kids in high school. I mean discipline is something that you deal with on a daily basis. It is something that you deal with almost every 10-15 minutes in a class, so you have a pretty common sense perspective on what will work and won't work. [Interval 3 summary interview]

Two other methods of generating strategies used frequently by Jackie were observing other coaches in action (reflective transformation) and seeking advice from peers (advice seeking).

Although these two sources of coaching strategies were infrequently cited for the discussed coaching issues (reflective transformation three times and advice seeking two times), evidence from the interviews indicates that they were likely more prominent as sources of coaching strategies.

As far as learning drills and all other aspects of the game, I've picked that up from other coaches, coaches with more experience than me, coaches with less experience than me. Just going out, for example, last night we were out sharing a field and there was a team probably two or three years younger than my team out there and I stopped every now and then to peak over and see what they were doing. There were some neat things that this guy was doing and I just sort of made a mental note of it as I was running my practice. So you are always watching other coaches. At least I am. You just get involved and you surround yourself with soccer people and through osmosis a lot of this information is just going to come in if you are in tune with it. [Background interview]

When asked to describe the process of how coaching strategies are generated by watching other coaches, Jackie indicated it was a type of 'osmosis.' The term reflective transformation was used to describe this process because it was clear that Jackie (and other coaches who described this process in the present study) did not simply transfer the observed strategies. Instead, observations of coaching strategies were always evaluated for their fit with her role frame and the trust in the coach who was exhibiting the strategy. For example, one coach upon whom Jackie modeled many of her coaching strategies was the coaching director of the local soccer association. Jackie had a tremendous amount of respect for the coaching director's expertise in soccer. The director would often conduct player development clinics and Jackie would enroll her

son in the clinics. While her son was participating in the clinics Jackie would scrutinize the practice drills and reconstruct them in her coaching repertoire.

I am always hanging around observing what other coaches are doing. I spend a lot of time with that, but I mean I have learned a lot from Trent. We hired Trent to do our winter development program and when my son goes out there, I go out and I don't drop him off, I stay and watch. I watch what Trent is doing and I watch what his instructors are doing and then everything just gets kind of stored up here (points to her head). It is almost like me going for a coaching clinic as well as my son going for a development session. So a lot of coaches don't do that. [Interval 3 summary interview]

In addition, advice was typically sought from coaching peers who worked with Jackie at her regular job. There were several other teachers at the school where she worked who were also soccer coaches. Together, they often discussed coaching strategies in informal meetings in the staff room. These meetings contributed greatly to Jackie's well-developed repertoire of coaching strategies. However, the origin of the advice is always evaluated prior to making a decision to use the suggested strategy. Jackie valued the advice given to her by her coaching peers at school because of her trust and respect for their expertise as soccer coaches. This is supported by her explanation of how she decided to move one of her practices each week to early mornings instead of evenings.

It came from talking with Bill. Bill has been a professional player and provincial player and coaches soccer at our school, he coaches club soccer. And we also have Matt who coaches a University team. So we are always sitting together at lunch talking soccer and ideas get tossed around and I pick up a lot of ideas from these guys. Quite often, given their experience, if I've got a problem I will ask them. At lunch-time I will throw up a problem

and they will both comment and give me an idea, solution or something like that. Sometimes it is the same solution, sometimes they have different ideas, but I've used some of their ideas and they have worked well. I am always open to using ideas from other people, especially if I know what type of coach they are and what their experience is and Matt was selected as coach of the year so he certainly knows his game. [Post-practice 4 interview]

Jackie only consulted with her assistant coach Bob on two of the discussed coaching issues (issues 3 and 13). This was a surprising finding because of Jackie's reliance on Bob to identify and set coaching issues and her respect for Bob's coaching expertise (see Issue setting section of Jackie's case summary). In the validation interview Jackie was questioned about this apparent contradiction. She revealed that prior to the season it was her intention to consult frequently with Bob to generate coaching strategies. However, because of environmental restraints the two coaches were unable to spend the time needed to generate coaching strategies. Typically Jackie and Bob would jointly set a coaching issue and then it was Jackie's responsibility to generate a strategy because Bob was unavailable for consultation (it should be noted that Bob's father became ill during the time of the present study and this hindered his ability to assist Jackie). In Jackie's explanation of how she generated a strategy to address the issue of overall team performance (issue 3) she summarized the role of her assistant coach in strategy generation and issue resolution.

OKAY, SO YOU AND BOB BOTH NOTICED THAT IT (TEAM PERFORMANCE) WAS AN ISSUE, BUT DID YOU DESIGN THESE DRILLS ON YOUR OWN OR DID BOB HAVE ANY INPUT ON THAT?

No, I design them on my own. A lot of what has happened this year is, because we are so busy, it is hard for Bob and I to get together. We haven't jointly planned any practices. I

thought at the beginning of the season we would have done more of that and I had good intentions of doing that, getting together and maybe planning out a season plan, but it is hard. So the way it has been working is primarily Bob will make some observations and his observations are pretty accurate. He has been around the game quite a while and he has coached a lot and quite often his observations match mine so then, okay, we should address this. So then it comes back to me to plan something, to fit it in. Or the odd time I will ask Bob, 'What do you suggest for this? What drills do you have, what games do you have for this?' He has his own mind full of different drills and games he uses. All coaches are like that and some of his stuff won't work for me, but some of his stuff will and does and when I see it I know it.

OKAY, THAT IS KIND OF HOW I PERCEIVED IT. I JUST WANTED TO MAKE SURE THAT IS WHAT HAPPENED THROUGHOUT THE YEAR. YOU BOTH KIND OF MAKE AN OBSERVATION TOGETHER BUT THEN YOU GO BACK AND TAKE CARE OF IT.

Yeah, yeah. That is the way it has been pretty well. [Interval 3 summary interview]

The last notable finding about how Jackie generated coaching strategies was the complete omission of coaching materials. Jackie indicated that she had built an impressive personal library of coaching materials such as books and videotapes, but these resources were never mentioned when discussing how strategies were generated to address coaching issues. The researcher questioned Jackie about this discrepancy in the validation interview conducted after the season had finished. She revealed two reasons why coaching materials did not emerge as a source of coaching strategies in the present study. First, she generally only consulted coaching materials for practice issues and only one practice issue was discussed (see list of coaching issues). If

needed, she would review her books and videotapes for possible strategies in the form of practice drills to address practice related issues. For example, if she needed a drill for shooting she may consult a soccer book on attacking. Second, Jackie indicated that coaching materials were not cited because of her stage of development as a coach. She had been coaching for over 10 years, and teaching for just as long, and had developed an extensive repertoire of coaching strategies (see earlier discussion in this section about her coaching repertoire). At this stage in her coaching career, she preferred to develop strategies on her own (creative thought or personal repertoire) or sometimes consult with peers. However, she also revealed that coaching materials were the dominant source of coaching strategies early in her coaching career. She had gradually moved away from a reliance on coaching materials, except for certain types of coaching issues, to almost a complete reliance on herself to generate coaching strategies. In this sense, her coaching repertoire could be viewed as a foundation upon which she continually modified and reconstructed existing coaching strategies to address current coaching issues. Stated another way, she has shifted from a phase of strategy 'acquisition' to a strategy 'construction' phase in her coaching career.

A large amount of time was dedicated to increasing coaching knowledge in the first three or four years until a comfort level was achieved. I put an awful lot of work in at the front end, basically because as a community coach, I got pushed into it just like everybody else. My son was placed on a team and I was given a phone call, if I didn't volunteer to coach the team might not run that summer. So baptism by fire, so now what do I do? Well, I took some courses, purchased some books, watched some videos. You load up at the front end and you get all this stuff going and luckily I sort of knew, because I was a teacher, I knew how to plan something and have a logical progression, moving from simple to more

complex. So if they (athletes) couldn't do this, you would have to step back and work slower and all that kind of stuff. So I wrote here (in the case summary report), 'At this point, after 10 years, I am often relying on creative thought and personal repertoire when I am stuck.' When I look back at the 13 issues that had to be resolved, 90% of them were resolved by either creative thought or personal repertoire and I think there were two or three with other coaches or coaching staff. Year one or two of my coaching that would have been radically different. It would have been, 'Oh yeah, I have to go and consult this manual or this book or watch the video.' If I wanted to do something on finishing I would have to go and watch a video and I would make notes while I was watching the video, or if I needed some drills I would go to a book and find some drills, or maybe talk to another coach. But once you have used a lot of this stuff it just becomes second nature and you know what works and what doesn't work. I also said here for me it is both, coaching knowledge is acquired as well as constructed. In the first (few years of coaching), the time that I put in at the front end, that is what I was doing at the front end, I was just acquiring, I was just trying to learn as much as I could. Learn as much about the game and then you really start to construct it, and that may happen quicker with some people or it may not happen at all. Some people may still be acquiring the knowledge after many years. [Validation interview]

Experiments

Jackie would often conduct both real world (RW) and virtual world experiments (VW) (see issue review matrix). Real world experiments were the critical test of any coaching strategy and were found with all 13 coaching issues. Jackie's comments about how she learned coaching strategies in previous seasons also provided support for the use of real world experiments as a critical stage in the experiential learning process. For example, as a soccer coach she had to

determine how much time would be adequate for a practice session because there were no time limits on the use of the practice fields. Through a process of repeated real world experiments with various practice times, over a period of years, she settled on two-hour practices for the team she was coaching at the time of the study. It is also evident from the ensuing dialogue how her experiments and strategies always were bound by her role frame, particularly the age group component (see role frame diagram).

WHY DID YOU DECIDE ON TWO HOURS?

Well, as the kids get older, you can get into longer practices. You know, the attention span in those cases is better, is longer and you start to do more strategy work. For example, I might stop sometimes in my practices and do 15-20 minutes of shadow play, which is just very slow paced 11 a side play, sometimes without opposition, just passing the ball, looking at patterns of play and so-on, so it is very low key, very slow and then we move on to something a little bit more fast paced so they can work for two hours. When they are younger, their attention span is less and the practices have to be more active, they have to be moving and going and doing something all the time, and you couldn't expect a kid that is 11 years old to go like that for two hours. That would just burn them out. They get tired and as I've been working up with the older kids now I've just been increasing my practices. I started out with half-hour practices when I first started with the younger kids, just slowly increased the length.

YOU SAY YOU JUST SLOWLY DECIDED TO INCREASE THE LENGTH, HOW DID YOU DECIDE...

You just get a feel for it, you know when you see that, okay, you have moved to an hour practice and they are handling that and they are kind of still well focused at the end of that

and they are maybe ready for some more, then you go to an hour, an hour and a half. With a two-hour practice, I am finding now that that is the maximum for kids this age. After about an hour and a half, that is when you have to give them a little bit of a treat at the end, so it can be a game with no interruptions. So really the practice, the planned part of the practice happens in the first hour and a half and then the last half-hour is for them. [Interval 1 summary interview]

Although virtual world experiments were explicitly stated in only four of the discussed coaching issues, there is evidence to suggest that virtual world experiments were a frequently used type of experimentation. Jackie conducted virtual world experiments either on her own (thought experiments) or with her assistant coach (peer sounding board). Thought experiments were often conducted when generating strategies for practices, such as plans and drills. Jackie would ‘mentally experiment’ with different progressions for her practices and variations of practice drills. Thought experiments were also facilitated by using pen and paper to create a virtual world. She would use the medium of paper to diagram her thought experiments and experiment further in this virtual world until she was satisfied that her strategies were ready for real world experiment.

I think it is just now so intuitive for me to sit down and I can sit down and in my mind I can mentally plan out a practice around a theme. For instance we have to do some work on heading, and I can just sit down and sort of visualize progression all the way through, and before I go looking for anything to do I’ve got it planned out in my mind step by step, going from the simple to the more complex, a little bit of challenge and then onto a game situation and so on. And then I go back and say, ‘How is this going to work?’ or ask my assistant, ‘What do you think of this?’ Then I look at the numbers and if the numbers work here I’ll do

this, you know, what happens with the cones if I move them here, I can change the cones a lot. It is right down to the little details there.

SO THIS IS SOMETHING THAT YOU JUST DO IN YOUR HEAD OR YOU ARE WRITING THIS DOWN AS YOU GO ALONG?

It is something that I have been doing for 10 years, so I sort of organize it in my head as to what I want to do and then from memory I have enough drills that I can just write out into a practice plan. Then sometimes if it doesn't look good, you know, I need something in here.

[Interval 1 summary interview]

As well as virtual world thought experiments, it is evident in the preceding quotation that Jackie also conducted virtual world experiments with her assistant coach, Bob. Bob functioned as a sort of 'sounding board' by allowing Jackie to test her strategies before experimenting with them in a real world environment. Bob was selected as her main sounding board because he trusted and valued his wealth of coaching knowledge. However, Jackie did not conduct virtual world experiments, with peer sounding boards, for every coaching issue (only two of the discussed issues). Three factors influenced her use of this type of experiment: degree of challenge posed by the coaching issue, depth of coaching repertoire and environmental restraints. For the most challenging issues, the real 'puzzles', Jackie preferred to conduct a virtual world experiment with Bob before making a final decision. If the feedback on the strategy was positive from the assistant coach, then it could be experimented with in reality (on the field). In this sense, Bob served as a trial-run for a strategy before it would be implemented. Jackie did not conduct virtual world peer sounding board experiments very often because she did not experience many serious coaching issues. Furthermore, when she did experience a coaching issue she was able to quickly generate a strategy from her extensive coaching repertoire without

a need for virtual world experimentation. Lastly, virtual world experiments were sparse because of limited access to her assistant coach (see discussion of environmental restraints in strategy generation section).

An example of using Bob as a peer sounding board to conduct a virtual world experiment is evident in the issue of athlete attendance (issue 1). This issue was considered to particularly challenging: “When Brian went missing for a long time, I was trying to figure out, How do I deal with this? What do other coaches do?” [Interval 3 summary interview]. After Jackie thought about it for some time, and consulted with other coaches, she generated a strategy. Jackie was asked to elaborate on how the selected strategy was generated, and if she ever discussed it with her assistant coach. She indicated that a strategy was generated without consulting Bob (because he was unavailable at the time), but because it was a challenging issue she wanted to test her strategy on Bob before experimenting with it in a real world environment.

A few players started missing practices and I didn't want it spreading through the team. I didn't have any guidelines at the beginning because I've never really had attendance as an issue to deal with. So I had to come up with something and I wanted to be fair with it so I phoned a few coaches and found out what their attendance guidelines were and based my decisions on that.

AND DID YOU DISCUSS THAT WITH BOB?

Yeah I did (speak to Bob). I had to contact him by phone and I let him know that I was concerned with attendance and he agreed and I said well here are the sanctions and he said that sounds reasonable. So I typed up a sheet. [Interval 3 summary interview]

Evaluation

Jackie typically evaluated experiments with coaching strategies on her own in the form of self-evaluation (SE) (see issue review matrix). However, on occasion feedback was also solicited from other sources such as her assistant coach (PE) and other individuals involved with the team (OT). Self-evaluation was found for all of the discussed coaching issues. Peer evaluation was cited three times and evaluation from others was mentioned twice (organization issues only). Peer evaluation, in the form of feedback from her assistant coach, was only found when a virtual world sounding board experiment was conducted.

Jackie has always preferred to make evaluations of experiments on her own, but the way she makes evaluations has changed with her development as a coach. Jackie learned the value of self-evaluation early in her development as a youth soccer coach. There is evidence to suggest that even when she first started coaching she evaluated experiments with coaching strategies on her own. However, these initial evaluations were limited to post-real world experimentation. Early in her career as a coach she would typically generate a strategy (with a heavy reliance on coaching materials) then experiment with it in a real world environment and only make an evaluation after experimenting with the strategy. In this sense she often would conduct an experiment and just 'hope' it would be effective. At her current stage of development post-real world experimentation is often preceded with pre-experiment evaluation. She typically engages in a virtual world thought experiment first, which is self-evaluated, and then proceeds to real world experimentation. The depth of her coaching repertoire allows her to make evaluations of strategies before having to experiment with them in a real world environment.

An example of how Jackie engaged in self-evaluation, both before (virtual world thought experiment) and after (real world experiment) testing a coaching strategy is taken from the

issue of how to select the optimal time of day for practice (issue 9). For this issue Jackie also conducted a virtual world sounding board experiment with the parents of the athletes and considered their evaluations (other evaluation) before proceeding to real world experimentation. After the strategy was experimented with in a real world environment, Jackie made the final judgement on her own. Soccer practices were traditionally relegated to evenings during the week and mornings or afternoons on the weekends. However, once the summer break from school began for the athletes, and the weather became much warmer (July - August), Jackie decided to experiment with holding one practice a week on a weekday morning. This strategy of midweek morning practices was first generated while speaking to a coaching peer at the school where she worked. She then conducted a virtual world thought experiment and based on her positive self-evaluations of that experiment decided to test it with the parents on the team. That virtual world sounding board experiment also received positive evaluations. The final step was to conduct a real world experiment with the strategy, upon which Jackie made her own evaluation.

IS THIS IS YOUR FIRST MORNING PRACTICE WITH THIS TEAM?

Yeah.

AND WHY DID YOU DECIDE TO SWITCH TO MORNING PRACTICES? ARE THERE GOING TO BE MORE MORNING PRACTICES?

Well we are trying to run one every Wednesday. It is just an idea that I came up with to leave an evening free. The kids are home all day, they've got nothing to do. The parents commented at the parent's meeting that we had at the beginning of the season that they are at home all day, a lot of them get bored. So I suggested at the parent's meeting that one of the practices become a day practice once school was out and everybody seemed to think that was a good idea. So this is the first one, the turnout is good. I've got 10. I know that there

are two that were not going to be here, so I am missing three that should be here and I will have to think of why they are not here. But I like this, coming down here, it is 9:00 o'clock in the morning, it is cool, we are finishing off at 11:00 and it is still fairly cool out here and we have the rest of the day now to do whatever we want.

IS THIS THE FIRST YEAR THAT YOU ARE USING MORNING PRACTICES?

First year yeah. Because they were too young before for them to bike on busy roads, make their way down here, but they are old enough now to either take a bus or ride their bike down.

WAS THIS A DECISION YOU CAME TO ON YOUR OWN OR WAS THERE ANYONE ELSE THAT YOU DISCUSSED THIS WITH?

Actually, I was having a conversation with Ron at my school, and he is coaching a soccer team for another club and he was saying that he is going to that this year. So I thought about it after that and figured that these kids are at the age now where it might work for them and if their parents were in agreement then we would give it a try. So that is how we ended up here.

OKAY, AND JUST ONE LAST POINT ON THAT ISSUE. SO IS THAT SOMETHING THAT YOU THOUGHT OF ON YOUR OWN FIRST OR WAS IT BECAUSE OF YOUR DISCUSSION WITH THAT OTHER TEACHER?

No, no it came from talking with Ron.

SO YOU ARE GOING TO COINTINUE HAVING MORNING PRACTICES BASED ON THIS ONE?

Yeah, I am going to continue to have morning practices. I might have another one here and then I might switch to another location so that the kids from one end of town aren't always

having a long bike ride here. So the next one will be here and then I might switch and have two somewhere else just to make it fair for the other kids biking, but I think we will continue with it. [Post-practice 4 interview]

In the end, the experiment (a series of experiments actually) were deemed a success and the team continued to hold midweek morning practices.

Soccer Coach 2 - Barbara

Barbara discussed 15 coaching issues that she experienced during the 1997 soccer season. Most of the issues (9) were organization type of coaching issues. Only 3 athlete, 1 coach, 1 environment and 1 performance types issues were discussed. The proposition matrix for Barbara is presented in Table 18.

Role Frame

Barbara's approach to coaching comprised three boundary components and ten internal components (see Figure 7). The three boundary components were athlete gender, age and competitive level. For example, the young age of the athletes prohibited Barbara from using certain action strategies, particularly related to discipline and playing time. She was not comfortable with the common strategy in soccer of 'benching' players during games. She felt that this strategy was inappropriate for the young athletes on her team.

I had a boy once who had the best ball control skills, but the problem was he would never pass and he would get himself stuck and I'm thinking 'How am I going to deal with this?' Basically, I didn't get him to change his way of play so I failed in that way and yet I refused to sit there and say bench him because they are still young kids. You have to learn and I don't think by punishment is the way to learn, at least at this age. Maybe at 13 or 14 years of age, but that will be a different story. [Background interview]

Table 18

Proposition Matrix for Barbara

<u>Proposition</u>	<u>Summary</u>
Role frame	Approach to coaching comprised three boundary components and ten internal components. Three boundary components were athlete gender, age group and competitive level. Two levels of internal components, 1) emphasis on team, equity, fun, foster love of sport, personal growth and development, positive team environment, sport specific growth and development, and winning 2) discipline and modeling behavior.
Issue setting	Heavy reliance on her own (self) identification of coaching issues. Input was solicited from other individuals to identify only four issues. However, her assistant coach, Morris, was frequently consulted to identify athlete and performance issues. Coaching issues were typically framed in multiple components of role frame.
Strategy generation	Preferred method for generating coaching strategies was creative thought. When peers consulted, typically in the form of reflective transformation. Although advice seeking never mentioned, did seek advice in previous seasons. Joint construction only twice because of environment and lack of assistant coach expertise. Coaching materials appear to be an important source of coaching strategies but mostly for performance issues.
Experiments	All strategies were subject to real world experiments. Virtual world experiments, in the form of thought experiments, were only cited twice.
Evaluation	Typically evaluated experiments with coaching strategies on her own in the form of self-evaluation (described as type of discovery). Feedback from other individuals was cited only in three coaching issues.

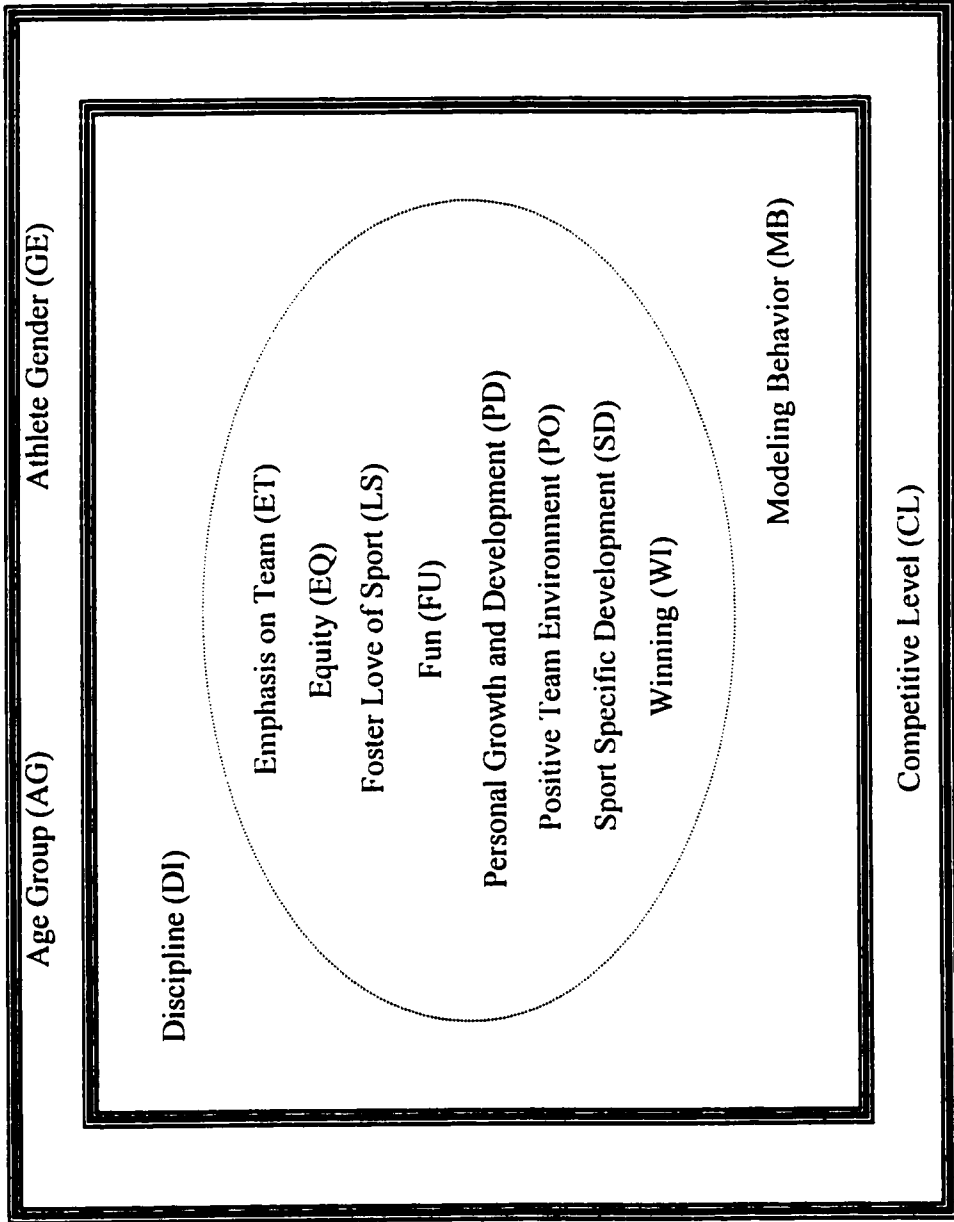


Figure 7. Role Frame Diagram - Barbara

Although the level of competition was cited as a component of the coach's role frame, it was not a strong boundary component. This component was only discussed once and appeared to be limited only to certain situations and coaching strategies.

There are two levels of importance for the internal components of Barbara's role frame. The first, and more central level of importance is depicted by the inner circle of components in the role frame diagram (see Figure 7). The first level comprised eight role frame components: emphasis on team, equity, fun, foster love of sport, personal growth and development, positive team environment, sport specific development, and winning. These role frame components were central to Barbara's approach to coaching. The second level of her role frame consisted of the discipline and modeling behavior components. These two components were considered peripheral components of Barbara's role frame and are therefore positioned outside the circle of inner components. These are considered secondary components because they did not appear at the same intensity or frequency of the primary components. For example, although athlete discipline was important it was not a central concern for Barbara, at least with athletes in the age group she was coaching at the time of the present study.

Barbara's explanation of the coaching strategy used to assign a team captain supports the central role frame components of equity and emphasis on team. Although other coaches in the present study selected one player as a team captain for the entire season, and two or three assistant captains, Barbara disagreed with that strategy because it was inconsistent with the equity and emphasis on team components of her role frame. Her decision was also bound by the age of her athletes (age group). Barbara preferred to allow each athlete on the team to experience being the captain for at least one game, so she rotated the captaincy every game.

IN THE BACKGROUND INTERVIEW YOU SAID YOU WERE GOING TO SELECT A DIFFERENT TEAM CAPTAIN FOR EACH GAME. DID YOU DO THAT FOR THE GAME THAT I WAS AT?

Yes, it goes alphabetical so basically I just ask the team who was it. Sometimes I don't always keep track or I can't remember, or I may be a game or two behind so I will ask the team who was the last captain. So it is just alphabetical and we will go through the list

WHY DO YOU DO IT THAT WAY? WHY NOT JUST ASSIGN ONE CAPTAIN FOR THE WHOLE YEAR?

Because, my understanding, and it is also part of my belief, that at this age the concept of being part of the team is more important. Their concept of the game from my experience or understanding is different at this age than it is at 13 or 14. Here it is more important to be part of the team. For example with older teams players will say 'They are the better players, so I don't mind substituting or sitting off because I know those are better players,' although I've never coached older ages, this is my understanding. At this age it is far more important for them to be part of the team that plays and everything in my approach has always been team oriented. So if I elect one captain, automatically I am singling out a person as being a step above everyone else and my goal for the next couple of years, whatever ages I would coach, is that it is the team first. That is why I rotate captains, the same way as I don't keep track of who scores goals because that means that it sort of elevates someone, saying well that person is scoring goals so they are more important on the team. And the same reason why I don't have special lines or substitutions, like last two minutes I get to put out all the best players. It is whoever is going on is going on. Now I will try to balance it. Anyway, that

is why the captaincy is rotated, because everyone gets a one shot at it. [Interval 1 summary interview]

The winning component of Barbara's role frame is complex and was initially very difficult to interpret. Based on an analysis of the first few interviews, it did not appear that winning would warrant consideration as even a peripheral component in Barbara's role frame. She made very strong statements de-emphasizing winning in youth soccer. As the season progressed, however, Barbara appeared to struggle with how to balance athlete development and winning. There were times where winning seemed to be more of a central component in her approach to coaching than she initially expressed. Halfway through the season she was questioned about this apparent contradiction. In this quotation the athlete age group boundary component is clearly evident as well.

I like to think that development is my key issue but I have to admit nagging in the back of my head is I would really love to win. Like the game last night, they played a great game. It will take me a day or two to get over the fact that mistakes were made. So yes, it is a balance. The key for me, I would like to say that development is the key but there are nagging voices in the back of my head that say it is nice to win. It is human nature, but development is the reason and next year I might end up coaching U10. I find the younger the age group the easier it is to focus on development. The older the kids get, because this is the second year with the same team, the older the kids get the focus is less and less on development, I mean technical development, less and less on technical development because at a certain age they should have all the basic technical skills. So it easier with younger ones to focus more on development. [Interval 2 summary interview]

Barbara also commented at length in the final interview about the constant internal struggle between winning and athlete development. Although she tried to focus on athlete development, winning or team success was an ever-present central component of how she framed her role as a youth soccer coach.

Issue Setting

For the issues that were discussed, Barbara relied heavily on her own (self) identification of coaching issues (see Issue Review Matrix in Appendix I). Input was solicited from other individuals to identify only four coaching issues. When she did jointly identify a coaching issue with a peer it was typically her main assistant coach, Morris. In one of the final interviews Barbara elaborated on the role of Morris in identifying coaching issues. It was revealed that Morris was usually consulted only to identify athlete and performance types of coaching issues. This helps to explain the limited role of Morris in the issue setting stage for the coaching issues that were discussed. The majority of the discussed issues were organizational types of issues and therefore it would not be expected to find joint identification of these issues (which is supported by the findings summarized in the issue review matrix). However, for two of the three athlete issues Morris was consulted at the issue setting stage. Only one performance type of issue was discussed.

Barbara explained that she and Morris would typically consult with each other after games and share their observations of athlete and performance weaknesses. Based on these discussions, the coaching issues that needed to be addressed were identified and set. Barbara's revelation is supported by observations of her and Morris engaged in post-game discussions on several occasions.

What I used Morris for, one thing we did do throughout the year was we would talk, if not formally on the phone or whatever, but we would at the end of the game do a sort of synopsis, 'What are we weak at? What do we need to work on?' I would always get his input. Now I wouldn't always take it 100% but I find that we all focus on different things and he could focus on sometimes these things that I didn't see. So I would often say, 'Oh is that right? Okay.' Or else, what I would do is in the next game I would watch for it and if I saw it then I would say okay (it is an issue). Like goal kicks, I am focusing on different things and I don't necessarily notice our approach to goal kicks. So that was something that he picked up on. It wasn't one of the things that I noticed because sometimes I am looking for more tactical issues than technical issues. For example, we were starting to not follow what we were supposed to be doing for throw-ins. I noticed that one but he didn't. So that kind of balanced out, but I tried to get his input. [Interval 3 summary interview]

Furthermore, once coaching issues were identified they were typically framed in multiple components of Barbara's role frame. For example, the issue of balancing athlete development and winning (issue 6) was framed in at least six components of her role frame: emphasis on team, equity, positive team environment, personal growth and development, sport specific development, and winning. Each of the following quotations illustrate a different component of Barbara's role frame used to interpret, or frame, the issue.

I found this was evident in last night's game too, there are certain players you can start to see it gel. You can start to see a unit of players that are playing well together. [Emphasis on Team]

Everybody has to get the practice, so I mean, you can't always just play your good ones. [Equity]

As you see, I tried to get Andy to play forward but I don't want to force someone if they are going to be really uncomfortable. I will try again to get her up to play forward again, maybe against a weaker team. Same with Eric, he likes playing defense but I would like to get him to play forward more just to learn the position. [Positive Team Environment / Sport Specific Development]

Not only do you want to win, it is also getting units of players that work well together and they start to click. If you start mixing that up then it takes something away from them because they don't feel as good about themselves. [Personal Growth and Development / Winning]

Strategy Generation

The most common source of coaching strategies was creative thought (CT) (see issue review matrix). Creative thought was cited as one of the primary sources used to generate a coaching strategy in 14 of the 15 issues that were discussed. Barbara seldom relied on her personal repertoire (CR) to generate a coaching strategy. Her personal repertoire was only cited in five of the coaching issues. Peers also played a minor role in generating coaching strategies. Joint construction (JC) was only mentioned twice and advice seeking (AS) was not mentioned at all. The few times Barbara did refer to a peer to generate a strategy it was mostly from a distance in the form of reflective transformation (RT). Reflective transformation was mentioned in four the coaching issues. Lastly, coaching materials (CM) did not appear to serve as a valuable source of coaching strategies. This type of source was only mentioned twice.

Barbara most often cited creative thought as the primary method of generating coaching strategies for the issues that were discussed (see issue review matrix). Barbara would often develop, or in her words 'build' a coaching strategy on her own. Support for this conclusion is

clearly evident in her statements regarding the issue of distribution of team funds (issue 5). This issue was identified and set near the end of the season. She hastily intervened to resolve the issue, but she wanted to develop a more long-term strategy so as to avoid this issue from arising in the future. To describe how she would generate a coaching strategy to address this issue she did not speak of finding or acquiring a strategy. Instead, she talked about constructing a set of fundraising guidelines on her own.

The treasurer kind of got a little too excited about all the extra funds and started doing stuff without talking to everyone else, without getting all the input. So I learned my lesson. What I am doing right now, what I will do over the winter is I will build a set of guidelines, because there really isn't a set of guidelines on how to run the funds, and how to run how things. So I will build a set of guidelines that specify what actions are to be taken. [Interval 3 summary interview]

Barbara's repertoire of coaching strategies was only cited in five of the coaching issues. A review of her soccer and coaching background provides insight into this finding. Barbara had only been coaching youth soccer for a few years. Furthermore, she had never participated as an athlete in soccer when she was an adolescent. She only started playing recreational adult soccer several years ago because she wanted to see the game from an athlete's perspective. She felt this would increase her competency as a youth soccer coach. This extra step also provides support for her selection as a model youth sport coach, because it illustrates her desire to learn and improve as a coach.

When I started coaching, it was three years ago when I first started doing competitive coaching, I realized that I can't be a coach without knowing what it is like to be on the field. I play soccer in a recreational league and I really enjoy it. [Background interview]

Barbara also continued to take coaching clinics offered through the soccer club because she felt they would help her develop her repertoire of coaching strategies. Although she obtained her required coaching certification, she continued to attend local coaching clinics.

I continue to take them (coaching clinics) because every year I learn more and more. More experienced coaches will take them once and that is it. To me, having not spent a lot of time in soccer, every time I take a course, I learn something new.

ARE THOSE MANDATORY COURSES FOR COACHES IN YOUR ASSOCIATION?

No. I volunteer to take them. [Background interview]

Although Barbara had three assistant coaches, joint construction of a coaching strategy with one or more of her assistants was only cited for one coaching issue (issue 2). At first Barbara indicated that she would consult with her assistant coaches to generate a strategy only for extremely challenging coaching issues, "I may talk to the assistant coaches to get their input, I may or may not. It depends on how serious the problem is" [Background interview]. However, she experienced numerous issues that were considered very challenging but she did not consult with her assistant coaches to generate strategies. Two reasons were given to explain why she did not consult with her assistant coaches on a more regular basis, these are environmental restraints and the limited soccer coaching expertise of her assistants. Barbara originally intended to discuss coaching issues and possible strategies with her primary assistant coach Moe. Because of their hectic work and family-life schedules, Barbara and Moe seldom had time to generate coaching strategies together. Although the other two assistant coaches were generally available, Barbara was not comfortable enough with their level of soccer coaching expertise to warrant consideration when generating coaching strategies. The two secondary assistant coaches were

considered most valuable in managing the athletes and the equipment, not in generating complex coaching strategies.

Based on the preliminary interview with Barbara it appeared that advice seeking would be used as a primary method of generating coaching strategies. She indicated that she often consulted with Trent, the technical coaching director of the local soccer club when trying to resolve coaching issues. During the interview, Barbara started to discuss a drill she was hoping to use. I asked her how she had developed this drill and she explained that she learned most of her drills from the technical coaching director, “We have one (drill) where we use a football instead of a soccer ball. I got most of these (drills) from Trent, he is the mentor here. He has always been giving things to me.” [Background interview]. However, Barbara never sought advice from Trent to generate a coaching strategy for any of the discussed issues. This apparent contradiction was explored in the final two interviews with Barbara. It was discovered that the technical coaching director was very influential in the early stages of Barbara’s development as a coach. She consulted with Trent frequently in previous seasons when she was just beginning as a youth soccer coach. Two reasons were cited to explain why Barbara didn’t consult with Trent during the present study. First, she had been coaching the same age group for two years and felt she was relatively competent as a coach at that age group. Second, she felt that because of the young age group she coached that the coaching director would not be very interested in helping her. Barbara indicated that the age group was too young to be ‘bothering’ Trent all the time (Trent had coached professional soccer and was considered an elite coach by the soccer club). Barbara stated that she likely would have sought advice from Trent if she was coaching an older age group.

I NOTICED YOU DIDN'T REALLY MENTION TRENT'S NAME THAT MUCH EXCEPT IN THE FIRST INTERVIEW. YOU SAID YOU GOT A LOT OF STUFF FROM HIM IN THE PAST BUT WHEN I WAS WITH YOU DURING THE SEASON YOU DIDN'T MENTION HIS NAME.

I think that is a good point because it may reflect that the soccer club has to make better use of his talents because I didn't see much of him this year. I use the term past because I've only been coaching for a few years and every year my learning has come almost directly from him and this is probably the first year where I have not had any direct training interaction with him.

I JUST BRING IT UP BECAUSE I FOUND IT INTERESTING THAT FOR MOST OF THE ISSUES THAT CAME UP THIS YEAR YOU DEALT WITH THEM ON YOUR OWN.

I think you also have to look at the age group. I am dealing with a different set of players, a different age group. I feel that if I was coaching an older team I would probably rely on Trent a bit more. Actually you are probably bringing up a good point. I think part of the reason is, maybe I felt that being at this young age group, maybe I shouldn't burden him with that, but maybe that is not a good approach to take. Maybe I should have brought him in for certain things, but I didn't. [Interval 3 summary interview]

In the final interview, after Barbara had a chance to review the results of the present study, she reflected on her earlier comments about seeking advice from Trent. She decided that the age group of her athletes was not a valid reason to avoid Trent, and she would change her approach in the future. Barbara indicated that she would try to consult more with Trent, either in person or on the phone. Her statements were supported by her actions prior to the beginning of the soccer

season that followed the data collection period of the present study. For the first time in her coaching career, Barbara was going to be coaching an age group that played full-field soccer (as opposed to mini-field soccer used for the younger age groups). Because of her earlier comments, and the fact that she would be coaching at a new level, Barbara had already sought advice from Trent on several new issues.

When Barbara did consult with a coaching peer to generate a strategy it was typically from a distance in the form of reflective transformation (see issue review matrix). Reflective transformation is the term used to describe how a coaching strategy was generated through observation of another coach in-action. Although during the summer soccer season she had difficulty making time to observe other coaches, Barbara enjoyed learning from her observations of other coaches.

I also like to go out and observe other coaches. I think I've gone out and observed five or six different coaches, observe their practices to see what they do. These are coaches who really aren't associated with my children. Sometimes with them, sometimes not, like observing Trent (coaching director) and other coaches.

DO YOU STILL CONTINUE TO DO THAT?

I do. Usually in the summer I don't have time. It is usually something I do in the winter when the winter program is on. I find in the summer I don't have the time for that activity. It is definitely more of a winter activity. [Background interview]

Observation could be in the form of watching another coach in-action or hearing about another coach in-action from another peer. Regardless of the medium, Barbara's observations of coaching strategies were always filtered through her own role frame and modified accordingly before she would experiment with a strategy. An example of each type of observation of a

coaching strategy, and how they were reconstructed to fit her role frame, is provided from the coaching issues that were discussed with Barbara. In the first example, Barbara recalled watching another coach as the method used to generate a strategy to address the issue of poor shooting accuracy of the athletes (issue 15). She decided to tape hula-hoops in the corners of the net and use the hoops as targets during some of the practice drills. In the second example Barbara explained how she generated a strategy to address the issue of ineffective 'pass-back' drills (issue 12). For this strategy Barbara's observations were based on hearing about how another coach had used a strategy to address the issue of pass-backs.

I bought some hula-hoops last week. So we are going to be installing those in the goals and it doesn't matter, even if we are not doing a shooting practice, they will be there so they (athletes) will get the idea that this is where I should be shooting, specifically the low hoops.

WHY DID YOU DECIDE TO BUY THOSE (HULA HOOPS)?

Because I saw another coach had it and I thought it was a really cool idea. Randy was the coach and I saw him up there. Now I thought they were over-practicing it, he had the kids just practicing penalty shots, shoot, shoot, shoot. Well okay, I don't know if I would really do that practice, but the idea of the hoops, they are great targets, what a great idea. It is not original but I liked the idea. [Post-game 2 interview]

YOU MENTIONED LAST WEEK THAT THERE WAS ONE PRACTICE THAT YOU TRIED TO WORK ON PASS BACKS BUT IT JUST DIDN'T WORK. YOU SAID YOU WERE GOING TO COME BACK TO THAT LATER.

We did come back to that and I found a way to make it work. What worked was playing a scrimmage game and making the rule that before they could score a goal, in the sequence they had to pass it back, and that made it happen. But I remember that practice where it

didn't work, what I did later on, I went to another practice and we tried it again only this time what I did is you had to pass it back before each goal. If you didn't and you scored, it didn't count. That worked and of course I did that again and it really works. They start realizing, 'Well we have to pass it back.' And just because they have to, they start realizing the advantages to it.

WHERE DID YOU GET THAT IDEA?

Well probably on my own and I had also heard that one of the senior coaches orders his players, tells his strikers that they aren't allowed to score, they have to pass the ball back or something. I thought that was a bit extreme, but I thought okay in a scrimmage. And it really worked and I am going to do it more next year because it is a skill that is hard to teach.

[Interval 3 summary interview]

Lastly, coaching materials such as videotapes and books were rarely cited when discussing the coaching issues but Barbara's general comments about this method of generating strategies suggests that she relied heavily on coaching materials, at least to address certain types of coaching issues. Coaching materials were only cited in two of the coaching issues, but Barbara indicated that she had an extensive personal library of books and videotapes on coaching. She stated that she would refer to her coaching materials frequently, but mostly just for addressing the performance type of coaching issue. For example, if Barbara noted that the players' execution of a tactical play was ineffective, she would search through her coaching materials to generate a strategy such as a specific practice drill. This proposition is further supported by a review of the types of coaching issues that were discussed by Barbara. Only one performance type of coaching issue was discussed and therefore it would not be expected to have found a high reference to coaching materials.

Experiments

Barbara's preferred environment for experimentation with coaching strategies was the real world (RW) (see issue review matrix). She only cited a virtual world experiment (VW) for two coaching issues (issue 6 and issue 8). Virtual world experiments were the exception not the rule for the coaching issues that were discussed. Furthermore, when Barbara did reveal a virtual world experiment it was restricted to the use of pen and paper.

Once a strategy was generated, Barbara would typically proceed to a real world experiment to determine the efficacy of the strategy. Before she was exposed to the case summary report, Barbara herself repeatedly described the process as an experiment. An example of a real world experiment and Barbara's use of the term can be seen in her description of issue 2 (lack of aggressiveness of one player during games).

One of the problems that we've had is our center forward we had on the second line has been losing his aggressive, he seems to have been, I've noticed him giving up on the ball. So one of the things that Moe and I have been trying to work out is who can we put as center forward on the second line. So I still haven't worked it out. I've been juggling with names and trying to fit lines so that is another experiment that we are going to run tonight. We are going to put Len out on the wing and try someone else in the center. I haven't quite figured it out yet.

AND WHEN DID THIS ISSUE COME UP?

We have been noticing it the last couple of games. [Pre-game 3 interview]

Although virtual world experiments were rarely discussed, they were occasionally used as a valuable medium to try a coaching strategy before proceeding to a real world experiment. An example of how a virtual world experiment was conducted with a coaching strategy is taken

from issue 8 (drill selection / practice planning). To resolve this coaching issue, Barbara experimented with different practice drill layouts and sequences on a sheet of paper prior to implementing the strategy on the soccer field. The issue of selecting practice drills and structuring practices was only discussed once, but it can be considered a recurrent issue that Barbara had to continually address. Given this consideration, virtual world experiments may have occurred quite frequently, perhaps while planning every practice. However, these virtual world experiments were specific to this one particular coaching issue.

What I have been trying to do this year is try to layout, sort of picture what all the drills are going to look like, what the grid system will look like so I can lay it down in one shot.

AND WHEN DOES THIS PROCESS TAKE PLACE?

This is part of when I come up with the practice plan. Basically first I figure out what I want to work with, what things we are trying to achieve, like defending or this week trying to just get them to see angles of passes and then try to get them spread out more, and also just basic passing techniques. Once I figure out the things I want to do, then I will come up with the drills. So here are the drills, here is how they have to look. Then I will say, okay, this is a 10 by 10 grid, well that is great because this is a 10 and then those two or three drills are all 10 by 10, well great, I can just plunk them down. One is a 20 by 20, well that just means I can make it a bigger square.

AND THIS IS SOMETHING THAT YOU DO MENTALLY OR YOU ARE WRITING IT DOWN?

Oh on paper, I just scribble it down. I have, as I went down and made the practices, I sort of did them on paper and that is why I carried that piece of paper around with me at the practices. [Interval 1 summary interview]

Evaluation

Barbara typically evaluated experiments with coaching strategies on her own in the form of self-evaluation (SE) (see issue review matrix). Seldom was feedback also solicited from other sources such as her assistant coach (PE) and other individuals involved with the team (OT). Feedback from others was only cited in three of the coaching issues that were discussed. Self-evaluation, on the other hand, was found for all of the discussed coaching issues. Evaluation of a coaching strategy after it had been experimented with was often described by Barbara as a type of discovery. She frequently provided examples of how she had learned a coaching strategy through what she considered 'experience' when in fact they were examples of her conducting self-evaluations of experiments. This is evident in language she used to describe the process, characterized by words such as 'thought' 'discovered' 'found' and 'realized.'

The issue of how to keep athletes focused during games and practices (issue 1) is provided as support for this proposition. This was a particularly challenging issue for Barbara. She experimented with several strategies throughout the season. The first strategy she tried was to provide a 10-15 minute window of social time for the athletes before practices. Later in the season she experimented with verbally reprimanding a player on the sidelines during a game. The player was inattentive and appeared to be playing lazy. Barbara tried to motivate the player but to no avail. Only after having time to evaluate that experiment based on its ineffectiveness, and some additional input about the situation from a parent, was she able to 'discover' and generate a new coaching strategy. She learned that as a coach she would have to pay closer attention to what was happening in the lives of her athletes outside of soccer. The new strategy she would experiment with would be to modify the pre-practice window of social time. Barbara decided that she would take that time to listen to the players' conversations and become more

involved in their non-soccer lives. In the past she had used this time to simply prepare for the practice and allow the players to socialize. Her self-evaluation of several experiments over the course of the season allowed her to discover this new coaching strategy.

At one point I had, I mean this is a learning experience, this is something that I have to learn, is that I noticed in the game he (athlete) just didn't seem to be there. He was just really out of it, and I was telling him at the sideline that he better put more into. Then his mom told me like a week later and then it sort clicked in, well of course. So I learned as a coach that I have to be more perceptive to other things that are going on in kids' lives. I mean kids are just like adults. Even if you are playing a game and you are having a hard time at work you are not going to be focused. So for me it was a learning experience to realize that yes, kids have issues too and they can be off focus for reasons that are outside and just not trying hard. Even a motivational speech or yelling, you know, asking them to work harder won't help because, you know, parents divorcing or breaking up or something like that. I am little more aware of it. [Interval 2 summary interview]

WE TALKED ABOUT KEEPING ATHLETES FOCUSED THROUGHOUT THE YEAR AND YOU MENTIONED THAT YOU WOULD START USING THE FIRST 10-15 MINUTES OF THE PRACTICE AS KIND OF A WINDOW FOR THEM TO SOCIALIZE. WERE YOU SATISFIED WITH THAT STRATEGY AND WOULD YOU CONSIDER THAT TO BE A NON-ISSUE NOW?

Well, it was an experiment. I think it worked okay although I think that I might want to better utilize that first 15 minutes. I think what I would do next year is be more involved in that first 15 minutes, because I used that time for setup time and I realized that what I need to do is setup earlier and be there for that time because it is where you get a chance to listen

and hear what goes on. But that first 15 minutes, what I would change, I still like the idea because although it didn't really make them any less focused later on but it is more like a gathering time. But I think what I would like to do in the future is still allow them that 10 minutes or so, but be there and be more involved because you can learn stuff about your team and I always make a point of listening to what people are saying. I think we talked about this earlier in the year. So I probably wouldn't change that but I would become more involved in it, just listening and more observing. [Interval 3 summary interview]

There is also evidence that Barbara engaged in self-evaluation of experiments as a critical process of transforming experience into knowledge for coaching in seasons prior to the present study. A coaching issue that Barbara had experienced before the present study was undertaken was how to make player substitutions during games. She described this issue as particularly challenging. In fact she used the word 'nightmare' to describe the difficulty she experienced in trying to resolve that issue. The coaching strategy that Barbara generated to address that issue was to select two complete units of players which allowed her simply substitute a unit rather than trying to substitute individual players. When Barbara was asked to elaborate on she generated that strategy she explained that it was based on her evaluation of an experiment that she tried almost by accident.

I KNOW WHY YOU DECIDED TO SELECT 13 BUT HOW DID YOU ARRIVE AT THAT DECISION?

From past experience. Last year I started with 12 and I was noticing the difficulty. That was the first year and it was seven aside, substituting was much more of a nightmare. Now I can almost do it instinctually, if I have less players I know how I will rotate it. But last year was very difficult and there was a girl that I wanted her to tryout, she was a good soccer player,

but her parents didn't want her to play competitive. But I did call her up one time, one of my players actually broke her arm, so I called her up and her parents were just amazed at the difference. They asked if she could stay? And I said yes, she just has to register and do all the stuff. So she stayed and then I carried 13 for the second half of the season and I thought, 'Oh, this is so much better,' because then you started seeing units. Like last year I had an offensive and sort of a defensive line. When you start rotating it is harder to keep the same players. Like as an athlete I know when I play that certain fullbacks react certain ways and you can react to that, but if you have a different player all the time, which one are you dealing with, it is hard.

SO IT WAS ALMOST BY ACCIDENT LAST YEAR?

Well it was an accident and by design. It was accident but when it started to work for me, because I went to a tournament when I took 13 players and I said, 'Oh, this was easy. This really works well because then you can see and you could adjust them a bit during the game to see which collection of players work well together.' So it was by accident and then after that it was like a realization. [Interval 2 summary interview]

Lastly, Barbara's self-evaluations were not bound by the temporal dimensions of the soccer season. She continued to evaluate her experiments with coaching strategies long after the soccer season had finished. In the off-season Barbara critically analyzed some experiments in an effort to generate new and more effective coaching strategies. This type of self-evaluation outside of the action-present of the coaching issue could be considered retrospective reflection-on-action (reflection on an experiment after it is too late to address the coaching issue during the season in which it was first experienced). An example of retrospective self-evaluation was provided by Barbara in an interview conducted several months after the season in which the data was

collected. She reflected back on her coaching strategy of selecting two units of players to address the issue of player substitutions (described earlier in this section on Evaluation). After thinking about this strategy, and how she experimented with it during the season, she decided to modify the strategy, thereby generating a new strategy.

Throughout the document (case summary report) we talked about the fact that I went with 13 players and it was positive because the year before I went with 12. Well, throughout the winter I thought back about the season and so forth and I've changed my mind now. I've found that, when thinking back, that 13 players made it difficult to get different players mixed together throughout an entire game. Part of the reason why I noticed that is because some players got into this clique, or became associated with a certain line and couldn't function in a situation that didn't put them in the same units. And now I think about that and I think that maybe that is not a good thing. At the time I thought that was good because they were gelling as a unit but I think they have to have the ability to play the game with different types of players. Second of all, if you look at the tactical point of view it allowed other teams to focus easily on a line because you knew one line would always be coming out whereas if you had 12 players you could mix them up a bit when shifting. So I've changed back on that one.

Soccer Coach 3 - Jennifer

Jennifer discussed 13 coaching issues that she experienced during the 1997 soccer season. There were an equal number of athlete (5) and organization (5) types of coaching issues discussed by Jennifer. The other three issues were related to environment. No issues from the coach or performance categories were discussed. A summary of the propositions developed for Jennifer is presented in Table 19.

Table 19

Proposition Matrix for Jennifer

Proposition	Summary
Role frame	Approach to coaching comprised two boundary components and ten internal components. Two boundary components were age group and competitive level. Two levels of internal components, 1) foster lifelong love of sport and personal growth and development 2) discipline, equity, fun, modeling behavior, positive team environment, sport specific growth and development, safety, and winning.
Issue setting	Heavy reliance on her own (self) identification of most types of coaching issues. Unsolicited input from other sources, such as parents and team management, were also used to identify context issues. Coaching issues were typically framed in multiple components of role frame.
Strategy generation	Preferred methods for generating coaching strategies was creative thought or advice seeking from technical director. Limited use of personal repertoire because of age group. Joint construction was sparse because of context. Reflective transformation and coaching materials were seldom mentioned because of coaching experience, approach to coaching and types of issues discussed.
Experiments	Real world and virtual world experiments were cited, although virtual world experiments were only revealed in three of the coaching issues (virtual world peer sounding board experiments).
Evaluation	Experiments were always evaluated on her own in the form of self-evaluation. In contrast, peer feedback from her assistant coaches or a friend, was found only when a virtual world sounding board experiment was conducted (likely due to the context).

Role Frame

Jennifer's approach to coaching comprised two boundary components and ten internal components (see Figure 8). The two boundary components were age and competitive level of the athletes. For example, Jennifer experimented with many new and different coaching strategies during the season in which the data was collected because most of her coaching experience had previously been with athletes in a younger age group. For example, she now placed more emphasis on athlete work ethic. She felt it was warranted at the older age group to emphasize to the athletes that they had to work hard to earn a spot on the team.

One of the things that we wanted to make clear is that there were 45 players that tried out, 16 have been selected, so they should feel honored that they are one of them and the fact that they are there shouldn't be taken for granted. There are other kids who are ready to step into their shoes given that opportunity. Some people may think you are taking away from the fun by approaching kids that way but I believe that at 12 or 13 they are ready to take that kind of approach. [Background interview]

Within the boundary components there are two levels of importance for the internal components of Jennifer's role frame. The first, and more central level of importance is depicted by the inner circle of components in the role frame diagram (see Figure 8). The first level comprised the two role frame components of foster lifelong love of sport and personal growth and development. These role frame components were central to Jennifer's approach to coaching. For example, Jennifer's desire to foster a lifelong interest in sport was frequently mentioned. Nowhere was this more evident than in the last practice of the season. The team had just lost their first playoff game 4-0, virtually ensuring that they would not proceed to the next round of the playoffs. In the practice before their next playoff game Jennifer designed some teaching

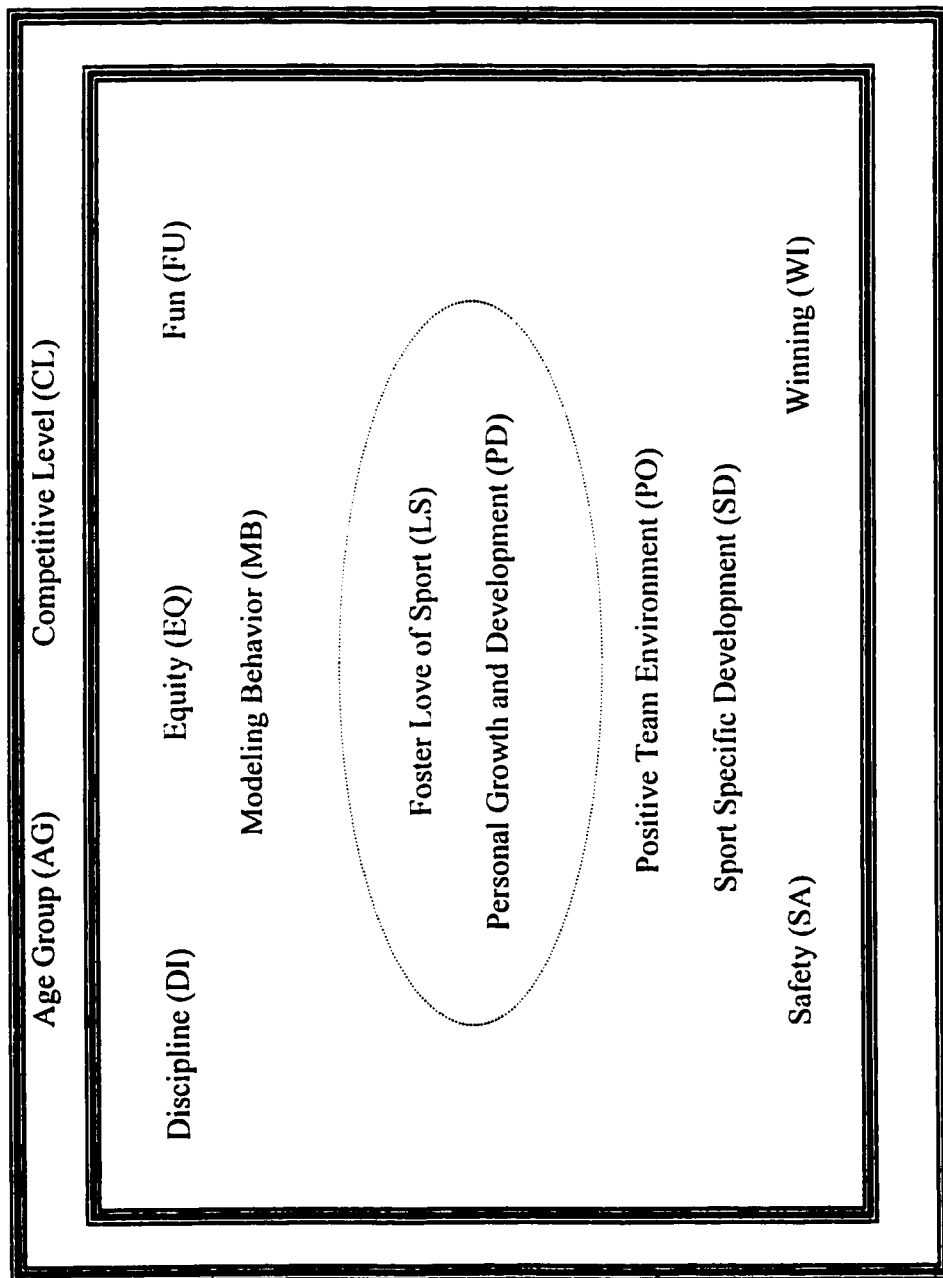


Figure 8. Role Frame Diagram - Jennifer

drills, but very few. Instead she wanted to make sure the players could finish the season on their own terms. She let the players select most of the content for the practice because she wanted to let them finish with some fun.

WHAT ARE PLANS FOR TONIGHT'S PRACTICE?

Pump them up and get them shooting. This could potentially be our last practice and it is also a short one. We are not going to be going on any heavy runs or fitness goals or that sort of stuff. I would like to, I mean there are ten things that I would love to cover on the last practice, but to leave them with the desire to keep playing is most important. That would be my kind of parting message to send to them. As long as they are physically able to enjoy the sport to carry on, whether it is soccer or another sport, it doesn't really matter, but participation in general and the message of team, to take that with them in everything they do. [Pre-practice 4 interview]

The other primary component of Jennifer's role frame was the personal growth and development of the athletes. This component relates to the promotion and development of non-sport specific skills such as life skills, social and moral development, confidence and individual responsibility. Jennifer summarized the importance of this component to her coaching approach.

I guess my role with the group of boys is to promote leadership, not necessarily to provide it but to promote it among themselves. I guess they are motherly-like statements, to guide them. Commitment, trying to teach them whether this is soccer, bowling or cooking, it doesn't really matter. To me these are kind of lessons in life. Once you commit to a group of people then everyone is counting on each other to support each other, to be there, regardless of the personalities within the group. We don't have to be best buddies to do it together and that I'm sure they will find out as they go on. The rewards of their effort and hard work are

transferable skills as life skills and that is how I view myself. I don't view myself as making them elite professional soccer players. I view it in terms of making them better people - active contributing members within our society. [Background interview]

This focus on transferable skills was supported through many examples of her promotion of commitment, leadership, responsibility and independence. For example, Jennifer often would ask players to setup the practice drills to give them a sense of responsibility and contributing to the team. Furthermore, she allowed the players to vote for a team captain. She felt it was critical to allow the players to be active in making important team decisions.

The second level of her role frame consisted of eight role frame components: discipline, equity, fun, modeling behavior, positive team environment, sport specific development, safety, and winning. These eight components were considered peripheral to the primary components of Jennifer's role frame and are therefore positioned outside the inner circle. These are considered secondary components because they did not appear with the same intensity or frequency of the primary components. Jennifer's views on winning provide one of the best supporting examples of why a component was considered peripheral, or less important, than the primary components. Her team had a very difficult season in terms of their win-loss record. Although Jennifer was not overly concerned by this, several parents, players and administrators of the soccer club were extremely concerned. At one point in the season the coach of an opposing team scheduled to play against Jennifer's team informed her that they couldn't play the game. According to league rules Jennifer's team could take a win by default because the opponent couldn't play at the scheduled time. Even though her team had won only one regular season game at that point and the lack of success was affecting athlete morale, she decided against taking the win by default. Instead, she

chose to re-schedule the game. The opportunity for the athletes to play, and the importance of instilling a sense of having to earn your rewards, was more important than the win.

We had a game scheduled for today and we had a practice scheduled for tomorrow. So because the other team was unable to come to today's game, they sent us a fax saying they will default and give us the points. We would prefer to actually have a game because that is why our kids registered in soccer, to play, not to win by default. [Pre-practice 3 interview]

Issue Setting

For the issues that were discussed, Jennifer generally relied heavily on her own identification (SE) of coaching issues (see Issue Review Matrix in Appendix J). Other sources such as parents and team management (OT) were occasionally cited but only to help her identify environment issues. One reason why Jennifer had to rely on her own observations to identify coaching issues was because of the lack of consistent support from her assistant coaches. She started the season with two assistant coaches but early in the season one of the assistant coaches quit the team because of personal reasons, as well as philosophical differences with Jennifer. This left her with only one assistant coach, Terry. However, Terry was unable to attend many of the practices and games, particularly in the middle of the season. As a result she solicited the assistance of one of her relatives who was an experienced youth sport coach. Yet this individual's presence at games and practices was also sporadic. Therefore, Jennifer was forced to generally work alone while she was in the field. For this reason she had no choice but to identify most coaching issues on her own.

Input from parents and other non-coach sources, however, was occasionally used to identify coaching issues but this type of input was typically unsolicited and specific to environment related issues (see issue review matrix). This type of input was perhaps a result of the unusual

difficulty of the season in which the data was collected. Jennifer mentioned several times that the season was one of the most challenging for her as a youth soccer coach. Although she experienced many athlete and organization issues, two of the environment issues were extremely frustrating (issue 6 and issue 7). Those two issues, parent negative comments and emphasis on winning, were partially identified by comments from Jennifer's manager and other concerned parents on the team. Near the end of the season Jennifer supported this proposition by stating that "the grapevine was very active" [Interval 3 summary interview].

The team manager in particular would give frequent reports to Jennifer after games. At the end of one game, while the researcher was walking across the field with the coach, the team manager came running out to and immediately informed Jennifer that 'they' were really bad tonight: 'they' referring to the parents who were making negative comments on the sidelines during the game. This is an example of a challenging issue that Jennifer experienced based mostly on input from sources other than her own observations. Jennifer likely wouldn't have identified and set most environment issues on her own because she preferred to deal with other types of issues she considered more central to her role as a coach (e.g., athlete and organization issues). This is supported in her response to how she would address the issue of parents making negative comments.

ARE YOU GOING TO THINK ABOUT THAT (ISSUE) A BIT MORE?

I am going to think about that a bit more because I want to coach the kids. I don't want to get involved in all these parents' issues. There have been enough of those parent issues and if this parent is fed up with soccer, then so be it, that is fine. [Interval 3 summary interview]

Lastly, once coaching issues were identified, Jennifer typically framed the issue in multiple components of role frame. One of the best examples of this can be seen with the problem of

player substitutions (issue 12). Substituting players was set as an issue on the basis of the following components of Jennifer's role frame: equity, personal growth and development, safety (emotional), sport specific development, and winning. These are all cited as reasons why making player substitutions was considered an issue that needed to be addressed. No single component dominates; instead together they helped Jennifer set the issue and proceed to generate a strategy. Several quotations are used to illustrate how this issue was framed in multiple components of Jennifer's role frame.

You know that 50% playing rule, you've got kids who will play 50% of the game but you also have kids that are going to play 100% of the game. I had two or three players who were consistently playing 90-100% of the game. So that if we are going to reward effort, understanding and skill and all the rest with more playing time, there is still plenty of opportunity within our system to give those who deserve more playing time more playing time. Because it is not as if everyone gets 50-50. That is not what the 50% playing rule is. All it means is that every kid should play at least 50% of the time. [Equity / Personal growth and development]

Plus we are trying different positions on a few kids to try and improve the outcome of the games. [Winning]

My philosophy is that you learn by playing, not by watching and if kids are going to be on the side, they are not going to learn. They are not going to make mistakes so that they can learn. If you don't fall down a few times, then you are not going to try and challenge yourself. [Sport specific development]

Strategy Generation

For Jennifer the most common method used to generate coaching strategies was creative thought (CT) (see issue review matrix). Creative thought was cited as one of the primary sources used to generate a coaching strategy in 11 of the 13 issues. Peers were consulted for half of the coaching issues, but mostly in the form of advice seeking (AS). Jennifer only tapped into her personal repertoire (CR) to generate a coaching strategy for fewer than half of the coaching issues (6 / 13). Lastly, coaching materials (CM) were never cited because of her approach to learning and the types of coaching issues that were discussed.

When discussing coaching issues, Jennifer generally indicated that she was in the process of thinking about how to resolve the issue. Indications of generating coaching strategies through a process of creative thought were found in statements such as 'I need to think about that one more' or 'I'll have to sleep on it.' She was very methodical and deliberate in the way she engaged in reflective thought to generate coaching strategies. Jennifer typically would resist the option of quickly adopting a coaching strategy because she preferred to generate a strategy by thinking about possible alternatives that could be used to address a coaching issue. In this sense, creative thought was almost always used in conjunction with other methods of generating strategies. Creative thought was only cited on its own in four of the coaching issues (see issue review matrix). For example, Jennifer engaged in creative thought to generate a strategy to address the issue of assigning a team captain (issue 9). One of her assistant coaches suggested that a possible strategy would be to select one player to be the captain for the entire season. This strategy was a contrast to the strategy she typically used, which was to appoint a different captain for each game. However, because of the older age group that she was now coaching she needed to take time to think about which strategy, if either one, would be most appropriate. Through a

process of creative thought, together with input from her assistant coaches and her observations of coaches in other sports, she generated a completely new strategy. She decided to allow the players to vote for a team captain but it would only pertain to the regular season games. To promote opportunity for all the athletes to have a chance to experience a leadership position Jennifer would also select a different captain for each of the tournament games. Her new strategy was a compromise of several alternatives that was consistent with her role frame. This way the athletes were given some responsibility and input into an important team decision (personal growth and development) but each of them was also provided an equal opportunity to become the captain for at least one game (equity).

The method of creative thought is also evident in Jennifer's statements about how she generated a strategy to address the issue of the length of practices (issue 11). Before she settled on a strategy to experiment with she deliberated several options.

For a typical training session, I'm in the process of deciding whether I should be running two-hour or 90-minute sessions. I use Terry (coaching director) as a mentor. He feels 90 minutes is enough, I'm not quite sure. I tend to prefer two-hour sessions. The idea of 90 minutes is to keep them wanting more so that when you finish they are anxious for the next one. If at the end of two hours they are kind of eyeing the clock and saying when is this going to finish, then you have to wonder whether there is a bit too much overkill, how much are they absorbing and how much physically are they actually doing. [Background interview]

Some type of peer consultation to generate a coaching strategy was cited in over half of the coaching issues (see issue review matrix). Early in the season it appeared as though Jennifer would generate many coaching strategies through a process of joint construction with her assistant coaches, "the role of the assistants I look at jointly working with me to come up with

diverse and fun training activities for the kids” [Background interview]. For example, three of the first issues she experienced during the 1997 soccer season were addressed by jointly constructing a strategy with one or more of her assistant coaches (issue 2, 9 and 10). The issue presented earlier in this section of Jennifer’s case summary about how to assign a team captain is one such example. However, the coaching unit quickly dissolved because one assistant coach quit and the other one was unable to attend many of the soccer sessions. Although one of Jennifer’s relatives helped at times his presence was sporadic. Jennifer needed a ‘constant’ for a peer and she found this in the technical director of coaching for the local soccer club (Trent). She frequently sought advice about possible coaching strategies from Trent. The regularity of her discussions with Trent were only limited by the amount of time they could allocate to each other, otherwise Jennifer would have consulted with the coaching director much more often than she already did. She sought advice from Trent so often throughout the 1997 soccer season that it was difficult for her to recall exactly how often. Jennifer supported this proposition, yet she was quick to note she was a critical consumer of Trent’s advice.

DID YOU END UP TALKING TO TRENT ABOUT THIS (PLAYER SUBSTITUTIONS)?

About the substitutions? I am trying to remember. I have spoken to Trent so often to be honest, over the year, it is hard for me to recall if we addressed that one specifically. We talked about all sorts of philosophies. Whenever there was an opportunity I ended up talking to him. I don’t know if we addressed that.

WITH REGARDS TO TRENT, THAT WAS A GENERAL QUESTION THAT I HAD.

HIS NAME CAME UP REPEATEDLY. YOU SEEMED TO REFER TO HIM QUITE A BIT WHEN DEALING WITH COACHING ISSUES. CAN YOU TELL ME WHAT

TRENT MEANS TO YOU OR HOW MUCH YOU REALLY RELY ON HIM FOR COACHING?

I value his opinion quite a bit. I can't say that I should have a blind faith in what he says. I don't think that would be giving me enough credit for being able to think and being able to stand on my own two feet. At times you ask someone, a mentor, whoever, for an opinion and they really haven't seen the whole picture or they really don't know why. For example in the picking of certain players, he had recommended that I pick a certain player but I had my reasons at tryouts for not picking that player. Part of it had to do with commitment and knowing the past history of this particular player and I took a chance on another player who ended up producing some difficulties. [Interval 3 summary interview]

An example of how Jennifer sought advice from Trent is evident in the issue of player discipline and commitment (issue 1). Early in the season one player had missed several team sessions and Jennifer decided that it was time to start withholding playing time (benching) from this player during games. She was unsure, however, how to construct the strategy in the most appropriate way. Therefore, she contacted Trent and asked him for his advice on how best to modify the strategy of benching to address this coaching issue.

Although Jennifer had developed an extensive repertoire of coaching strategies, the efficacy of the strategies appeared to be limited to the younger age groups in which she had spent most of her coaching career. In this sense much of her coaching repertoire was age group specific. Her experience as a youth soccer coach has been focused at the younger age groups, particularly under 12 years of age. This suggests that coaching experience and coaching strategies are not easily transferable across one age group to another. She didn't cite her personal repertoire very often to generate coaching strategies (see issue review matrix). Insight into this finding is

provided by Jennifer's comments about the difficulty she experienced with coaching an older age group of athletes. She considered the 1997 soccer season to be her most challenging ever as a youth soccer coach. Much of the difficulty was attributed to the older age of the athletes. The extent of the difficulties she experienced during that season forced her to re-consider if she wanted to continue coaching at the older age groups.

Lastly, in the background interview Jennifer indicated that she sometimes referred to soccer videos and magazines to generate coaching strategies. However, she did not cite any types of coaching materials while discussing how she generated strategies to address coaching issues (see issue review matrix). Two reasons may help to explain this finding. First, Jennifer preferred an experiential reflective approach to learning - she liked to 'learn by doing.' To support this claim Jennifer frequently took practical soccer clinics offered through the local soccer club. Second, unlike the other soccer coaches in the present study, Jennifer did not own an extensive personal library of coaching resources. For example, if she wanted to refer to a videotape on soccer coaching she would borrow one from the office of the soccer club rather than purchase it.

ARE THERE OTHER WAYS THAT YOU HAVE GONE ABOUT SEEKING OUT COACHING KNOWLEDGE?

Anytime there have been, again it has been through the soccer club, anytime there have been clinics offered I have made a point of making myself available. Last Sunday they tried to do some sessions but unfortunately the weekend sessions often conflict with tournaments and stuff.

ARE THERE ANY OTHER RESOURCES THAT YOU USE?

There are videos. One of the manuals that Trent (coaching director) has developed is a useful manual to go through. There are many videos that are available from Trent and from the soccer office.

ALL THESE RESOURCES, ARE THEY SOCCER SPECIFIC?

Coaching in general through magazines, certainly coaching principles it doesn't matter what the sport is. Certainly in the motivational end of coaching because I think that is a key.

[Background interview]

Experiment

Real world (RW) and virtual world (VW) experiments were cited, although virtual world experiments were only revealed in three of the coaching issues (see issue review matrix). Real world experiments were the critical test of any coaching strategy and were found with all 13 coaching issues. Jennifer's comments about how she developed coaching strategies in previous seasons also provided support for the use of real world experiments as a critical stage in the experiential learning process. For example, soliciting volunteers and deciding on their responsibilities was not an issue for Jennifer during the 1997 soccer season. She had already developed two effective strategies based on real world experiments she conducted as a coach in earlier seasons. At the start of each season, Jennifer now informed the parents that there would be one volunteer position per parent. She also developed a comprehensive description of the responsibilities for each volunteer position.

AN ISSUE THAT YOU DIDN'T TALK ABOUT BUT IT CAME OUT IN THE FOCUS GROUP WAS GETTING PEOPLE TO VOLUNTEER. WAS THAT AN ISSUE FOR YOU THIS YEAR?

Well, I delegated that one for the manager. I had written in the letter for the kids who were trying out that there is going to be 16 positions on the team for the players but in addition there would be 16 parental positions. So in order for you to continue be prepared to volunteer, be prepared to do something.

DID YOU HAVE A LIST OF POSITIONS?

Oh yeah. I have a list of job descriptions written out.

DID YOU DEAL WITH THAT OR DID YOU LET YOUR MANAGER DEAL WITH THAT?

I let the manager deal with it but I did approach certain people once the team was formed so that I knew certain positions were taken care of, but I kept my past literature or packages where I had the whole stack of papers describing in length the manager's job and the social committee and the fitness person. They are all full page job descriptions and I've had other coaches call me and ask me for those descriptions.

IS THAT A PACKAGE THAT YOU MADE UP YOURSELF?

I started that years ago when I was coaching hockey.

THAT LIST OF DUTIES, IS THAT ALSO SOMETHING YOU DEVELOPED ON YOUR OWN OR DID YOU PICK THAT UP FROM SOMEONE ELSE?

No, I did it on my own and because I've fulfilled a number of those positions, all the details you could think of I just kept adding. Things that I used to do as a coach that I feel weren't part of my role I would just add them to the job description for another role. Things like taking attendance I wanted done for every practice so I would delegate that to the manager and who wants to collect the fitness sheets and re-issue new ones. [Interval 3 summary interview]

As well as real world experiments, Jennifer would occasionally experiment in an artificial environment referred to as a virtual world experiment. When she experimented with a coaching strategy in a virtual world it was generally through the use of peers as sounding boards. Peer sounding boards were assistant coaches, friends within the soccer community and even a coach of another team for one issue (issue 2). For example, when Jennifer was trying to address the issue of assigning a team captain she decided to first test her strategy on her coaching staff and her team manager before she would consider experimenting with it in a real world environment. The strategy that she wanted to test was to allow the players to vote for one captain for the regular season games and then she would appoint a different captain for each of the tournament games.

THE IDEA OF MAKING IT A REWARD FOR EACH GAME, YOU ARE STILL STICKING WITH THAT FOR THE TOURNAMENTS, WHERE DID THAT IDEA COME FROM?

Because I didn't want to go with one captain for the full year. I still wanted to have some reward.

IS THAT SOMETHING THAT YOU DECIDED ON YOUR OWN?

Yeah. I first presented it to them (coaching staff) and they agreed, whether it was out of good because I just stated it as a fact. I presented it as 'What do you think about this?' There was no balking at it and I included the manager in that discussion as well. [Interval 2 summary interview]

Another example of a virtual world experiment, this time on a friend, is taken from the issue of negative parent comments about the coach (issue 6). Late in the season Jennifer decided, on her own, to write a letter about the situation and distribute it to all the parents on the team.

Before she experimented with this strategy, however, she tested it with a friend who was also connected to the local soccer community. She selected this individual as a sounding board because she respected and trusted her opinions. The feedback from her friend changed her decision and she decided against distributing the letter.

I wrote like a five-page letter that I was going to give to the parents and I talked to a former manager's wife about whether I should give this letter out. She said, 'Just because there are two or three parents who are an absolute pain and mutter negative things all the time, if you give that letter to everyone then other people are going to feel bad for something they haven't done.' I said, 'Well if you read it you will see that a little bit is to get stuff off my chest to explain where I am coming from and also to get those people who are not being sensitive enough to their kids to think.' She responded by saying 'But are you actually going to change people who are that way all the time with their kids?'

SO YOU DIDN'T END UP GIVING OUT THE LETTER?

I didn't and I still have it. [Interval 3 summary interview]

Evaluation

Jennifer typically evaluated experiments with coaching strategies on her own in the form of self-evaluation (SE) (see issue review matrix). Self-evaluation was found for all of the discussed coaching issues. In contrast, peer evaluation (PE) was cited only three times. Peer evaluation, in the form of feedback from her assistant coaches or a friend, was found only when a virtual world sounding board experiment was conducted. The environment likely restrained Jennifer's ability to consult with peers for post-experiment evaluations. As described earlier in Jennifer's case summary, the availability of her coaching staff was limited throughout the season and she often had to make evaluations on her own.

Evaluation of a coaching strategy after it an experiment was often described by Jennifer as a process of listening to, or monitoring the situation. Once a coaching strategy was generated and subject to a real world experiment, Jennifer would step back from the experiment and observe the impact or effectiveness of the strategy. This preference for self-evaluation is evident in Jennifer's comments about how she assessed the impact of her experiments used to address the issue of athlete discipline and commitment (issue 1). Over the course of the season several players were disruptive during practices and occasionally players were absent without notice. To address this issue Jennifer experimented with the coaching strategy of withholding playing time (benching) from players during games. This strategy was consistent with her role frame because it fit within the boundary component of the age group of the athletes (see role frame diagram). After benching several players Jennifer reflected on the experiments and based on her positive self-evaluations she determined that she would continue to use this coaching strategy. The unusual degree of difficulty Jennifer experienced as a coach during the 1997 soccer season is also evident in her statements regarding this issue.

THAT WHOLE IDEA OF BENCHING PLAYERS, WHERE DID THAT IDEA COME FROM?

Well I've always had that for commitment reasons. You picked the kid and another kid didn't get selected and that happens in our club because enough come out and some kids don't get to play, but their wish was to be there and yet you have someone else who shows up when he wants. That is not fair and then you have kids that show up regularly and are there to work and play and have fun and teammates who aren't won't get the same playing time. So I set that out clear in my introduction letter to the parents and at the parents'

meeting at the beginning of the year. If you don't want this, you might as well walk now, make my decision to cut easier and one kid did not continue.

SO YOU'VE DONE THIS BEFORE, USED GAME TIME AS A KIND OF PUNISHMENT?

I haven't had to do it as much as this year, I will say that. But yeah as the ultimate (form of discipline) on the commitment level yes. See this is the age where, when they are 10 or 11, even 12 I guess, parents drive them and drop them off. At 13 they can take the bus, they can bike. They can make the arrangements to call someone else for a ride and all that or they can take off and not be around which has happened to two players, the two who were benched last night. They just weren't available to come when their ride was available. They were gone off who knows where and they knew they would pay the consequence for it. [Interval 1 summary interview]

WERE YOU SATISFIED THAT BENCHING WAS ENOUGH OF A DETERRENT?

Yeah, I was satisfied that that was effective because within a month the missings weren't happening. They knew and particularly one player who I think has probably never been benched for anything and since that has happened he has been very good about notifying us and writing in the communication book if he is going to miss or not miss.

WOULD YOU USE BENCHINGS IN THE FUTURE?

Yes. I will use that because, and actually one of the fellows who had helped out early in the season had asked 'How long did it take you last year to get the message through to the kids if they don't show up, they are not going to play?' It probably only took two weeks last year. This year it took a few more weeks. [Interval 3 summary interview]

Hockey Coach 1 - Bren

Bren discussed 18 coaching issues that he experienced during the 1997-98 ice hockey season. Most issues were athlete (8) or performance (7) related. Only two environment and one organization type of coaching issue that Bren experienced were raised for discussion. The proposition matrix for Bren is presented in Table 20.

Role Frame

Bren's approach to coaching comprised three boundary components and ten internal components (see Figure 9). The three boundary components were the age and competitive level of the athletes, and the level of support provided by the community. For example, the young age of the athletes prohibited Bren from using certain action strategies, particularly related to discipline and playing time. He was not comfortable with the common strategy in ice hockey of 'benching' players during games. He felt that this strategy was inappropriate for the young athletes on his team.

I am not that kind of coach to actually have somebody sit out, have somebody miss the first couple of shifts in the game because he was late in the practice. I haven't got to that yet.

Maybe if they were older. I don't know. Can you ever get a serious enough game at age 11 to warrant something like that? [Interval 1 summary interview]

The competitive level of athletes was also an important boundary component for Bren. The team was registered in the second highest level of competition in youth ice hockey in the region (Class A). He had certain expectations of what he would be able to do as a coach with the athletes on his team, "I look more at the team level, the tactical part now. At this level of competition we are pushing more tactical development." [background interview] However, he modified his expectations throughout the season when he realized that his team was probably

Table 20

Proposition Matrix for Bren

<u>Proposition</u>	<u>Summary</u>
Role frame	Approach to coaching comprised three boundary components and ten internal components. Three boundary components were age group, competitive level, and the community. There are two levels of internal components, 1) fun, personal growth and development, positive team environment, and sport specific growth and development 2) discipline, emphasis on team, equity, modeling behavior, safety and winning
Issue setting	Most types of coaching issues were identified alone, with the exception of performance issues. Performance issues were typically identified with his assistant coaches through a process of joint identification. Coaching issues were typically framed in multiple components of role frame.
Strategy generation	Strategies were frequently generated from his personal repertoire or creative thought. In addition he often consulted with his coaching staff in the form of either joint construction or peer suggestions. Coaching materials were only cited three times. These findings are better understood when placed in the context of his experience as a youth coach, the depth of his coaching repertoire, and the environment.
Experiments	Real world and virtual world experiments were cited, although virtual world experiments were only revealed in three of the coaching issues (virtual world peer sounding board experiments).
Evaluation	Typically evaluated experiments with coaching strategies on his own in the form of self-evaluation. On occasion feedback was also solicited from his assistant coaches.

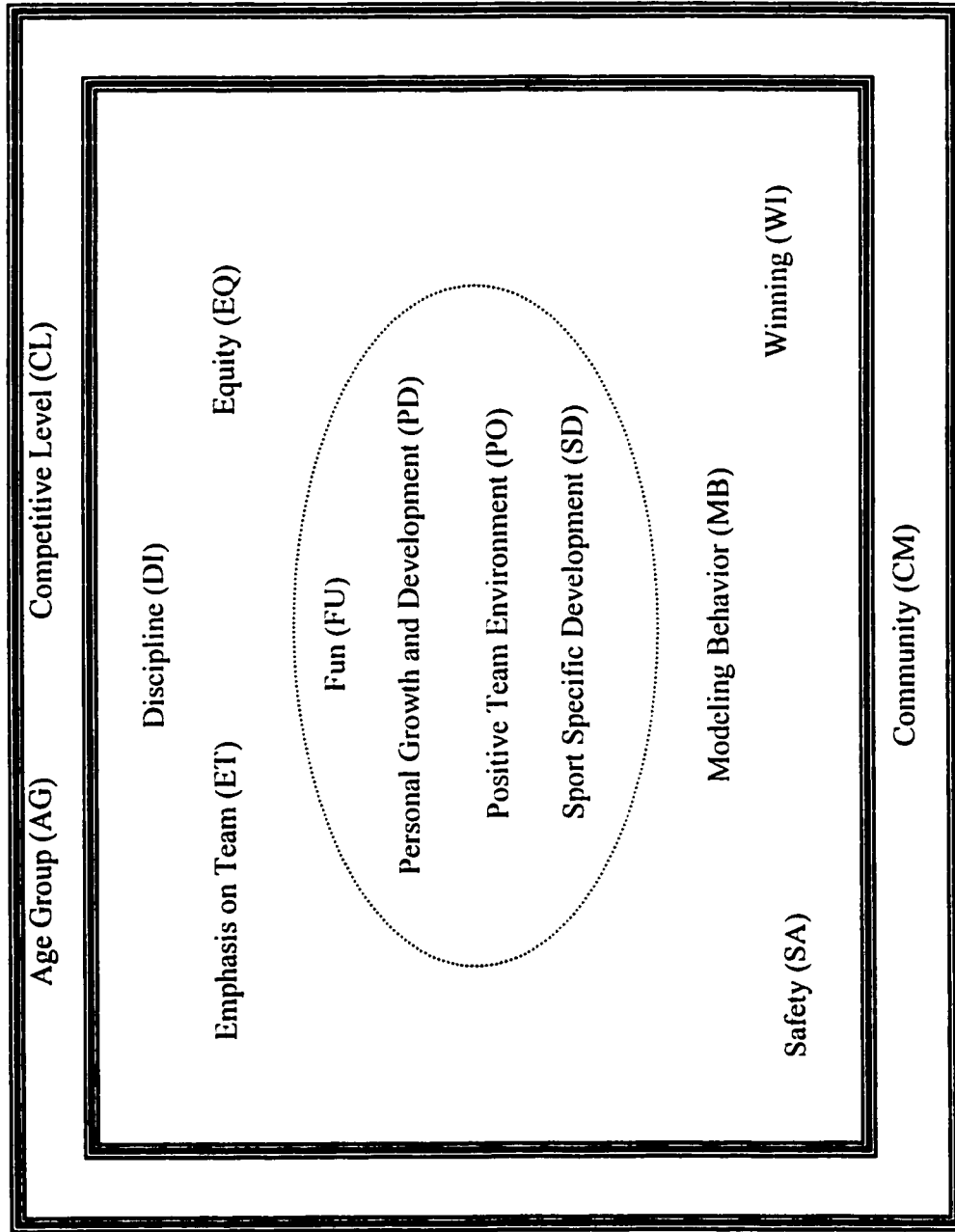


Figure 9. Role Frame Diagram - Bren

more suited to the third level of competition (Class B). As a result of this shift in his perceptions of the competitive level of his players, the way he framed his role as a coach also shifted. His eventually changed his focus from tactical skill development to more basic technical skill development.

This is more, I mean it is A level hockey but I am still running a B program, development, which not to say you wouldn't do that every year, but we can't progress into the more tactical part of the game that we want to at this level. Some of the kids I was hoping, like you could see the other team cycling and stuff like that. I would really like to do that, but they are still lacking the fundamentals. I think there was a practice and you weren't there, I tried some basic cycling drills. Some enjoyed it, some thought it was great, but that is kind of where it ended, it meant nothing, nothing clicked in. Maybe later on we will re-introduce it again because at the Atom 'A' level you should be able to this. [Post-practice 4 interview]

Bren never did re-introduce the cycling and he indicated in one of the last interviews that the practice sessions were still focused on individual techniques and the fundamentals of hockey.

The third component of the Bren's role frame, community restraints, did not emerge with any of the other case study coaches. Bren often mentioned how his role as a coach was constrained by the community in which he coached. He felt that in the region where he coached, the parents were mostly from a low socioeconomic background and therefore did not place a high priority on competitive sports, including ice hockey. He felt that the parents in this community viewed ice hockey predominantly as a recreational activity. He envied coaches who coached in other regions of the city because he noticed that they were able to coach without this constraint.

It depends on your parents you know. You will notice around town there is, like Gloucester, there are some programs that are very serious, and Cumberland. I notice it right away, very serious. But the parents that are there are right in-line with those coaches, they are gung-ho. Those kids were there an hour before the game. I mean that is ultimately what you would like to have but I am in a different environment in our neighborhood. The lifestyles are different. Hockey is not important, it is more recreation oriented, less regimented. Those programs are always the envy to me when you see how more successful they are. [Interval 1 summary interview]

There are two levels of importance for the internal components of Bren's role frame. The first, and more central level of importance is depicted by the inner circle of components in the role frame diagram (see Figure 9). The first level comprised the four role frame components of fun, personal growth and development, positive team environment and sport specific development. These role frame components were central to Bren's approach to coaching. The second level of his role frame consisted of six components: emphasis on team, equity, discipline, modeling behavior, safety and winning. These six components were considered peripheral components of Bren's role frame and are therefore positioned outside the circle of inner components. These are considered secondary components because they did not appear with the same intensity or frequency of the primary components.

Bren repeatedly stressed the importance of trying to teach the athletes how to play the game of hockey within a fun and positive atmosphere. Bren's behaviors provided support for his statements about the importance of creating a fun and positive team atmosphere. For example, he decided to have a fun practice just before Christmas even though practice time was scarce and the team had won very few games. For Bren it was more important at that time of the season for

the players to have some fun on the ice. Bren also provided many examples to support the primary placement of the personal growth and development role frame component. He always stressed to the players the importance of respecting other teammates, officials and opponents.

WHAT DO YOU CONSIDER TO BE YOUR ROLE AS A COACH AT THE LEVEL THAT YOU ARE AT RIGHT NOW?

Well I guess a teacher, primarily hockey, the game itself, but there is a lot of the social aspects of it, learning respect for your fellow players, the opposition, the officials and all that. I push that a lot. Respect is a big part, to me it is a big part of the team aspect of the game, besides learning the game. [Background interview]

Bren would not tolerate disrespectful comments or actions by any of the players. If he noted a disrespectful act he would quickly reprimand the player. At times he would even try to instill respect in players on the opposing teams during games.

I caught him (Paul) last night mouthing off at the opposition. Our door was open and the Gloucester player went right by. Because if you are not right there, and I have no patience for that stuff, I am right there. I caught him plus the Gloucester guy. I told them 'You should be good sports.' Of course I don't say too much to the opposition because it wasn't that serious, it was just a few comments through the door. But they have to learn respect. I am very quick to make sure that they understand that if they do these things, mouth off, it only reflects on them and their team, they are poor sports. [Interval 1 summary interview]

Issue Setting

For the issues that were discussed, Bren generally relied heavily on his own identification (SE) of coaching issues (see Issue Review Matrix in Appendix K). Most types of coaching issues were identified alone, with the exception of issues related to team performance. Bren frequently

consulted with his assistant coaches to identify performance issues. When Bren consulted with his assistant coaches to identify performance issues it was through a process of joint identification (JO). Joint identification is accomplished through a dialogue between Bren and one or more of his assistant coaches. Although this proposition is not fully supported in the issue review matrix - joint identification is only 3 of the 7 performance issues - Bren's general comments about the role of his assistant coaches suggests that this method of identifying coaching issues was much more prominent.

Bren and his two assistant coaches (Peter and Bruce) generally consulted after each game or practice to review the event and discuss possible performance related weaknesses that should be addressed. These were informal gatherings that could take place in the hallway outside the dressing, in the dressing room after the players had left, and occasionally the next day by telephone. This proposition is supported with evidence from how Bren described the process of identifying the offensive positioning (issue 16). It was jointly decided that the players were not spreading out enough when they were in the offensive zone of the ice, and that a strategy would have to be generated to address this issue.

We were discussing after our last game things we need to work on. I mean there are a lot of things but one, now that they are getting more opportunities in the offensive zone they are not spreading out. They are not thinking and moving around and supporting each other.

AND WHEN YOU SAY WE WERE TALKING, WHO WAS THAT?

Well the coaches, the three of us there after the game.

WAS THAT A FORMAL MEETING?

No, no. Just at the end of the game we were hashing things out, where we were coming up short during the last two games. [Pre-practice 4 interview]

In the final summary interview Bren further summarized the process of identifying coaching issues as a joint effort among the coaching staff. He was describing how a lack of support among the players on the team was an issue that had to be addressed (issue 13).

We (the coaching staff) will usually talk about it. He (Peter) will come up with some things that are legitimate problems in our game so we will build a drill to exercise that.

WHEN YOU SAY WE USUALLY TALKED ABOUT IT. THAT IS YOU TALKED ABOUT THINGS THAT NEED TO BE ADDRESSED?

Yeah. There are some things, you know, we are coming to a practice, we need to work on this more. After games, either while we are waiting for the players to get out or they are all gone and the game was close, you see where the weakness was, something came up during the game, so we will say, 'Next practice lets do this, work on this.' So a lot of the time it is collaboration. [Interval 3 summary interview]

Regardless of the method Bren used to identify coaching issues, alone or jointly, they were typically framed in multiple components of his role frame. Issues are seldom framed in only one component of Bren's role frame. For example, the issue of an athlete's poor attitude and lack of discipline (issue 3) was framed in seven different components of his role frame. This indicates that coaching issues were often more complex than they first appeared. The issue of athlete inattentiveness during practices (issue 5) is presented as an example of how one issue can be framed in multiple ways. The lack of player focus during practices was determined to be an issue based on five different components of Bren's role frame: age group of the athletes (AG), competitive level of the athletes (CO), discipline (DI), sport specific development (SD), and winning (WI). Each quotation illustrates one or more different components of Bren's role frame used to interpret, or frame, this issue.

HAVE YOU HAD THAT (ISSUE) WITH OTHER TEAMS?

Yeah. It is the age. I mean they are a good bunch of kids. They get frustrated. Tomorrow they probably might not remember half the discussion, but that is the age. We will have to revisit that next, probably next practice. [Age group]

They go out and play hard but that is kind of where it ends. Sometimes they don't always have the intensity that they probably need for that level of hockey so we need to push them a little bit to help them meet that level. Show them that they can play at that level and still have fun if they want to be successful. [Competitive level]

YOU MENTIONED THAT YOU HAD A BIT OF A DISCUSSION IN THE DRESSING ROOM AFTER THE PRACTICE. CAN YOU TELL ME ABOUT THAT?

Well it was just over fooling around on the ice when we are trying to show or teach something or discuss something and then there are two or three in the back there talking or fooling around, moving around on the ice when we are trying to show something. We just reminded them on the weekend how upset some other players got because they are losing and the fact that if they take a couple of minutes and pay attention and learn what they are supposed to learn, they are skating with those other teams and that is where they fall down. Every once in a while they are out of position and it costs us a goal, and that is what it is down to. But if they focus a bit more, pay attention to what we are trying to show, and work at it, they will be more successful. [Discipline / Sport specific development / Winning]

Strategy Generation

Bren preferred to rely on his own resources to generate coaching strategies (see issue review matrix). He frequently cited his personal repertoire (CR) or creative thought (CT). He also consulted with his coaching staff to generate a coaching strategy for one third of the issues in the

form of joint construction (JC). Peers outside of his immediate coaching staff were never consulted when generating coaching strategies. Neither were advice seeking (AS) or reflective transformation (RT) mentioned. In addition, coaching materials (CM) such as books or videotapes were only cited three times. These findings are better understood when placed in the environment of Bren's experience as a youth coach, the depth of his coaching repertoire, and environmental restraints.

Bren's preferred method of generating coaching strategies was to refer to his personal coaching repertoire or to engage in creative thought (see issue review matrix). It is easier to understand Bren's reliance on his personal repertoire and creative thought when his experience in ice hockey is considered. Bren has been a youth ice hockey coach for over 15 years and has participated as a recreational player for over 30 years. Bren has used his experiences to generate an extensive repertoire of ice hockey coaching strategies. As a result, Bren often implemented coaching strategies to avoid common coaching issues turning into major coaching dilemmas. For example, disruptive conduct by parents and players is a common coaching issue experienced by most coaches (see Focus group results). Because Bren has already had to deal with this issue in previous hockey seasons, he has developed several coaching strategies to address this issue. First and foremost, he will take consideration of a player's, and his or her parent's, attitude before selecting a player to his team. Furthermore, once the team was selected, he implemented a second strategy to ensure that everyone on the team was completely clear about appropriate behavior. Prior to the season a player, parent, and coach contract was distributed to all prospective team members that stipulated appropriate conduct at hockey sessions. Everyone on the team signed the contracts to verify that they understood the consequences.

Creative thought and accessing his personal repertoire were often combined to generate a new strategy. For example, Bren frequently explained how he started with a strategy from his repertoire and then molded it or modified it slightly to fit the uniqueness of a current coaching issue. Although he had an extensive repertoire of coaching strategies, his repertoire was not considered to be fixed or static. Instead, he was continually modifying and expanding his repertoire by trying new and different coaching strategies. For example, sometimes he would construct a new coaching strategy by making a minor modification to an existing strategy from his repertoire and then build on it.

An example of how Bren engaged in creative thought to modify a strategy from his personal repertoire is evident in his description of issue player tardiness at practices (issue 6). Early in the season the players often arrived late on the ice at practices and Bren would not be able to complete his practice. As the season progressed, the problem persisted and eventually Bren generated a strategy through creative thought and accessing his personal repertoire. He decided to make the players do push-ups when they arrived late on the ice.

I NOTICED A FEW TIMES, AND YOU HAVE MENTIONED IT YOURSELF, THAT PLAYERS ARE LATE GETTING ON THE ICE FOR PRACTICES AND COMING AT THE LAST MINUTE, AND YOU SAID YOU MAY EVENTUALLY HAVE TO BENCH SOMEBODY TO TRY AND SEND A MESSAGE. HAVE YOU HAD TO DO THAT?

No. I think the problem is still lingering. But for the better part they are there. We are still getting started at five minutes after, it depends of course on the time of the practice. I don't know. We went to the push-up routine and that sped them up.

PUSH-UPS?

Ten push-ups for every minute they are late getting onto the ice. So that worked.

WHOSE IDEA WAS THAT?

Oh, I just kind of threw that in there. It just kind of came along because there were some, they didn't seem to be all that motivated to get out on the ice. When you have 12 of them out there and you are waiting for two, you say okay, the big clock is at the end of the ice and so I just wait at the gate and when they step on it is 10 push-ups for each minute they are late. So two minutes, okay, 20 push-ups. So every little bit helps. I think it helped to encourage a few of them to get out.

DO YOU STILL DO THAT?

Oh yeah.

SO IT HAS IMPROVED THEN A LITTLE BIT?

Yeah, I think overall. There is still the odd one. I mean there is some it will come, they are just late, so they are scrambling. It is not his fault probably anyway.

HAVE YOU DONE THAT BEFORE WITH OTHER TEAMS OR IS THAT THE FIRST TIME YOU HAVE DONE THAT?

Well it is probably the first time to that extent. I would always use one as an example, you know, coming out late and taking their time, stop the practice and everybody come over and watch, little Johnny is showing us how to do push-ups. But I am always trying new things, so that seems to work pretty well.

HOW DID YOU COME UP THAT IDEA TO BRING IN THE PUSH-UPS? DID

SOMEONE ELSE TELL YOU ABOUT THAT OR WAS IT YOUR OWN IDEA?

You just kind of fall into it, always thinking of little angles to come at them, to get them to do what you want them to do.

WOULD YOU USE THIS AGAIN, LIKE WITH SUBSEQUENT TEAMS?

Oh yeah, so then probably with another team it would be the first thing I do, and if that didn't work then I would try something else.

I WILL HAVE TO WATCH FOR PUSH-UPS NEXT TIME I AM OUT.

You just have to dig into the bag of tricks there and see what works for that group of kids.

[Interval 2 summary interview]

Besides his own repertoire and creative reflection, Bren frequently developed coaching strategies with members of his coaching staff. This was evident in nearly half of the coaching issues that were discussed. Consultation with peers on his coaching staff to generate a coaching strategy was usually a process of joint construction. For Bren joint construction was a process of gradually building a strategy through discussion with one or more of his assistant coaches. This process of joint construction is evident in Bren's explanation of how he often generated new drills to use with the athletes during practices. Once a team weakness was identified and set as an issue (usually through joint identification with his assistant coaches) often the next step was to toss ideas around with his assistant coaches until a strategy was developed. One of the main reasons Bren consulted with his assistant coaches was because he wanted them to feel like they had input into the decision-making process. Furthermore, he valued the unique insight they brought with them from their different perspectives. For example, one of the assistant coaches worked mostly with the defense and the other assistant coach worked mostly with the forwards.

The important role played by Bren's assistant coaches in the generation of coaching strategies was not clearly evident until mid-way through the data collection period. Until that point Bren seldom alluded to consulting with his assistants. When Bren was questioned about this he clearly explained why and when he consulted with his assistant coaches on coaching issues. For example, if an issue had a very brief action-present and had to be addressed

immediately (e.g., a parent confrontation) Bren would not have time to consult with his assistant coaches to generate a strategy.

I NOTICED THAT YOU HAVEN'T REALLY TALKED ABOUT THAT (ROLE OF ASSISTANT COACHES IN STRATEGY GENERATION) TOO MUCH. IS THAT BECAUSE I JUST HAVEN'T NOTICED IT OR DO YOU PREFER TO DO THINGS ON YOUR OWN?

Well I've got two good helpers so we have been able to resolve most (issues). We have been able to deal with situations amongst the three of us.

SO WOULD YOU SAY THAT GENERALLY YOU DO SPEAK WITH YOUR ASSISTANT COACHES?

Unless it is something that I can only tell them about later. Like if I get a call, somebody ranting and raving, they will hear about it later because they might not be there to help deal with it. But I usually consult them because they have their own views because they are dealing one on one with these players, a lot of times, especially during the games. They are at the gates, they are right there. I am in a different position watching the game and they have their own views and comments on what has transpired in different situations. I mean they are there, right at the trenches, they are the front line, they are taking some of the brunt of this, whatever the problems are.

BUT WOULD YOU SAY THAT WHEN YOU ARE FACED WITH AN ISSUE OR A CHALLENGE THAT YOU TRY TO DESIGN A STRATEGY OR RESOLVE IT FIRST ON YOUR OWN AND THEN GET FEEDBACK FROM YOUR ASSISTANTS OR DO YOU GO RIGHT AWAY TO YOUR ASSISTANTS AND SAY 'THIS IS WHAT WE HAVE TO DEAL WITH, WHAT SHOULD WE DO'?

I have done both, it depends on the situation. Sometimes it is only me that has the problem. I have a strategy, I may ask for a comment, a suggestion...

BUT NOT ALWAYS?

No. But with these two (assistants) more times than not they have been involved. Last year (year before the study) I had Peter, and Bruce wasn't on the bench at that time but Peter was. I was kind of alone last year. I made a point at the start of this year to tell them they will be more actively involved in everything because there is more harmony. Everybody has input.

[Interval 2 summary interview]

The role of the assistant coaches in helping him generate and select coaching strategies is evident in Bren's approach to resolving one of the more challenging issues he experienced during the 1997-98 hockey season (issue 1 - dealing with a player who had a poor attitude and often exhibited disruptive behavior during games). One of the first strategies that was generated was a coach-parent meeting. The creation of this strategy was a joint decision among Bren and his two assistant coaches.

THAT IDEA OF HAVING THAT MEETING WITH THE PARENTS, IS THAT THE ONLY PLAYER THAT YOU HAVE DONE THAT WITH ON THE TEAM?

Yeah.

AND WHOSE IDEA WAS IT TO SAY, OKAY WE NEED TO HAVE A MEETING?

We (coaching staff) all had an agreement on that one. The other two (assistant coaches) were getting frustrated, we just kind of, all at the same time said 'This is it.' We've tried to deal with the player as much as we can without getting the parent involved. All three of us understood that, we assumed, but we have come to find out that the player had a lot of pressure from the parents. [Interval 2 summary interview]

The process of joint construction was not restricted to on-site discussions at games and practices. One member of the coaching staff (Chip), the trainer and goalie coach, joined the team after the season started and he also worked during the day in the same office as Bren. Bren took advantage of the opportunity to consult with Chip while they were at work. Bren indicated that they often discussed coaching issues and tried to develop different coaching strategies during breaks at work.

We (the coaching staff) will discuss odds and ends. Same with Chip now. I talked to Chip to see how he felt. He is just new to the team. You will probably hear how he felt things went, trying to get a feel from him how the goalies are progressing, but once he is involved with the team a bit more then we will get more details from his report. I know in time he will be able to be more involved in the overall operation. Right now he is just getting himself in with the goalies and getting his little program going there, but I have talked to him while we are at work everyday. We talk about a lot of things, different strategies and you know, techniques to try to get things across to the kids, to develop certain skills. [Post-practice 1 interview]

Although Bren often consulted with his assistant coaches to address coaching issues and generate coaching strategies, he preferred to consult with one of his assistant coaches more often than the others (Peter). The reason he consulted Peter more often was because he considered Peter to be the most knowledgeable about the game of hockey and he also had coached with Peter in previous hockey seasons, and therefore had more trust in Peter's suggestions. In this sense, Peter was his main strategy generation 'sounding board', his primary peer resource for generating coaching strategies. For example, although he valued the other assistant coach's (Bruce) suggestions as well, he did not feel that Bruce was as knowledgeable as Peter. Several

times during the data collection period Bren indicated that he consulted with Peter on a coaching issue, but he did not mention his other assistant coach. An example is taken from Bren's explanation of how he typically generated practices drills.

WHO IS RESPONSIBLE FOR DEVELOPING OR BRINGING A PRACTICE DRILL?

Well usually we have a drill already in mind to do that, and we talk a lot during the day, Peter and I. He is at home so I will phone him. So we have hashed out a lot of this stuff over the year. Not so much lately because he is busy and I am busy but there was a three month period there, especially when we were having trouble with our three banditos there (issues 1,2,3), we talked about it a lot, work on different angles, things that we could do. [Interval 3 summary interview]

WITH REGARDS TO PETER AND BRUCE, DID YOU CONSULT MORE WITH PETER THROUGHOUT THE YEAR?

Yeah, well I know Peter from last year. Peter is more knowledgeable. Bruce is a good helper. At this level, Peter is more knowledgeable I find. He has been at it longer, he has played a good level of hockey. Bruce was coaching Novice, stuff like that, not that he isn't a good helper, but in a game sometimes he gets distracted easily. [Interval 3 summary interview]

Although Bren frequently consulted with peers inside his coaching staff, he did not consult with coaching peers outside of his coaching on any of the coaching issues he experienced (see issue review matrix). Bren never cited advice seeking or reflective transformation, two methods of using peers to generate strategies, while discussing how he addressed coaching issues.

Because Bren had access to knowledgeable peers within his coaching staff (2 assistant coaches and 1 trainer / goalie coach), one of whom he saw everyday at his regular job, he did not have a

need to seek outside advice from other coaching peers. Besides coaching his own son, Bren had another son who participated in organized ice hockey. Virtually every night of the week from late September to early March Bren could be found at a local hockey arena. Therefore with respect to observing other coaches (reflective transformation), Bren indicated that he simply didn't have time to attend other coaches' practices and games for the purpose of generating new coaching strategies. However, Bren indicated that he took advantage of the time he spent observing his other child play hockey to observe his coaches (and the opposing coaches during games). This was a form of reflective transformation but it was not directed towards generating a strategy to address an immediate coaching issue. By reflecting on his observations of these other coaches Bren would 'store' coaching strategies in his personal repertoire for future reference. Interestingly both effective and ineffective coaching strategies were generated. In this sense through his reflective transformation Bren generated examples of what to do and what not to do as youth ice hockey coach.

I've learned a lot through my older child, through people that he has been associated with, his coaches that he has had in the past. When you come and watch a tournament you see a lot because you are exposed to more games, so you see what is happening on other benches. It will bring a tear to your eye sometimes. Sometimes it is pathetic. When I am at the rink I will watch how people deal with their team. [Background interview]

Lastly, coaching materials such as books and videotapes were mentioned only for three of the eighteen coaching issues that were discussed (see issue review matrix). At first glance this finding was surprising because of Bren's initial statements about coaching materials. In the preliminary interview with Bren he explained how he would occasionally refer to the local hockey association's resource center or his own personal library of coaching materials. This

apparent contradiction between Bren's initial statements about coaching materials and his actual use to address coaching issues was presented to Bren during the final interview. Bren explained that he did in fact still refer to coaching materials but mostly for coaching issues related to physical training or physiological development of the athletes (none of which were discussed during the season). Second, Bren indicated that he has matured, or grown, as a youth ice hockey coach because of his experience and therefore did not refer to coaching materials as often as he did when he was in the earliest stages of his development. He considered himself to be a fairly knowledgeable ice hockey coach and therefore preferred to rely on his personal repertoire or creative thought (which is supported in the issue review matrix). The evolution of Bren's decreased dependency on coaching materials is evident in his response.

DO YOU FIND THAT LAST YEAR YOU DIDN'T SEEM TO MENTION USING DRILL BOOKS OR HOCKEY BOOKS, YOU SEEMED TO CITE YOUR EXPERIENCE MORE? DO YOU THINK THAT WHEN YOU FIRST STARTED COACHING YOU RELIED MORE ON BOOKS?

Oh yeah, carried one of them in your pocket.

WHEN DID THAT CHANGE? OR DID IT KIND OF EVOLVE?

Just every year I used it a little bit less and less.

AND WHEN YOU SAID YOU CARRIED IT AROUND IN YOUR POCKET...

Well when I was first working with hockey schools for kids, because you are always looking for things to entertain them. Well that Initiation program book, I think I used that extensively at the beginning. When you go from adult hockey to kids you needed the resources, so that Initiation program when it first came out was excellent, there is so much in there, and then you just kind of build on it from there. And then there are other sources of

course. You go to the stores or to libraries. When I moved to town here eight years ago I went over to the sport centre in Gloucester and went through the library. I went over to the ODMHA office also, they always

had stuff in there because I worked in that end of town. I would go over there on my lunch hour and check the library because they didn't want to rent the materials out.

DO YOU NOT REFER TO THOSE MATERIALS ANYMORE AT ALL?

Oh I do, oh yes I pull them out. The coach theory books, the one they give you from the NCCP, I pull them out once in a while. A lot of what I use from those is, not so much the coaching philosophies but the physical or medical.

LIKE FOR PHYSICAL TRAINING...

Yeah, for the muscles and conditioning. I revisit those every once in a while because I switch from baseball to hockey and I have to go back because you are working on different muscles.

SO THEY STILL ARE VALUABLE RESOURCES THEN.

Yeah.

HOW WOULD YOU RANK THEM IN RELATION TO YOUR ASSISTANT COACHES?

DID YOU CONSULT MORE WITH PETER THAN WITH VIDEOS AND BOOKS?

Last year I did.

AGAIN, IS THAT SOMETHING YOU'VE ALWAYS DONE AS A COACH OR IS IT MORE WITH EXPERIENCE?

I guess that comes with maturity I suppose, but your own knowledge base grows. I know where those books are and what information is in those books, so they are another source and I can feed off if needed, but Peter was a good source last year. [Validation interview]

Experiment

Bren's preferred environment for experimentation with coaching strategies was the real world (RW) (see issue review matrix). He only cited a virtual world experiment (VW) for three coaching issues (issues 1, 2 and 3). Real world experiments were the critical test of any coaching strategy and were found with all 18 coaching issues. Furthermore, before strategy experimentation Bren would consider the degree of consistency between the strategy and his role frame (see role frame diagram). If a coaching strategy was deemed appropriate because of its incongruity with one or more of his role frame components, Bren would discard the possibility of experimenting with the strategy. An example of this proposition is evident in how Bren addressed the issue of a defenceman on his team with below-average hockey skills (issue 14).

Early in the 1997-98 hockey season Bren noticed that one of the defensemen was missing a lot of practices. This was set as an issue because the defenseman was very weak and he needed the practice. As a result, the player was making a lot of mistakes in the games and costing the team goals. The team only had four defense, or two sets of defense, and therefore the player was on the ice for nearly 50% of each game. The first strategy that Bren generated was to bring up a stronger defenseman from another team within the association during games. At the same time Bren began to experiment with a second strategy. When he was able to use the extra defenseman (the fifth defenseman from the other team) he would only play his weak defenseman when the team was at even-strength against their opponent (five versus five). Bren felt this was justified considering that the weak defenseman did not make the effort to attend the practices (consistent with the personal growth and development component of his role frame - work ethic / responsibility). Bren experimented with these two strategies but the player he was calling up was not able to attend most of the games because of his commitment to his original team. Therefore

Bren experimented with a third strategy.

This time he decided to move the weak defenseman up to play winger instead of defenseman. There were two reasons for this move. First, the player would receive less ice-time because there were three sets of forwards (compared to two sets of defense). Therefore the player would have less of an impact on the outcome of the game. This strategy was consistent with the emphasis on team component of Bren's role frame (the rest of the players worked hard and attended practices so they should not be let down by one player who did not make the same effort to improve). Second, the defenseman would now have a chance to improve his skills in a different, less challenging, position. Bren initially liked the effects of this strategy as the player was less harmful and he was starting to make some progress on his skills. However, late in the season the coach noted that this experiment never really worked because the player had not made any significant gains in his hockey skills, although it was better for the team to have him on as a winger. Therefore, the issue was never completely resolved. Interestingly, Bren could have easily released the player from the team early in the season, but that strategy was not consistent with his role frame as a coach. He believed that part of his role as a youth sport coach was to teach children how to play ice hockey in a fun and positive environment. By releasing the player he would be giving-up on the player and the player would not have the same opportunity to develop his hockey skills against quality opponents. He felt this could have a negative emotional impact on the player's self-esteem, because the player was having fun while he playing with the team. To conclude the discussion of this issue, Bren conducted three real-world experiments, all with strategies that were consistent with one or more components of his role frame. Although a fourth strategy was considered (releasing the player), no experiment was conducted because it was inconsistent with his role frame.

Although virtual world experiments were only found in three of the coaching issues, when they were used they served as a valuable testing ground for coaching strategies before experimenting in the real world environment. Bren conducted the three virtual world experiments both on his assistant coaches and on parents of players on the team. These individuals acted as sounding boards in a virtual world experiment. An example of a virtual world experiment is drawn from how Bren generated one of the strategies used to address the three related issues of athlete attitude and discipline (issues 1, 2, and 3 - see Appendix K). Although all three issues related to a different player on the team, many of the strategies that were generated were applied to all three of the issues. Bren referred to the problem players as his three banditos. These three issues persisted throughout much of the season, and Bren experimented with numerous strategies, but one of the last strategies that he generated was never implemented in the real world. He decided late in the season, based on a previous experiment to bench the players during games, that he would start to send the players directly to the dressing room if they were disruptive during the games. He found that leaving them on the bench did not solve the problem, and in fact it sometimes made it worse. He generated the strategy on his own, but then tested it on his assistant coaches in a virtual world experiment. Although one of the assistant coaches (Bruce) did not endorse the strategy as much as the other assistant coach (Peter), they generally agreed that it would be a good strategy to try.

And I found now, to a certain extent now, leaving them (disruptive players) on the bench is not good anymore because they are still there. They still have an influence on the other players, whatever they are doing. So it really comes down to if there is any problem, just send them off the ice.

HAVE YOU HAD TO DO THAT YET?

No.

BUT THAT WOULD BE THE NEXT STEP.

But is now, it is getting to that point now.

AND HOW DID YOU DECIDE TO PUSH IT TO THAT NEXT STEP? WAS THAT YOUR IDEA OR YOU WERE TALKING TO SOMEONE ELSE?

It was more that I brought it up, I suggested it to that extent, and they (assistant coaches) agreed. [Pre-game 6 interview]

Evaluation

Bren typically evaluated experiments with coaching strategies on his own in the form of self-evaluation (SE) (see issue review matrix). Self-evaluation was found for all of the discussed coaching issues. On occasion feedback was also solicited from his assistant coaches (PE). However, evaluative comments from his assistant coaches was only found on those three occasions where a virtual world peer sounding board experiment was conducted (see issue review matrix).

Bren indicated that he has always engaged in self-evaluation of experiments with coaching strategies. He believed that he had generated many coaching strategies based on his post-experiment reflections in previous seasons. In this way, he was continually modifying his coaching repertoire by reflecting (evaluating) on the effectiveness of his previous experiments.

I can always use improvement in different areas, I know that. You kind of think back on different situations that, well, maybe you could have handled it this way or handled it that way. [Background interview]

The poor performance of his team while killing penalties during games (issue 18) is used as an example to illustrate how Bren engaged in self-evaluation to judge the effectiveness of an

experiment. Mid-way through the season he became concerned with the lack of ability of his team to fend-off short-handed situations. He decided to start practicing with a strategic group of players to kill the penalties during games. At the same time he would experiment with penalty killing drills during the practices. He felt these experiments were appropriate for the competitive level of the team, and was therefore consistent with the competitive-level boundary component of his role frame (see role frame diagram). Based on his own observations and reflections, he was pleased with the outcome of using these strategies. He felt that some of the players improved dramatically in their penalty killing ability. He also noticed in practices that all the players were working harder to earn a spot on the penalty killing unit.

The last practice I was working on the penalty killing to give a couple (athletes) a bit more time to show them, you know, the ones that aren't quite getting the hang of it. They responded very well to that actually. That is a big part of their game, they play the box very well most of them. I am confident now that I have a good number of them that can do the job, so I have enough to rotate through in those situations in a game. [Pre-practice 5 interview]

Although Bren indicated that he solicited feedback on an experiment from members of his coaching staff on only three of the coaching issues, there is evidence to suggest that he asked for their evaluations more frequently. In one of the final interviews with Bren he explained how he valued the support of his coaching staff when evaluating experiments with coaching strategies. He used the metaphor of the 'Siskel and Ebert two thumbs up' to describe the way his two assistant coaches were consulted after an experiment. Siskel and Ebert are two American movie critics who evaluate movies by giving them the 'thumbs up' or 'thumbs down' judgment. Bren

explained that two assistant coaches were similar to Siskel and Ebert in that they would sometimes give his experiments a positive (thumbs up) or negative (thumbs down) assessment.

It is not a one-man operation. If you are, it is a long season. So if you do something, that support is good, I find mentally. If something happens and you react, when it is over, you ask yourself, 'Did I do the right thing?' I did what I felt at that time was appropriate, whatever the action was, but then we (coaching staff) will talk about it after. Sometimes I get the nod, the Siskel and Ebert nod, two thumbs up, or else they may say, 'That was all right, but you know'... So there is a lot of communication.

SO USUALLY YOU WOULD TALK TO YOUR ASSISTANT COACHES AFTER THE FACT.

Yeah. So we learn actually, now that I talk about it, you kind of learn from it, because then you either do the same thing again because it was effective or try a different thing, so we are learning all the time too. [Interval 3 summary interview]

Hockey Coach 2 - Richard

Richard discussed 16 coaching issues that he experienced during the 1997-98 ice hockey season. There was a relatively even distribution of athlete (7) and performance (5), and organization types of issues. Although Richard was questioned about coach and environment types of issues, he did not experience any of these types of issues during the 1997-98 hockey season. A summary of the propositions developed for Richard is presented in Table 21.

Role Frame

Richard's approach to coaching comprised two boundary components and six internal components (see Figure 10). The two boundary components were the age group of the athletes and the competitive level of the team. For example, the young age of the athletes prohibited

Table 21

Proposition Matrix for Richard

<u>Proposition</u>	<u>Summary</u>
Role frame	Approach to coaching comprised two boundary components and six internal components. The two boundary components were age group and the competitive level. The six internal components were discipline, emphasis on team, fun, personal growth and development, sport specific growth and development and winning.
Issue setting	Generally identified coaching issues in isolation. Only three coaching issues were jointly identified with a peer (his main assistant coach). Coaching issues were typically framed in multiple components of role frame.
Strategy generation	Most common sources of coaching strategies were creative thought and personal coaching repertoire. He preferred to build or construct his own strategies. Occasionally he consulted with a peer, predominantly as joint construction with his main assistant coach. Advice seeking or coaching materials were cited only once.
Experiments	All strategies were subject to real world experiments. Virtual world experiments were equally prevalent but considered routine and therefore typically unacknowledged. Virtual world experiments conducted on main assistant coach who acts as a 'peer sounding board' for coaching strategies. Two main factors influence consultation with peer sounding board - action-present and ownership of issue.
Evaluation	Experiments generally evaluated without consulting peers or other sources. This is congruent with his view of his role as a head coach. Evaluative comments were frequently solicited from the players but only to judge the efficacy of practice drills (unrelated to challenging coaching issues).

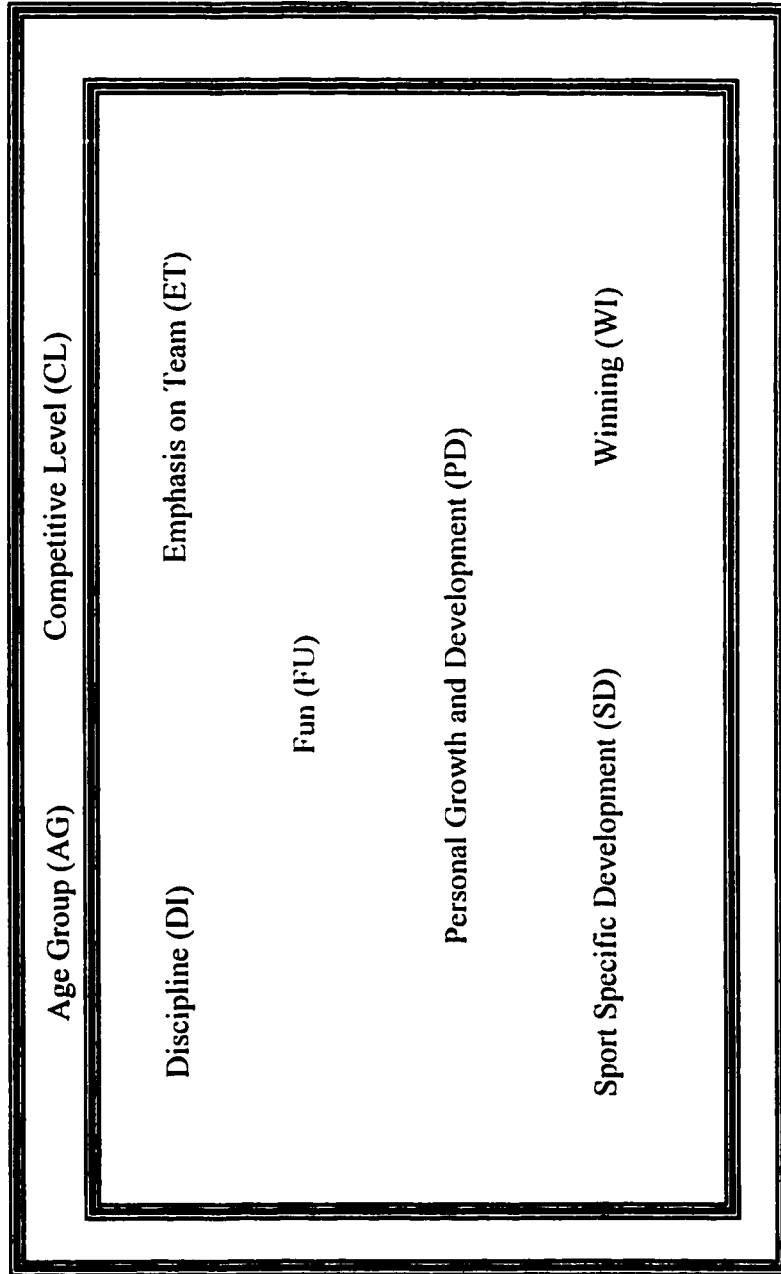


Figure 10. Role Frame Diagram - Richard

Richard from using certain action strategies, particularly related to discipline and playing time. For example, although he strongly believed in discipline, he was not comfortable with the common strategy in ice hockey of 'benching' players during games. He felt that this strategy was inappropriate for the young athletes on his team. Eventually he did experiment with brief periods of 'benching' players late in the season, but he did not use the strategy as much as he would have if the players were older. Furthermore, evidence of the influence of the age of the athletes can be seen in his decision to have his two goalies share the playing time for each game. He felt they were too young to be sitting out an entire game.

YOU SAID YOU SPLIT THE GOALIES EACH GAME?

Yeah.

HOW DID YOU DECIDE THAT?

Too young, just their age. Like I don't bench any of my players because they are still too young to be benched. If I punish them they are just going to get even more angry at me.

Same with the goalies. I mean, I put myself in their shoes, if I was 10 years old I wouldn't want to play every second game. They are still a bit too young to be sitting off. They are going to get bored and stuff. I think I ever coach older players that is when I am going to start going goalie to goalie, but they are still too young. [Interval 1 summary interview]

The level of competition was also repeatedly cited as a key consideration, particularly when discussing the importance of commitment from the parents and athletes. For example, one of the parents had season tickets to the Ottawa Senators and liked to take his son to the games. Richard felt, however, that because the athlete was in competitive hockey the parent and the athlete should place a priority on attending practices over attending a professional hockey game.

I think he got a little bit annoyed with that, because he has season tickets, but he should have

known before he was going to put his son in a competitive team. He can take somebody else (to the game). So we discussed it and it won't happen again. He finally understood. Because some of the parents are still in house league mode, where if you don't want to show up, don't show up. [Interval 1 summary interview]

The six internal components of Richard's role frame, in alphabetical order, were discipline, emphasis on team, fun, personal growth and development, sport specific development and winning. One of the central components of Richard's role frame was Fun. Richard believed that one of his primary tasks as a youth ice hockey coach was to create an environment that was enjoyable and fun for the athletes.

What I expect to do, well my number one priority is to make sure that every kid has fun. Like I told the parents at the beginning of the year, if your kid learns how to shoot, how to deke, how to skate, how to pass, but doesn't have fun all year, then I haven't done my job. So my number one priority for all the kids is that they have a good time and then the skating skills and the hockey aspect of everything, positioning, breakouts and everything comes after that. That eventually comes as the year goes on, but they have to have fun and I won't be satisfied until every kid has fun. I want to give them a year that they will always remember even when they are 30 years old and they think back and say 'Yeah I remember playing that year, that was a great season.' [Background interview]

Richard's concern with creating a positive and supportive environment for the athletes was based predominantly on his own experience as an athlete. He remembered the enjoyment he experienced from sport because his coaches created a positive learning environment.

I remember that when I learnt a lot about the game and when I really started getting into the game I was having fun and that is why I learnt about the game because it was fun to learn. It

wasn't difficult, I didn't have somebody yelling at me constantly or somebody criticizing me. I had very positive coaches so I use that experience with these kids. I am very positive with them. I make the practices and the learning of the game very fun so they can't wait to come to the ice. [Background interview]

An emphasis on athlete personal growth and development was evident in Richard's concern with athlete commitment, perspective on sport and work ethic. He experienced some difficulties throughout the season because of a lack of commitment from some athletes and their parents. Richard believed that if you register for competitive hockey then you should expect to be present at every practice and every game. The athletes and their parents were required to sign a 'contract' at the beginning of the season that stipulated these conditions. Unfortunately, numerous athletes were frequently absent from practices, particularly players who also participated in other organized activities that conflicted with hockey practices.

Another example of the personal growth and development component of Richard's role frame is evident in his perspective on youth sport. Although he emphasized commitment to the team, he realized that hockey was secondary to other life concerns such as family and school.

I am missing one player, he is in Toronto at his grandparents' anniversary. Like I said, I don't like it when players miss, plus it is the team photos and he is not going to be here, but it is a family affair so you really, family comes before sports. [Pre-practice 2 interview]

A final example of one of the internal components of Richard's role frame is winning. Although winning was never explicitly stated as a primary objective, Richard exhibited behaviors throughout the season that illustrated a concern for winning. For example, he believed in playing the best players in critical game situations such as tournament games, playoff games and the final minutes of close games. This concern with team success was balanced with a

concern for equitable treatment of all the athletes. However, because the two concerns are in direct contrast, equity was not included in Richard's role frame (see Figure 10). It was clear from his statements throughout the project that when it was a critical game situation, decisions were made with a concern towards winning the game.

WILL YOU HAVE A POWERPLAY LINE IN THE TOURNAMENTS?

In a tournament, when needed to score a goal or to win. I already have my specific line.

HAVE YOU DONE THAT YET?

No, I haven't, not in the league.

BUT YOU MIGHT HAVE A CHANCE IN THE UPCOMING TOURNAMENT.

Yeah.

AND DO YOU ANTICIPATE ANY PROBLEMS WITH THAT, WITH PARENTS COMPLAINING?

No, no, because it was told at the beginning of the year. Powerplays and penalty killing, everybody gets a play, I just go in a straight line, I go down the bench. But when we are in a tournament where it is a must win situation or we have a chance of going to the semi-finals or whatever, I will put my best players on and they had no problems with that. I told the same thing to the players and they have no problem with that.

AND IS THAT JUST SPECIFIC TO POWERPLAY AND PENALTY KILLING, OR WOULD YOU USE THAT LATE IN A GAME, WOULD YOU GO WITH JUST YOUR BEST PLAYERS?

Yeah, I would probably do that. If we are down by a goal and there is two minutes left. I only did it for one defense for one game so far because we had a chance to score, and we came so close. The set of defense who were next in-line to go on the ice were very weak, so

I told my assistant coach I wanted John and his partner to go on. They went on and came very, very close. John hit the crossbar.

AND I GUESS IT WOULD BE THE SAME THING IF YOU MAKE THE PLAYOFFS?

Oh yeah, for sure. And when we do make the playoffs, I am thinking positive here, I will have a meeting with the parents and tell them that this is the playoffs. I am not going to say the best players because I think all my players are excellent, I am just going to say the players that come out to play and show me that they are ready to play will play. We are not going to take the chance, we worked hard to get to the playoffs, let's do something about it. I think the parents, in their right mind, will understand that this is the playoffs and that this is big, so I don't think there will be a problem with that. [Interval 2 summary interview]

Issue Setting

In general Richard preferred to identify coaching issues alone (SE) (see Issue Review Matrix in Appendix L). Of the 16 coaching issues that were discussed, he identified 13 of them by himself. The other three were jointly identified (JO) with input from his main assistant coach. Although Richard generally identified issues based on his own observations, there is evidence to suggest that this was not the case for performance issues. Richard indicated on several occasions how he would discuss possible team weaknesses that needed to be addressed with his assistant coach Shawn. These discussions usually occurred on-site at the arena before or after a game or practice. This was considered a process of joint identification of a coaching issue because both Richard and his assistant coach would have to agree on a performance weakness for it to be identified as an issue in need of resolution. One reason why Richard consulted with Shawn to identify performance issues is because he respected and trusted Shawn's expertise as a youth ice hockey coach. This proposition is supported in Richard's statements made during an interview at

the first practice that was attended by the researcher. Richard indicated that he wanted to speak with his assistant coach before the practice started. After the interview was completed, Richard was observed in discussion with Shawn.

YOU MENTIONED THAT YOU WANTED TO TALK TO YOUR ASSISTANT COACH BEFORE THE PRACTICE. ANY PARTICULAR REASON WHY?

I just want to talk to him about some drills that we are going to do in the practice, because of our game on Friday. I want to talk to him about what went wrong, what we did good and what needs to be worked on. [Pre-practice 1 interview]

Another supporting example of Richard's preference to consult with his assistant coach (Shawn) to identify performance issues is found in how he identified issue 13 (ineffective breakouts). Early in the season Richard expressed a concern with the ineffectiveness of his team's breakout execution. He indicated that he wanted to start allocate more practice time to breakout tactics. He only decided to take action after he discussed the situation with Shawn after a particularly weak performance by his team during one of their games.

I WAS AT A COUPLE OF PRACTICES AND YOU SAID YOU WANTED TO DO BREAKOUTS BUT YOU NEVER DID. DID YOU EVENTUALLY WORK ON THE BREAKOUTS?

I finally did it. At last Tuesday's game, after the game I was out chatting with my assistant coach and we said, 'Okay, we have to start the breakouts' because we noticed that we have no organization in our zone coming out. Our attack is decent enough, but our breaking out is not good. Our defense didn't know what to do so they just shot it out. So I said, 'Okay, we have to do it, the tournament is coming up, we are playing a lot more games against better

teams, so we should practice it.' So I did, I got to the breakouts last Sunday. [Interval 1 summary interview]

Once coaching issues were identified they were typically framed in multiple components of Richard's role frame. The issue of player substitutions (issue 11) is presented as an example of how one issue was framed in more than one component of his role frame. The issue of player substitutions was framed in four components of his role frame: competitive level (CL), personal growth and development (PD), sport specific development (SD) and winning (WI). Each quotation illustrates a different component of Richard's role frame used to interpret, or frame, the issue.

But I still keep in mind that some of these kids are adapting to the competitive, you know, in house league you get two minute shifts and that is what they are used to. They are realizing now that hey, I am getting tired after a minute, I can't go another minute. Well you are not supposed to, come off if you are tired. [Competitive level]

They (players) work so hard and so long in their zone and then the minute it comes out they want to change. They don't want to deal with the pressure in our zone. I told them when they came on the bench, I said, you know, if you are tired, just dump it, dump it. But don't ever change when they are coming in our zone because I won't let you off. [Sport specific development]

And I have experienced myself, 30 seconds can last two minutes if you are working hard, if you work hard. If you don't work hard, you know, 30 seconds is just going to go by like that. Hockey is a very, very fast game and if you do what you are supposed to and you work hard, you know, you may be coming off before 30 seconds. [Personal growth and development - work ethic]

But there are still some people who get caught up and who just don't know when to change. One of our goals last week was because a line was out too long and they just had no legs to come back whatsoever and it created a four on two on our defense. They came on and I told them, you guys were out there too long. [Winning]

Strategy Generation

The most commonly cited sources of coaching strategies were creative thought (CT) and personal coaching repertoire (CR). Richard indicated that he preferred to build or construct his own coaching strategies, at least for the coaching issues that were discussed. Occasionally he also consulted with one of his peers. This was evident in the joint construction (JC) of coaching strategies with his main assistant coach. Advice seeking (AS) and coaching materials (CM) were only cited once each as sources of coaching strategies. Regardless of the source, coaching strategies had to be consistent with his approach to coaching (role frame).

Richard's preferred method of generating coaching strategies was to rely on a process of creative thought. Although he never used the terms 'reflect' or 'reflection', he frequently described the process used to generate strategies with terms like 'found', 'realized', and 'discovered.' Often he could not fully explain the process except to state that at some point he came to a realization about a coaching strategy. The issue of poor back-checking and defensive coverage (issue 12) is used as an example of how Richard used the method of creative thought to generate a coaching strategy, in this case a new practice drill. When he was describing the process used to generate a new practice drill for back-checking, he summarized the process that he typically adhered to when he needed to generate a new practice drill.

YOU MENTIONED THAT BACK-CHECKING AND DEFENSIVE ZONE COVERAGE WAS A BIT OF A PROBLEM. YOU WANTED TO BRING SOME BACK-CHECKING

DRILLS INTO YOUR PRACTICES. WHEN I WAS THERE YOU DIDN'T GET TO DO THAT. HAVE YOU DONE THAT YET?

Yeah.

IS THAT DONE OR ARE YOU STILL WORKING ON IT?

Still going to be working on that. The back-checking drill is going to be like a breakout drill, we are going to do it every practice because in game situations the kids are doing it right some of the time and not doing it right other times. This one kid will do it for three shifts and then he won't do it for another four shifts. So I am going to keep repeating it in their head, for every shift they are on they have to back-check, because I know they can do it. They can be on for two minutes dead tired, but the minute they get the puck, they can start skating hard. So I tell them, if you have energy to skate your butts down to the offensive zone, then you have the energy to come back.

WHERE DID YOU GET THOSE DRILLS FROM, THE BACK-CHECKING DRILLS?

From my memory and from just making it up you know. One day I just made two lines (of players) and one goes and the other one has to catch him. It is not too hard. I thought of another one that I am going to start doing and that is just a line is going to breakout and then three or four seconds after they breakout there is going to be another line that has to go and chase them. That is good because then I can see the back-checking and I can also see the positioning on the back-checkers and on the fore-checkers and see who is taking their man and who is not.

AND WHEN YOU SAY THAT YOU THOUGHT OF A NEW DRILL, HOW DID YOU THINK OF A NEW DRILL. DID YOU DRAW IT OR DID YOU JUST SEE IT IN YOUR HEAD...

Yeah, I always draw. For every practice, what I do is I sit there and I always have just a piece of paper, like you have, and I just draw a rink and then if I want to work on back-checking, then I just stare at it. For some reason I can see it come out from the piece of paper, it is weird, I don't know. And that is how I do it, and then I will just brainstorm it down.

SO YOU JUST MAKE IT UP?

Yeah, for the ones that I do myself. [Interval 2 summary interview]

There is even evidence of Richard reflecting-on-action after the season was finished.

Although it was too late to make an impact because the reflection was occurred outside of the action-present, post-season reflection allowed him to generate and store coaching strategies in his coaching repertoire for trial in upcoming seasons.

IS THERE ANYTHING THAT YOU STILL THOUGHT ABOUT WHEN THE SEASON WAS DONE, THINGS YOU WOULD DO DIFFERENTLY?

I still do, I still do. I see problems that we had. I see things that maybe I could have done better, like in terms of how it worked out and then I just use that for what I want to do next year. There are a lot of things that I want to do next year. One thing for next year that will be very, very different is the commitment. I am going to be very strict because so many players miss practices and games. It took until March for them to realize what to do stuff and how to do it and we could have been doing this before Christmas. That was frustrating.

Commitment is going to be very, very big next year wherever I am. Before the tryouts start I am going to get them all in one room, there may be 50 parents depending on how many kids are left, and basically I am going to ask them to be there 100% but I am also going to put my foot down and say if you can't guarantee your kid will be there all the time then I don't want

him, even if he is a Wayne Gretzky. I would rather take someone else who is going to be there and who is going to learn. [Validation interview]

For nearly one third of the discussed issues (5/16), Richard and his main assistant coach, Shawn, co-constructed coaching strategies (see issue review matrix). This method of strategy generation was referred to as joint construction. For Richard, any coaching strategies generated this way were so dependent on the interplay of dialogue between himself and Shawn that when he described the source of the strategy he invariably used the term 'we.' One of the best examples of how a strategy was generated through joint construction is evident in issue 15 (lack of scoring / line combinations). Once the issue was set, Richard and Shawn engaged in the process of co-constructing a coaching strategy to address the issue.

YOU SAID THAT ISSUE GOES ALL THE WAY BACK TO THE TOURNAMENT, THAT IS WHERE YOU FIRST REALLY NOTICED IT, AND YOU DECIDED TO MAKE SOME LINE CHANGES.

Yeah.

DID YOU DISCUSS THAT WITH ANYONE ELSE?

Me and Shawn, we were just talking and it was our last game in the tournament and no matter what we weren't going to go anywhere in the tournament. So, we were just talking and I forget who it was, I'll say it was him, and he just said, 'Maybe we should change the lines around, we have nothing to lose, see how that works.' I said, 'Yeah, I've got no problem with that, we haven't scored a goal in the last two games.' I changed the lines and my God, they came out flying. I have changed the lines since then as well. I am still changing lines. [Interval 2 summary interview]

In a subsequent interview, Richard was asked for an update on the issue. He indicated that another coaching strategy was also being used. One of the fastest defensemen on the team was moved up to a forward position to increase the team's offense. Once again, the strategy was generated jointly with his main assistant coach Shawn.

We are probably going to play Mark forward a couple of shifts, he is our defense, number four, very fast, very, very fast. He scored the tying goal last time we played. So I am probably going to throw him up a couple of shifts just to get some offense because he can really go with it.

IS THAT JUST FOR THIS GAME OR FOR THE REST OF THE YEAR?

No, no, the rest of the year.

AND WHEN DID YOU MAKE THIS DECISION?

Well we basically knew from last year, I had him last year. By the end of last year, as a defense he was starting to do rushes, and me and Shawn were like, 'Wow, this guy can really, really skate.' So we had him back as defense this year and then we just, I don't know, we just decided to put him up for a shift, just to see how he would do and he did well. We put him up for one game a couple of weeks ago and he did really, really well.

SO THAT WAS KIND OF A JOINT DECISION THEN?

Yeah, with me and Shawn.[Pre-game 6 interview]

Coaching materials were only consulted once to generate a coaching strategy. A hockey book of practice drills was used to build several breakout drills to address the issue of inconsistent breakouts (issue 13). Richard's approach to learning and his experience as a competitive ice hockey player help to explain his reluctance to use coaching materials. His preferred learning style was to construct coaching knowledge through reflection on direct

practical experience. He typically downplayed the importance of coaching resources such as books or videotapes because he valued experience over theory. Generally the only time that he would consult a coaching resource was for an idea for a practice drill (as found with issue 13). Even on these occasions he would not apply the drill until he first reconstructed it based on his experience. In this sense, the strategies that he 'acquired' from coaching materials were only used as a foundation or building blocks to construct the strategy that would ultimately be used. This is evident in the dialogue between Richard and the researcher about how Richard generated the practice drill used to address the issue of inconsistent breakouts. A series of breakout drills from an ice hockey book were used as a starting point from which Richard then constructed his own unique strategy. A parent had also given him a book with breakout drills but it was incongruent with Richard's role frame (the drills were too demanding for the age group and competitive level of the athletes he was coaching).

That is the only thing he (parent) did, he gave me that breakout list but it was just a little bit too advanced for the kids. So what I got out of my book was the progression for introducing the breakouts. This (part) is for the defense, this is what they do. And then, on the other hand, you have one (drill) for the forwards. So I grabbed these two (drills) out of this part (of the book) because I wanted to get using the defense to shoot the puck around the boards and the forwards are over here. And that was just from what I picked up.

SO THOSE WERE RIGHT OUT OF THE BOOK?

Right out of the book.

AND YOU BUILT ON IT?

And then I built on it. And then I actually got the real defense in and the forwards. And then I also practiced on fore-checking. I want the forwards to start passing it back to the defense.

So it started as five (players) against none, five on two, five on three, five on four, and then five on five and we just kept adding pressure because they need the pressure. So this is what I got out of a book. From the book I just get little pieces of drills and then from my head I just kind of put them together. [Interval 1 summary interview]

Richard's preference to rely on what he was taught is better understood when his experience as an athlete and as a coach is considered. He played competitive hockey for 15 years and only recently stopped playing. Furthermore, at the time of data collection it was the first year he assumed a head coaching position (he was an assistant coach for two previous seasons). He often alluded to his past experience as an ice hockey player when asked about coaching strategies. Two examples are used to illustrate how Richard developed coaching strategies through reflecting on his experience as a player. In the first example, he revealed how he developed the strategy of using 30 second shifts for the players during games. In the second example, he was described how he learned a specific practice drill.

OKAY, AND THIS IDEA OF 30 SECONDS, WHERE DID THAT COME FROM?

It is something that I learnt when I played hockey, 30 second shifts. And I have experienced myself, 30 seconds can last two minutes if you are working hard. [Interval 1 summary interview]

AND THE DRILL THAT YOU JUST USED, THE DEFENSIVE ANGLING DRILL, IS THAT THE FIRST TIME YOU USED THAT?

This year with them yes. I did it with Novice last year. It is a drill that I learned when I was playing (hockey). It is really good for the defense because it concentrates just on the defense. [Post-practice 4 interview]

Richard only considered coaching strategies that were consistent with the components of his role frame (see Figure 10). For example, although he sometimes observed practices of other coaches, he was hesitant to use their coaching strategies before he could reflect on their fit to his approach to coaching.

If I am at a rink and there is a practice, I will watch it. If there is a really good drill that I see, I will probably use it. But I don't try and steal too much of other coaches' things because I don't know what type of coach they are with the kids. So I don't know what is going on there. So I just try and stay away from the other coaches, not to get influenced by them too much and just stay with my own program. [interval 2 summary interview]

One of the coaching issues that Richard experienced was the poor work ethic and attitude of several of the athletes (issue 4). A common coaching strategy used to resolve this type of issue in youth sports, ice hockey in particular, is to withhold playing time from the athletes during games, also referred to as benching. Richard was aware of this common strategy, but did not experiment with it when he initially set the issue of player work ethic. The strategy was originally considered inappropriate because it conflicted with the age group component of his role frame. Richard believed that the strategy was too harsh for the young players on his team (aged 10-11 years). The strategies that he generated instead were to threaten extra skating in practices if the players didn't work harder and to warn that they might be eventually be benched. These strategies, extra skating and threats of withholding playing time, were based in his coaching repertoire. He had used these strategies in a previous season and found them to be successful.

Lastly, Richard did not seek advice from peers because he did not have convenient access to peers and because he preferred to deal with coaching issues internally (only discuss issues with immediate coaching staff). At the first interview with Richard he indicated that he would likely

seek advice from a highly respected peer with whom he had coached in the past (as an assistant coach). The peer was consulted to generate a strategy for the first coaching issue experienced by Richard during the 1997-98 season (issue 9 - goalie selection). However, Richard did not seek advice from that peer, or any others, for the remainder of the season. The peer in question was often too busy to assist with the team because of a new job posting. Furthermore, Richard didn't want to disrespect his main assistant coach by seeking advice from someone else.

AND DID YOU EVER DISCUSS COACHING ISSUES WITH DAN (PEER)?

Just at the beginning of the year with the goalie situation, that was the only time. It was basically just me and Shawn (main assistant coach), just because I didn't want to insult Shawn by going to Dan all the time. I kind of wanted to get Shawn involved, so try to keep it within the coaching staff. [Interval 3 summary interview]

Experiment

Richard's preferred environment for experimentation with coaching strategies was the real world (RW) (see issue review matrix). He only cited a virtual world experiment (VW) for one coaching issue (inconsistent breakouts). Although he used other mediums while addressing coaching issues, such as pen and paper to design practice drills, the true test of any coaching strategy was actual implementation. Richard summarized this sentiment while explaining how he experimented with coaching strategies, in this case practice drills, before determining if he would keep them for future use.

I only know if it (drill) is effective by looking at it in the practice and if I can see that the kids are picking up on it and I can see there is a lot of skating and every aspect of that drill is being covered, then I will use it. [Interval 2 summary interview]

Although Richard only explicitly mentioned a virtual world experiment for one coaching issue, the evidence suggests that he engaged in virtual world experiments frequently. In fact, they were conducted so frequently that they were likely considered routine and unworthy of mention. This may explain why virtual world experiments weren't revealed more often when he was asked to describe how he addressed coaching issues. The primary type of virtual world experiment that Richard conducted was to use his main assistant coach, Shawn, as a sort of 'sounding board.' Richard typically would 'run ideas by' Shawn before conducting real world experiments. He valued Shawn's input because he knew that Shawn was an experienced ice hockey coach.

I let him (Shawn) know my ideas, I let him know what I want to try or what we should try and then he will give me his opinion, whether he likes it or not, but we always try it my way and then we will try it his way. But he is always informed of what is happening and I always ask him for his opinion. I will say, 'What do you think if we put these guys together on one line?' He will say, 'Yeah we could try it or that may work', or then he may bring up another alternative.

SO YOU TAKE THAT INFORMATION INTO CONSIDERATION?

Yeah, oh yeah, I never ignore his opinions or his thoughts and that is why it has worked really well all year this year between me and him and it has made our jobs easier. Basically, Shawn is there just to reinforce my ideas and thoughts, because if I have nobody to sit there and agree with me or give me other suggestions then I could be making a lot of mistakes, so it is good to have him either agree with me or not agree. [Interval 3 summary interview]

An example of how Shawn was used as a type of virtual world experiment is evident in how Richard experimented with a strategy for assigning the team captains. Although this was not considered to be a challenging issue for Richard, he was asked about this issue because one of

the other case study coaches indicated that it was an issue. Richard developed a strategy on his own, but then tested it on Shawn. Richard only decided to implement the strategy in a real world experiment after it was positively evaluated by his sounding board Shawn.

DO YOU HAVE TEAM CAPTAINS?

Yeah.

HOW WAS THAT DECIDED?

I decided based on leadership. Players at this age, if I go, Who do you think should be the captain, they are going to say me, so I am going to get nowhere. They are just going to go by popularity and being a captain is not about popularity or because you are the best skater or because you are the best team player. Marco is my captain and that is because I had him last year. I use him as an example for the forwards because that guy works the hardest. He knows his position. He is disciplined and he listens well and he is a leader. He motivates the players, he gets them going and so I got him as a captain. The assistants, Leon and Stephane, I grabbed them because they are also example players.

AND DID YOU MAKE THAT DECISION ON YOUR OWN?

I had Shawn with me and we both agreed. I suggested the three guys and he had no problems with that. [Interval 1 summary interview]

The two main considerations that influenced the extent of Richard's consultation with his sounding board to conduct virtual world experiments were the ownership of the coaching issue and the action-present. If the coaching issue had a brief action-present because it needed to be resolved immediately then he would generate a strategy on his own and conduct an on-the-spot experiment. For coaching issues with a brief action-present there was no time for consultation (e.g., issue 10 - passing drill in second practice). The other consideration related to the ownership

of the issue. Although Richard was the head coach and Shawn was the assistant coach, Richard assumed responsibility for the forwards (offense) and Shawn was in-charge of the defense. Therefore, they would often resolve minor offense or defense-specific coaching issues on their own without consulting each other. Richard explained the situation when asked in one of the interviews about the apparent discrepant relationship between himself and Shawn (sometimes they consulted, sometimes they didn't).

It all depends. When it came down for the forwards, things that the forwards had to work on I did that on my own because I was in charge of the forwards and Shawn was in charge of the defense. So he would make up his own drills when he would do the defense at practices. He wouldn't tell me and usually I wouldn't know what he was doing until the practice. Same with me for the forwards. So I wouldn't go to Shawn when I was working with the forwards. So for problems that we predicted would happen or that were developing then that is where we would talk about it, but for problems that just kind of came up on-the-spot then I basically would have to make a decision right there. One example was the kids tying their skates. I didn't have time to talk to Shawn about it. I just got really fed up and I had to make a rule right there. But that is the only time I basically just went on my, if a problem just came up right there or if it had to do just with the forwards, but everything was with Shawn.

[Validation interview]

Evaluation

Although Richard frequently consulted with his assistant coach (Shawn) as a sounding board, the final evaluative decision on all experiments and coaching strategies rested with Richard (SE). This is supported in the issue review matrix as Richard asked for peer evaluation (PE) on only two coaching issues (issue 9 and issue 13). This preference to make evaluations on

his own is congruent with his view of his role as a head coach. Ultimately he considers only himself responsible for making the right decisions and therefore he has the final say in what strategies to use and how they are evaluated.

It is hard because as a head coach it is my job to make the right decision. Even if I have five other opinions I have to pick the right decision, see which one will work, I have the final word. That is tough sometimes. It creates a bit of pressure. Shawn is in charge of the defense and he is putting on his pairs and his defense but if we are in a game situation where I feel really comfortable with one pair of defense then I will tell him to put them on whether he agrees with it or not.

SO THE TWO OF YOU TALK A LOT BUT YOU HAVE THE FINAL SAY.

Yeah, I have the final say. I mean, it could be Shawn's opinion but I will have the final.

Sometimes it makes it tough. [Validation interview]

Although Richard preferred to make evaluations of experiments without consulting his peers, he often would solicit evaluative comments from the players. This type of player evaluation was unique to real world experiments with practice drills. He indicated that he typically solicited feedback from the players during and after each practice. He then used this evaluation to modify practice drills. He even kept a journal with him and made notes of the players' comments after every practice.

WHEN WE SPOKE THE LAST TIME YOU MENTIONED THAT YOU LIKED TO GET FEEDBACK FROM THE PLAYERS AFTER THE PRACTICE, DID YOU DO THAT? I NOTICED YOU DID A LITTLE BIT ON THE ICE.

Yeah, on the ice, I did. I asked them if they liked the practice, they said yes, they like sweating and stuff. So yeah, I did that but I also did that on the ice, after the drills. I also had

them at center ice and I explained to them what the drill was and how it affects the game situation, the back-checking drill. So I get their opinions and they liked it. [Post-practice 1 interview]

This proposition was developed early in the data collection phase and was later tested because there was no evidence emerging to support the claim. In fact, Richard never indicated that he solicited evaluation from the players for any of the coaching issues that were discussed (see issue review matrix). It was later revealed that player evaluation was not used to judge the effectiveness of experiments with strategies on challenging coaching issues. Instead, player evaluation was used to obtain feedback on the efficacy of practice drills selected or designed by the coach. He would then use this feedback to determine if a practice drill would need to be reconstructed for future use or if it would warrant storage in his coaching repertoire.

RIGHT AT THE BEGINNING OF THE YEAR YOU SAID THAT YOU LIKE TO GET FEEDBACK FROM YOUR ATHLETES AFTER PRACTICES.

Yeah.

YOU HAVEN'T MENTIONED IT SINCE. HAVE YOU BEEN DOING THAT?

I am still doing it. It is still being done. I ask them if they like the practice, I ask if there is anything they didn't understand, just kind of get their opinion on the drills.

Sometimes I ask them why we did this specific drill. Then I ask them to relate it to a game situation. Like the powerplay yesterday, I asked them how they felt on the powerplay and then I asked them, Do you understand now how you have to control it, you can't just go in and shoot at the net. You have to control it at some point. I still get good feedback from the kids, no problems.

SO YOU DO THAT ON A REGULAR BASIS?

Yeah, a regular basis. [Interval 3 summary interview]

Hockey Coach 3 - Duane

Duane discussed 14 coaching issues that he experienced during the 1997-98 ice hockey season. One third of the issues were related to athlete performance. However, at least two issues from each of the five issue categories were discussed. The proposition matrix for Duane is presented in Table 22.

Role Frame

Duane's approach to coaching comprised two boundary components and ten internal components (see Figure 11). The two boundary components were the age group of the athletes and the competitive level of the team. Both of these components were mentioned frequently as influences on his Duane's approach to coaching. For example, he preferred not to spend time teaching the players individual skills because that should have been taught to the athletes when they played in a younger age group and lower competitive level. Instead, he believed his role as a coach for the age and competitive level of the team he coached during the 1997-98 ice hockey season was to focus on team tactics.

I don't work on those (individual skills). I rarely work on those. I feel that at the competitive level they should have some and as we go they develop themselves. Like I noticed, I have a friend who is coaching at the Atom level (younger age group) and he was telling me that he still has to work on individual skills. They are young and maybe that is right. I feel that at the Peewee A Major level they should know how to stick-handle and they should know how to shoot. [Interval 1 summary interview]

Table 22

Proposition Matrix for Duane

Proposition	Summary
Role frame	Approach to coaching comprised two boundary components and ten internal components. Two boundary components were age group and competitive level. Ten internal components were discipline, emphasis on team, equity, fun, modeling behavior, personal growth and development, positive team environment, sport specific growth and development, safety, and winning.
Issue setting	Coaching issues were identified based on observations from one of three sources: coaching peers, parents or own observations. Performance issues were almost always jointly identified through consultation with coaching peers. Coaching issues were typically framed in multiple components of role frame.
Strategy generation	He preferred to rely on his own resources to generate coaching strategies. He frequently cited his personal repertoire or creative thought. Not as common, but also mentioned often, was consultation with his coaching peers in the form of joint construction. Reference to coaching materials was rare.
Experiments	Real world and virtual world experiments were cited, although virtual world experiments were only revealed in three of the coaching issues (virtual world peer sounding board experiments).
Evaluation	Typically evaluated experiments with coaching strategies on his own in the form of self-evaluation. Peer evaluation was only found when a virtual world sounding board experiment was conducted. However, unsolicited evaluative comments from parents of athletes on the team were fairly common.

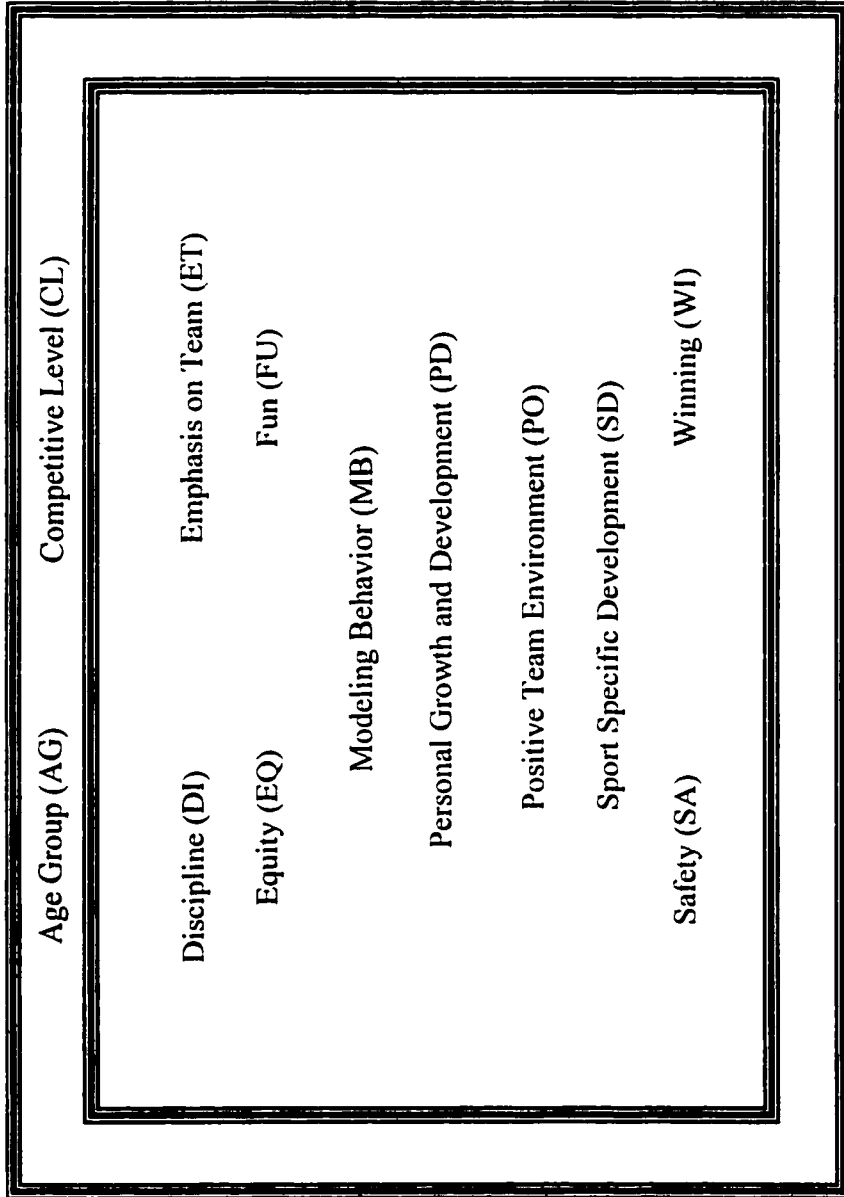


Figure 1.1. Role Frame Diagram - Duane

Duane also believed that at this level of competition he should be permitted to use certain players only for special team units during games. This would mean that some players may receive more playing time than others. He felt that this was now appropriate for the age group and competitive level. However, some of the parents angrily questioned him when he attempted to implement this strategy, so he reverted to coaching as though he were at a lower competitive level (house league).

Now I know that there are some parents talking behind my back saying I am not coaching competitive hockey, I am more coaching the style of house league because I am just opening the door and sending three (players) out and three back. The reason I am not doing it (special teams) is because I don't want to get accosted again. So at this level I am not allowed to coach the way I would like to coach. [Pre-game 5 interview]

The ten internal components of Duane's role frame, in alphabetical order, were discipline, emphasis on team, equity, fun, modeling behavior, personal growth and development, positive team environment, sport specific development, safety, and winning. The internal role frame components were constant but their importance was in continual motion. For example, fun was generally considered a key component of Duane's approach to coaching, yet if a player displayed unacceptable behavior he would be disciplined. Another example is Duane's concern for equitable treatment of all the players, particularly related to the distribution of playing time. However, if one of the goalies was playing extremely poor he would lose his playing time for the rest of that particular game because of Duane's concern for rest of the players who were working hard to achieve success (emphasis on team and winning). Therefore, the internal components were always present but their importance was tied to the specific conditions at the time.

Examples of several of Duane's internal role frame components are provided as support of this proposition.

Disciplined behavior by the athletes and enforcement of team rules was frequently cited as a primary concern: "I am very, very strong on discipline, maybe it is my upbringing" [Interval 2 summary interview]. This is supported by the fact that the team had the lowest number of penalties in the league. Another example of the importance of discipline relates to player self-discipline on the ice. Although Duane didn't like to remove ice-time as a form of punishment, he felt it was warranted if a player showed a lack of self-discipline.

If you take a retaliation penalty, you are benched, and one kid did. He was benched for the rest of the period, but he knew. He came right away. I told him, I said, 'You know where you are going.' And he said, 'Yeah, I know.' [Post-game 4 interview]

The emphasis on team role frame component was also evident in many of Duane's comments. A primary objective for the coach was to get the players to work together as a team. This meant each player had to understand their role on the team and learn to sacrifice individual goals for the betterment of the team.

Winning is important, but I think having them play together is more important for me because I tell them, if you do that, winning will come after. So I think our emphasis is on our game-plan. Like our pre-game plan is hit, positional hockey, triangulation in the offensive zone, let's play as a team, let's pass. Like yesterday, I am going to use that game as a perfect example, as a good tool to show when we were doing the 2 on 1. They did it perfectly and it was the two smallest guys on the ice that did it. And if they do that well, the wins will come. So it is team gel and team play systems, to me that is more important because everything else will fall after. [Interval 1 summary interview]

Duane also stressed the importance of creating a positive and supportive environment for the athletes at all times. Although he intervened often with the athletes during games, he never berated the players in front of their teammates, unless they committed a serious infraction.

And every time they do a good play, it is a tap on the back. What we do is we make it loud enough that everybody understands that this was a good play. You see the momentum on the bench, they get up for it so when they go on the ice they want to do the same thing or they are up, they are never down. I don't yell at the kids, I just don't. I don't believe in it, unless it is warranted, like for swearing. [Background interview]

In addition, Duane preferred to wait after a game or until the next practice to give the players feedback on their performance because he realized that emotions are often high after a game and comments may be misinterpreted.

I don't try to tell them immediately after the game what they did wrong or right. I let them cool down and then the next game, before the game or the practice, then I tell them what we did right or wrong. I think that right now it is better this way because in the heat of the moment you might say something bad or wrong and it might be taken out of context and you might hurt their feelings more. [Pre-game 2 interview]

The personal growth and development component of Duane's role frame included references to social and moral development, life skills, confidence, work ethic and keeping sport in perspective. For example, commitment to the team was important, but Duane also realized that participation on his ice hockey team was only one activity in a youth's life and therefore should not dominate. Two examples are provided to support this role frame component. In the first example Duane explained his rationale for allowing one player to miss a tournament to attend

another tournament with his school team. Player attendance was discussed by Duane in the second example.

I don't think it is right to hold a child to just one activity without experiencing the joys of another activity, so you have to try and mix the two. We mentioned here that one kid didn't go to a tournament because he was in a tournament elsewhere. Well that was a great experience for that kid to that tournament because that was a once in a lifetime and when the parent told me I was disappointed that he couldn't come to our tournament but at the same time I understood, maybe because of my age and maturity. So I told the parent it wasn't right for me to tell the kid 'No, I don't want you to go to (another tournament),' because this may have been the only time that he would be able to do that. Whereas with the hockey that he is playing with us he can go to many tournaments. So that is how I look at it. I don't think it came out that way. The way I approach coaching, sometimes I take into consideration, I've been a parent, I still am. I think this is where you have to balance everything and really step back and look at it. [Validation interview]

What I said at the very first meeting of the year with the parents, I said, if the boy cannot come to the practice you have to phone me to tell me. I said, if it is a family related thing, just tell me and I will be the judge of it. I said, if it is a very good excuse, then fine, I accept that. Hockey is not the end of the world, there are priorities, family comes first, school comes first, things like that, I understand that. [Interval 2 summary interview]

Lastly, although winning was very important to Duane, he placed qualifiers on the centrality of winning. For example, he always stressed winning to the players, but within the context of cooperation with teammates and giving the effort to win, or striving to win. He described winning as a means for players to develop sport skills and confidence.

My approach is to try and touch as many kids as I can to make them enjoy the game of hockey. If we can win, then that is sugar on top. We try, and I stress, we try to win at all costs, but within a structured scenario, and we can do that, great. But my pleasure out of it is when I see a kid that has improved, when he gets a goal or makes an assist or he makes a play that before he said he couldn't do. [Interval 2 summary interview]

Issue Setting

Three methods of identifying coaching issues emerged with Duane: joint input (JO), other input (OT) and self (SE). Most types of coaching issues were identified based on Duane's own observations or comments from parents (see Issue Review Matrix in Appendix M). This trend was not found, however, for issues related to athlete and team performance. Performance issues were almost always jointly identified through consultation with coaching peers. Lastly, coaching issues were typically framed in multiple components of his role frame.

For Duane, parent comments were frequently the identifying source of coaching issues. There were numerous examples of how Duane would not identify a situation as problematic until it was brought to his attention by another source such as a parent of one of the athletes on the team. These parent comments, often in the form of complaints more than suggestions, caused Duane to critically examine the situation to determine if it should be identified as a coaching issue to address. An example of this method of identifying coaching issues is found with the issue of distribution of playing time for one of the defensemen (issue 7). Mid-way through the 1997-98 ice hockey season it was brought to Duane's attention, by one of the parents and his team manager, that one of the defensemen was receiving a disproportionate amount of ice-time compared to the other players on the team. Duane was unaware of this situation until he was notified by these other individuals. He began to monitor the situation more closely and his

observations matched those of the parent and the team manager. Only then was the situation identified as a coaching issue in need of resolution. Duane framed it as a coaching issue because of the equity component of his role frame (see role frame diagram). He believed that each player should have a fair share of the available playing time.

One of the defensemen is getting an awful lot of ice. He is getting too much, and too much in a shift. Instead of having a shift of one minute, he is getting a minute and a half, two minutes. Too long and the other guys on the bench are not getting their fair share. It has been mentioned to me by one of the parents whose son is not a defenseman but she noticed it. She said that he is surely getting an awful lot of ice.

DID YOU NOTICE ON IT ON YOUR OWN AS WELL?

Only after it was brought to my attention and then I started to watch it a little bit, and I have noticed that he was on the ice too long. A couple of times he was being called over and he wasn't coming. Another time we called him over, when he got there he was very, very tired and very slow. [Interval 1 summary interview]

Another common method for identifying coaching issues was to jointly identify issues through consultation with one or more coaching peers. Joint identification of coaching issues was generally restricted to performance issues (see issue review matrix). Duane described a joint identification process in four of the five performance issues that were discussed. Four individuals were influential as coaching peers in identifying coaching issues. Duane often solicited input from his two assistant coaches (Joe and Andrew), a parent who also had ice hockey coaching experience (Tim), and the team statistician (Alex). This group of coaching peers served as a team of 'peer sounding boards' for Duane. Furthermore, each coaching peer was consulted for different types of performance issues. For example, because his main assistant coach Joe worked

more with the defensemen and therefore Duane would consult with him on performance issues related to the defensemen. His other assistant coach, Andrew, was the goalie coach and provided input on goalie performance issues. The other two coaching peers, Tim and Alex, provided a unique perspective on the games because they viewed the action from the bleachers which were on the opposite side of the ice surface from Duane and his assistant coaches. However, Alex only provided Duane with statistics and notes on the game which Duane then reviewed on his own. It was Tim who was regarded by Duane as perhaps the most valuable peer sounding board to identify and set performance issues.

Tim was highly respected and trusted by Duane because of Tim's experience as a youth ice hockey coach. Duane valued his opinion, yet they never held formal meetings to discuss possible coaching issues. Instead they would discuss team performance in brief exchanges after the games in the hallway outside the players' dressing room or in the lounge area. Also, he indicated that he consulted more frequently with Tim early in the season because it was the first year that Duane and his main assistant coach (Joe) had coached together. Also, Joe did not have as much coaching experience and expertise as Tim. Therefore, Duane's degree of trust and respect for a peer sounding board influenced the frequency of consultation. Duane progressively tried to get Joe more involved throughout the year and therefore had fewer discussions with Tim.

YOU MENTIONED ONCE THAT YOU CONSULTED WITH ONE OF THE PARENTS ON THE TEAM, TIM?

Yeah.

I JUST WONDERED IF YOU HAVE CONSULTED WITH HIM ON OTHER THINGS OR IF THAT WAS AN ISOLATED INCIDENT?

No, no, I talk to Tim almost every game. It is always in general, of course, things like 'What do think, What have you seen?'

HOW WOULD YOU CLASSIFY TIM'S ROLE BECAUSE HE IS NOT REALLY A PART OF THE COACHING STAFF?

No. Tim is just a sounding board for me, more or less. He is a very good coach, very knowledgeable, he has coached competitive hockey I don't know how many years, at a higher level than I have and he stills plays hockey and he is a good hockey player himself. So he is more of a sounding board and I prefer asking him sometimes a question or his observation because he knows the game more than other parents. The other parents will be there basically to watch their sons play and will not see the little aspects of the game, the little things that we should be doing. So I just use him more as a sounding board. Which is okay, and he likes that I think. I think he likes that.

AND WHEN YOU SAY A SOUNDING BOARD, WHAT DO YOU MEAN?

It is just that what I want to know, like I have my own ideas of what we should be doing and how we are working, but I want to get his perspective and his observations from the stands, instead of from behind the bench. Because when I am behind the bench I don't see everything. So sometimes I use Tim as 'What do you think, What did you think, Against this team what went well, what went wrong?' I would be using my assistant coach (Joe) more than Terry but my assistant coach is less experienced and we haven't coached together before so I we are still learning about each other [Interval 2 summary interview]

An example of how Duane and Tim jointly identified a coaching issue is evident with issue 10 (defensemen not body checking enough). In this case Duane noticed the issue on his own

during the game but then compared his observations with Tim after the game to determine if it really should be set as a coaching issue.

We were not hitting enough last night. When we had the pressure on them the whole first period, it was 1-1, we should have had four goals easy then they started to hit the body, and as soon as they did that we just went down. We were just not hitting. I talked with Tim and he basically agreed with me. He said the same thing and my thoughts were we are being out-hit, we are not being physical enough. We have to start hitting, especially against that team because they are a really good physical hockey team. They have been taught well how to check and they go right through you. So he was saying the same thing as me. [Interval 2 summary interview]

Lastly, once coaching issues were identified they were typically framed in multiple components of Duane's role frame. Issue 13 is presented as an example of how one issue was framed in numerous components of Duane's role frame. The erratic performance of the team's two goalies was determined to be an issue for three reasons: the competitive level (CL), an emphasis on team (ET), and winning (WI).

If this kid (goalie) wants to play competitive hockey at this level he is going to have to change his tune and his parents are going to have to understand that. It is going to happen, especially at the AA level. And I know if he went over to South and played for that other guy, two goals like that and he would have been gone and if he does it too often, they would cut him. [Competitive level]

They (parents) don't seem to grasp that there are 16 kids and it is a team effort and sometimes when you are not on your game, you have to do things like pull the goalie.
[Emphasis on team]

So we could easily have won those two games. If the goalies would have been hot we had them, we had the games. So that (goalie performance) is a concern I have right now.

[Winning]

Strategy Generation

Duane preferred to rely on his own resources to generate coaching strategies. He frequently cited his personal repertoire (CR) or creative thought (CT). Not as common, but also mentioned often, was consultation with his coaching peers to generate a coaching strategy (6/15). Consultation with peers was typically in the form of joint construction (JC). Rarely did Duane refer to coaching materials such as books or videotapes to generate coaching strategies. Coaching materials (CM) were only cited once (issue 14). These findings are better understood when placed in the context of Duane's experience as a youth coach and the depth of his coaching repertoire.

Duane's preferred methods of generating coaching strategies were to engage in creative thought or refer to his extensive repertoire of coaching strategies. For example, when Duane developed a new coaching strategy, such as a new practice drill, he preferred to construct rather than acquire the strategy. He explained that he preferred to work this way because of he had been coaching for over 20 years and had developed an extensive repertoire of coaching strategies. Indications of generating coaching strategies through a process of creative thought were found in statements such as 'I am going to think seriously on my own' or 'I will mull it over.' This is evident in Duane's explanation of how he was trying to generate a strategy to address the issue of playing time for the defensemen (issue 7).

I OVERHEARD YOU MENTION ON THE BENCH THAT THE SHIFTS WERE TOO LONG.

Yeah.

WAS THAT AN ISOLATED INCIDENT?

I think it is an issue with the defensemen. I am having a problem there and I am not quite sure how to handle it, so I am mulling over it. [Interval 1 summary interview]

Duane's reliance on his own personal resources such as creative thought and personal repertoire is also supported by his lack of reliance on external resources such as coaching materials. Coaching materials were only mentioned once (issue 14). When questioned about this finding Duane explained that he still occasionally referred to coaching materials but much less than he did when he was in the early stages of his development as youth sport coach. Because he had been coaching for over 20 years he felt he was at the stage where he could rely on his repertoire and creative thought to construct coaching strategies. Furthermore, when he did use coaching materials they were used only as a starting point, a sort of trigger to help him get started on the process of creative thought and strategy construction. For example, to generate a strategy to address the issue of poor offensive play by the defensemen (issue 14), Duane first referred to a videotape. However, the videotape was only used as a starting point from which he developed his own strategy (a modification of the drills from the videotape to fit his role frame).

WHO DESIGNED THE DRILLS?

I did. I spent about a good hour with my video, just for this particular level and tried to adapt it, see what was good. There are some drills there for Juniors, so I cut them down, I've improvised a bit for this level and I've tried to keep it as simple as possible. [Pre-practice 1 interview]

In a subsequent interview Duane elaborated on this process of constructing new strategies through creative thought, and practice drills in particular. In the example provided by Duane he engaged in creative thought on-the-spot during one of the practices.

I've often gone to a practice and then just winged it. I got there and then depending on how the kids are, then I will do one thing. If this works, then I will try to up the progression to another level. I've done that. I've had my practice on paper almost every time but I have never followed them to the letter. I've used one (drill) and I found that it was working and again, if you remember a couple of times a couple of kids brought in some drills and I said fine, so I would scratch one that I had and put theirs in. And a lot of times the kids would say that was a good practice, that was fun. Like that one we had on Saturday, we lost Friday night and Saturday morning we had one and we were only able to use half-ice because they had double-booked. So I said no problem, don't send the other kids home, I said you take that half and we will take this half and we just did breakout and attack and then all of a sudden I threw something in. The kids said that was a good practice.

SO WHEN YOU SAY YOU WING IT, YOU MEAN YOU ARE USING DRILLS THAT YOU HAVE USED BEFORE OR YOU ARE MAKING UP NEW DRILLS?

I make up new drills or I just modify them, it is like adlib. As an example, we were practicing breakouts and then all of a sudden I said 'Okay, fine, now that you were breaking out, curl near the red and then re-attack 2 on 1, 3 on 2' and stuff like that. Then all of a sudden I stop and I say okay, fine, I know what I am going to do, just off the top of my head. For example, I put the defenseman on his knees at the blue-line, I put one guy in the centre and I put one on the wing, and then I dump the puck in. The kids were fighting to get in

there, to go and fight to get in the corner. They said that was fun. [Interval 3 summary interview]

Duane indicated that this self-reliance to generate coaching strategies was accurate, but it was also very different from when he first started coaching. Early in his coaching career he stated that he acquired most of his strategies from other resources. Now, however, he was capable of refining existing strategies into new strategies. In this sense, Duane has moved from a strategy acquisition stage to a strategy construction stage. When Duane first started coaching he purchased numerous books and videotapes but he recently donated most of his coaching materials to the local hockey association. Duane was quick to note, however, that he still referred to coaching materials but exclusively for certain types of performance issues. He would occasionally visit the local library of the regional hockey association and photocopy practice drills.

I NOTICED YOU DIDN'T OFTEN TALK ABOUT USING COACHING BOOKS THIS YEAR. BUT YOU SAID YOU USED TO HAVE A LARGE LIBRARY OF COACHING BOOKS.

Yeah.

DO YOU FIND THAT YOU RELIED MORE ON BOOKS AND RESOURCES IN THE EARLY STAGES OF YOUR COACHING OR IS IT JUST SOMETHING I MISSED?

Oh yeah, in the first years, like 20 years when I first started to coach I used the books, I would go back to the books for drills and practices, but through the years you design your own and they don't change all that much really, depending on the level you are coaching. All the material that I had gained through the years I got rid of it so this past year what I've done, every time that I went to the hockey office I would go through the books they have

there in their library and I would peak through. Especially when I wanted something specific, a specific type of drill for a specific thing, a breakout for example and say maybe I wanted a variation.

BUT WHEN YOU GO TO THOSE BOOKS IT IS MOSTLY JUST FOR DRILLS?

Oh yeah, for drills, for practices, for things where we want some variation. Or like I say I will often take a drill designed for Junior and modify it for the division that I am coaching.

BUT OTHER TYPES OF ISSUES THAT WE TALKED ABOUT, LIKE TEACHING OR ISSUES, DO YOU GO TO THE BOOKS FOR THAT TOO?

No, no. I just use my own experience. [Validation interview]

Peers were also consulted to generate coaching strategies (see issue review matrix). Duane indicated that he generated coaching strategies with the assistance of his coaching peers for six of the issues that were discussed. This assistance was either in the form of joint construction or advice seeking. An example of how Duane consulted with a peer, in the form of advice seeking, is evident in the issue of player line combinations (issue 8). Mid-way through the season Duane felt that his line combinations were ineffective. Once he set it as a coaching issue, Duane decided to ask one of his respected peer sounding boards, Tim, to help him generate a set of new line combinations. Duane explained that he was puzzled about how to proceed and therefore he needed to solicit input from another source.

YOU MENTIONED THAT YOU WERE HAVING TROUBLE WITH YOUR LINES?

Yeah, I knew I had one really strong line and I had three young small kinds on another line that was struggling. So I just couldn't see the forest from the trees. So I went over to Tim and I said 'Look at the game and after the game give me an idea of line combinations, what you think compared to what I have.' He said no problem. So he came back and he said, 'One

of your problems is you have three big guys on one line and the other two (lines) don't have any.' So he says, 'If you can break them up and have at least one big guy on each line to help the two little guys, I think that you will find that that will help.' Then he gave me some variations of three lines and I had already made some variations of three lines and it just happened that when I compared the two copies it was just one player on each line that was different. So I was on the right track. Sometimes I find I love to have somebody from outside, after I've asked them, they will suggest or offer an idea, and I look at it and it just confirms my thoughts or my thinking that I was on the right track. So that really helped.

[Interval 1 summary interview]

Experiment

Duane typically would only experiment with coaching strategies in a real world environment (RW) (see issue review matrix). Virtual world experiments (VW) were only cited for three issues. Real world experiments were the critical test of any coaching strategy and were found with all 14 coaching issues. Duane's comments about how he learned coaching strategies in previous seasons also provided support for the use of real world experiments as a critical stage in the experiential learning process. For example, he indicated that he learned the value of always taking a positive approach with athletes, and delaying specific feedback after a game, even when he was disappointed with their performance. Through experimentation with various strategies in past seasons as a youth ice hockey coach, Duane realized that the most effective strategy is to remain positive through the peaks and valleys of the athletes' performance and provide feedback only after a cool-down period after games.

IS THAT (POSITIVE APPROACH) SOMETHING THAT YOU JUST START DOING THIS YEAR?

No, I think I've done this an awful lot in the past years. I know, I am very positive with the boys and I remember, I remember one time when I was coaching a very young team and we got blown out 20-1. It was Novice. This team we were playing, I've never seen a team play like this, they were that good. The kids were crying in the room and I came in and I was so angry that they were crying. Then I told them 'I am so proud of you and this and that and we (coaches) should be happy because you guys didn't quit, you don't have the talent that the other team has because they are older.' And the next thing you know, all of a sudden they stopped crying and they believed me I guess. The next day they were there for the practice and after that it was just like the stepping stone and we went on to play extremely well for the rest of the year in our league. So I think I've learned from that and that was a long time ago. If you keep maintaining a positive attitude, it grows on them, and hopefully I will continue to be the same way and they will continue to be the same way too. [Pre-game 2 interview]

Virtual world experiments were explicitly stated in only three of the coaching issues that Duane experienced and discussed during the 1997-98 season. When Duane did conduct a virtual world experiment it typically was with one of his coaching peers. Similar to how coaching peers functioned as sounding boards to help Duane identify and set coaching issues, peers occasionally also acted as sounding boards for experiments with coaching strategies. An example of this is evident in how Duane experimented with a strategy for assigning the team captains. Although this was not considered to be an issue for Duane, it was discussed because other coaches had cited it as an issue. To address the need to assign a team captain Duane developed a strategy on his own, but then tested it on his assistant coach, Joe. The strategy was experimented with in the real world only after the virtual world experiment was successful.

DID YOU MAKE THAT DECISION (ABOUT TEAM CAPTAINS) ON YOUR OWN?

I had basically made it on my own at home, when I got to the rink I spoke with my assistant coach. I went over them, each kid, and told him why I was selecting these kids and he agreed. If he would have come up with a good argument against the captain for somebody else, I probably would have listened and discussed it and if he would have been right, then we would have gone his way. But he agreed with my rationale and so we went ahead with that choice. [Interval 1 summary interview]

Two factors help to explain why virtual world experiments were not more prevalent with Duane: the depth of his coaching repertoire and the environment. First, because of Duane's experience as a youth ice hockey coach (over 20 years) he often would not need to go through a trial-run with a strategy before real world experimentation. He indicated that he had already conducted countless experiments over the course of his coaching career and therefore could circumvent a virtual world experiment. Second, virtual world experiments were sparse because of limited access to a constant peer sounding board. As mentioned previously in the case summary of Duane, he was comfortable enough with his assistant coach, Joe, to warrant extensive consultation. It was the first year that Duane and Joe had coached together and Joe was considered a novice, or inexperienced coach. Although Duane frequently consulted with a parent on the team, Tim, Tim was not present at every game or practice. Even when Tim was in attendance there was seldom time for Duane and Tim to have in-depth discussions. Duane provided support for this proposition and indicated that he would have preferred to have a more constant peer sounding board, but it was unrealistic in a youth sport environment to expect to have access to peers other than other parents on the team.

When you talk about coaching issues, I agree (with conclusions). If I find that we are not scoring enough or we are not playing defensively enough in our zone, or we don't know how to play in the neutral zone, yeah, how do I identify it first and then what do I do about it? Okay, now I've identified that we are allowing too many goals, okay fine, so now what do I do, Where are they coming from? That is where I find it is very important to be able to get an opinion from somebody else, another perspective. Of course you always have to ask a parent because you can't get somebody who is not involved to come in and spend some time so you always have to get a parent. [Validation interview]

Before Duane would consider experimenting with a strategy, either in the real world or a virtual world, it had to be consistent with his role frame. For example, the issue of parent participation in fundraising was particularly challenging for Duane during the 1997-98 ice hockey season. Often Duane would suggest a strategy and one or more parents would complain. Therefore, one reason why it was considered to be such a dilemma was because of the difficulty he experienced in trying to generate a strategy that would fit his role frame and be approved by the parents. One of the more popular, and successful, fundraising events in the association was known as road-blocks. Typically a team would solicit funds from motorists waiting at a red light. However, Duane did not endorse this strategy because it was incongruent with two of the components of his role frame - age group (AG) and safety (SA). He considered this strategy to be unsafe, particularly for the age of the athletes on his team. He preferred a strategy of selling raffle tickets for prizes that were donated or purchased by the team.

I know that a lot of teams in the association did, I think they call them road-blocks, at an intersection the red light goes on and they go around. That is supposed to be very, very successful in fundraising, but I am afraid, even at 13 years old, some are not mature enough

that they will be careful, but I am just afraid. I am really not totally in favor of these road block things. And I find that more dangerous. We are putting ourselves more at risk as a liability on their safety in doing that as opposed to just selling tickets, where the tickets are being sold in family and then the office. And I think that selling the tickets is safer than going out on the road, but the association doesn't mind us going and doing the road-block.

[Interval 2 summary interview]

Evaluation

Duane typically evaluated experiments with coaching strategies on his own in the form of self-evaluation (SE) (see issue review matrix). Self-evaluation was found for all of the discussed coaching issues. Seldom was feedback solicited from his coaching peers (PE). Peer evaluation, in the form of feedback from his peer sounding boards, was only found when a virtual world sounding board experiment was conducted. However, unsolicited evaluative comments from parents of athletes on the team were fairly common (OT). An example of a parent unsolicited evaluation of an experiment is found with the issue of goalie effectiveness (issue 13). Late in the season the performance of the goalies was inconsistent and Duane set it as a coaching issue to be addressed. The first strategy he used to address this issue was to change the goalies during the game. He did not use this strategy often, but once when he experimented with it he received negative feedback from the parent of the goalie who was pulled from the game. This caused Duane to reconsider the use of this coaching strategy for that season. The frequency of parent evaluations is also evident in Duane's comments about this issue.

Last game we played we lost 6-0. We played a good tournament, a fairly good tournament, but the kids came up really, really flat. The kids just came out flat and the problem that occurred is that I pulled the goalie after four goals. I found that three of the four he was

really weak on, especially the fourth one and so I pulled him. I had a talk with the boy later, but the mother confronted me in the hall after the game and she was very, very upset to the point that she was, it was almost like fire coming out of her eyes and she was trying to be calm and rationale. She accused me of not being fair with her son for ice-time, things of that nature. When she left was calmer, she understood more what I did, not saying that she agreed with it but she said at least now I understand. She left in good terms. So I don't know what is going to happen from that. What I find with me as an individual, the way I am built or made-up, I take it to heart and it stays with me for a week, maybe two weeks. Like I am still thinking about it now and it really upsets me because I thought I was extremely fair. After the game we went into the room and the first thing I told the goalie, I told the boy in front of everybody, 'Don't get down on yourself, it is not your fault. You didn't get help from anywhere. If there is anybody to blame it is these guys because they didn't help you. You are the last man of defense.' And we are getting near the end of the year, this is our crucial month because we finish the season. I want to try and get in a good playoff spot, and I am doing it for them. I feel now I am coming in and I don't know, I feel like everybody (parents) is shooting daggers. Maybe I am paranoid and I don't need that. I really don't need it. When they say sometimes parents are driving the volunteers out of hockey, it is true, it is not the kids. [Pre-practice 4 interview]

Although parent evaluations were common, Duane mostly relied on his own judgements about experiments with coaching strategies. This type of self-evaluation of experiments was described by Duane as a process of self-discovery. Once an experiment was conducted, Duane would critically examine its effectiveness. Generation of new coaching strategies was often the result of post-experiment evaluations. For example, Duane had difficulty teaching one of his

players, Randy (issue 3). As much as he tried, he felt that he just couldn't get his messages through Randy. Duane was confused because he would take his time and provide detailed verbal instructions and then Randy would repeatedly perform a drill incorrectly. Duane thought that Randy was very talented but for some reason he wasn't able to comprehend Duane's pedagogical interventions. Duane experimented with several strategies. First he decided to compliment Randy every time he performed a drill correctly or made a good play during a game. In conjunction with this strategy, Duane also verbally reprimanded Randy every time he performed a drill incorrectly. After experimenting with both of these strategies, Duane realized that Randy responded best when instruction was provided both verbally and visually. He discovered that Randy was more of a visual learner only after reflecting on the ineffectiveness of earlier experiments.

What I am not happy about is that sometimes I lose my cool, but with some kids it is like a brick wall, it won't go in. Even after I show them, I don't know if you caught it on tape, I did it with the two boys. I said, okay, this is where I want you, the pass, and then right away the line went out and the guy had no idea what to do. So he (Randy) has been a concern from the word go, from the start of the year. He is a good-natured boy, well-mannered. He is strong, a good skater when he doesn't have the puck, but I don't know where I can go inside him and grab the talent that he has, that hidden talent. I think he doesn't know it, but he has talent. But I think that relates to family problems. He is split between mom and dad, they are separated, and that is where the problem lies and of course I am not a psychologist. But I keep, as soon as he does something well, or even just good, I will compliment him like I did tonight. You know, after I gave him heck for not understanding a drill, especially after he watched the other players, it seems to him I have to draw it out for him and I have to be

beside him to show it to him. The last time I took a strip off the kid at a practice I really felt bad, and I discovered today that he is more visual, you have to show him not just tell him.

So I am going to have to take him aside and show more. [Post-practice 3 interview]

Duane's evaluations were not restricted to the action-present, or time-frame, of a coaching issue. He indicated that he continued to evaluate coaching experiments long after the season was completed. In this sense, Duane could be considered a highly reflective coach because he not only reflected-in and on-action, but he frequently engaged in retrospective reflection-on-action. Even after there is nothing more Duane can do to address an issue he will often continue to critically evaluate the strategies with which he experimented. When Duane was questioned about this proposition he explained that it was simply part of his nature, or his 'make-up' as a person and a coach. The question was posed after Duane indicated that he would modify a strategy he used to address the issue of parent complaints (issue 5). Duane revealed that he would be more explicit with the parents regarding their role. As the dialogue continued Duane also revealed how he would generate a new strategy to address the issue of goalie pre-game preparation (issue 2). The modification of existing strategies, and generation of new strategies, in these examples are based on Duane's post-season evaluations of coaching issues that remained unresolved because of unsuccessful experiments.

The one thing I will definitely change if I ever get back into a head coach position, I will definitely change, not my philosophy, but the rules pointed out right at the beginning of the year. Try to explain more to the parents that we need support, that we don't need people talking at our backs and second-guessing. I am an individual that it affects me.

SO YOU THINK YOU WOULD HAVE MORE OF A STRUCTURED MEETING AT THE BEGINNING OF THE YEAR?

Well we had a very structured meeting but I didn't go far enough to explain what I expected perhaps of them. I know I stressed the point that we needed disciplined parents as well in the stands. That didn't materialize with some of them, not all of them.

DO YOU STILL THINK ABOUT THESE ISSUES AFTER THE SEASON IS OVER?

Well yeah, in my particular case it will drag on, it will drag on for a couple of weeks, what should have I done differently, but it is only hindsight. If I would have known things that occurred, maybe I would have done something differently. Of course you do things and you live by them and sometimes you are going to get a tap on the shoulder and say great, other times people will say you shouldn't have done that.

BUT YOU SAY IN YOUR PARTICULAR CASE THAT IS BECAUSE OF THE WAY YOU ARE?

Yeah, because of the way I am made up, I take it too much to heart a lot of things where others, hey, forget about it, don't worry about it. Well I do worry about it, it is human nature for me. [Interval 3 summary interview]

Chapter 6

Discussion

The discussion chapter is divided into two parts. The focus of the first part of the discussion is on the core themes that emerged in relation to the grand tour research question: How do youth team sport coaches develop knowledge for coaching through experience? Based on the researcher's two years of data collection and analysis, and upon review of the results, five themes were selected for discussion: (a) coaching issues, (b) role frame, (c) types of reflection, (d) reflective conversation, and (e) conditions on the profile of a reflective conversation.

Discussion of the core themes provides a bridge from the present study to the fields of coaching and education. Special attention is given to the experiential learning theory that provided the conceptual framework for the present study, namely Schön's (1983) theory of reflective practice.

In the second part of the discussion, contributions of the present study to experiential learning theory and coach development, and suggestions for future research are summarized. The second part is further delineated into three subsections. In the first subsection, the unique contributions of the present study to the literature on coaching and experiential learning are reviewed. Directions for future research on coaching and experiential learning are reiterated in the second subsection. Lastly, implications for individuals responsible for coach development, such as developers of coaching materials and coach education programs and administrators of community-based sport associations, are summarized in the third subsection.

Part I: Core Themes

Coaching Issues

The first core theme relates to the coaching issues experienced by the coaches. A discussion of the coaching issues is an appropriate starting point because the coaching issues were the gateway to exploring how coaches developed knowledge through experience. The list of 107 coaching issues explored in the present study provides one of the most comprehensive portraits of issues experienced by youth team sport coaches. However, the list cannot be viewed as an exhaustive compilation of all the coaching issues experienced by the youth sport coaches in the present study. The issues are limited to those that the coaches decided to reveal and discuss. To truly capture a more comprehensive list of youth sport coaching issues, coaches would have to maintain a log throughout an entire playing season. Nevertheless, the results of the present study provide an awareness of the different types of issues youth sport coaches may typically experience (see Table 9).

Types of issues. The types of issues that emerged are consistent with other reports of issues experienced by youth sport coaches (Leblanc & Dickson, 1997; Paulson, 1980; Sabock, 1991; Streat, 1995). Although five types of coaching issues emerged, only two types are discussed in detail. Athlete issues and environment issues were selected for elaboration because of their frequency in the present study and the coaching literature (e.g., Hoehn, 1983; Leblanc & Dickson; Siegenthaler & Gonzalez, 1997; Streat, 1995). Athlete issues were the most frequently discussed type of issue (see Table 15) and relate to athlete non-sport specific behaviors, such as characteristics of the athletes (e.g., motivation, work ethic). The significance of athlete related issues in youth sports has long been acknowledged as a major challenge for coaches (Hoehn; Massengale, 1975; Ogilvie & Tutko, 1966). Several of the focus group coaches in the present

study alluded to the benefit of being a parent in addressing athlete types of issues. Is it possible that athlete issues are less prevalent with coaches who are also parents, and therefore have had experience addressing similar types of issues in the home (e.g., discipline, motivation, work ethic)? A review of the case study data suggests otherwise. All of the case study coaches experienced athlete issues and only one of the coaches was a non-parent (Richard). Furthermore, a review of the types of issues addressed by the case study coaches reveals that Richard did not discuss more athlete issues than most of the other coaches.

Although a sufficient quantity of data is not available in the present study to make statistical comparisons, the occurrence of athlete issues does not appear to be related to experience as a parent, experience as a coach, coach or athlete gender, or type of sport. Why then, do coaches frequently experience athlete issues, and can anything be done to reduce their emergence? Based on the coaching literature, and the results of the present study, it appears that athlete issues are a chronic problem in youth sport coaching and the preferred approach is to prepare for their certain appearance. This approach reinforces the critical importance of structuring coach education programs and youth sport communities that facilitate the generation and sharing of coaching strategies.

One of the most common strategies used to address athlete issues is to withhold playing time during games, also referred to as benching. Benching was cited by each of the case study coaches and in both the focus group interviews (see Table 11). Furthermore, the popularity of benching as a coaching strategy to address athlete issues is not limited to the coaches in the present study. The literature on youth sport coaching provides countless examples to support benching as one of the most common coaching strategies (Gilbert, Trudel, & Haughian, 1999; Martens, 1978; Orlick & Botterill, 1975). However, benching is, and always has been, a controversial strategy in

youth sport coaching. Many of the coaches in the present study wrestled with the implications of using benching, both for the athletes and for themselves as coaches.

Due to its frequent use, and the negative implications that often result, research that examines the psychological implications of benching young athletes is needed. Coaches, including some in the present study, often claim that the athletes are in favor of this strategy when it is used to increase the team's chance of success (i.e., winning). In addition, it appears that coaches' belief that athletes value winning over equitable distribution of playing time increases with the age of the athletes (Chaumeton & Duda, 1988; Liukkonen et al., 1996). However, inequitable distribution of playing time has been shown to be a major cause of dropout from competitive sport (Martens, 1978; Orlick & Botterill, 1975; Siegenthaler & Gonzalez, 1997). In one survey it was discovered that 72% of the young athletes questioned stated that they would rather play on a losing team than sit on the bench for a winning team (Cooper, 1977). Clearly, more in-depth research is needed to reveal athletes' views of this common, and often destructive, youth sport coaching strategy.

Environment issues related to parent behavior are also frequently cited as challenging issues for youth sport coaches (Siegenthaler & Gonzalez, 1997; Streat, 1995; Vail, 1997). For example, Streat conducted case studies with youth sport coaches from eight different sports and found that parents were one of the factors that most influenced youth sport coaching. In the present study 12 of the 19 environment issues were parent related, although a closer examination reveals that parent related issues were rarely experienced by the case study coaches. Six parent issues were discussed only in the focus groups, and three of the case study coaches did not discuss any parent issues (Jackie, Barbara and Richard). These results lend support to suggestions that parent misbehavior in youth sport is perhaps over represented in the literature (Hoehn, 1983; Leblanc &

Dickson, 1997). It is likely that parent related issues are regarded as a major factor in youth sport coaching because when they are experienced they are typically very challenging issues, and therefore their gravity is magnified. Leblanc and Dickson's recent review of the youth sport coaching literature supports this proposition. They conclude that just one parent issue is all it takes to create the impression of parents as a major challenge, "most parents spend their time silently watching the game or chatting with friends. However, one fanatical parent can ruin a child's experience and have a serious negative impact on the whole team" (p. 121). The results of the present study combined with recent findings in the literature suggest that parents are generally not a frequent problem in competitive youth sports. This highlights the importance of making policy decisions in youth sport based on research rather than opinion and personal experience.

Perhaps one reason why parents were not frequently cited as major issues is because of the efficacy of the strategies used by coaches to address and prevent parent issues from arising. Many of the strategies cited by the coaches in the present study mirror recommendations in the youth sport literature (CAC, 1988; Leblanc & Dickson, 1997; Martens, 1997; Streat, 1995). Common strategies revealed in the present study include meetings with parents to discuss coaching objectives and philosophies, a mandatory 'cool-down' period before discussing parent complaints, and sharing of team management and coaching duties.

The preparation and distribution of a list of common team management duties would be a valuable service for beginning youth sport coaches. Community-based youth sport associations could easily prepare such a list tailored to their unique environment, based on consultation with model coaches who have already prepared their own lists. When otherwise left to discover the multitude of tasks required to manage a competitive youth sport team, beginning coaches are

forced to learn from tedious trial-and-error over the course of several seasons. Furthermore, disseminating common strategies used by model coaches to address parent related issues, such as delegating team responsibilities, may allow beginning coaches to use proven strategies to prevent challenging parent issues.

A discussion of the different types of issues, and some common strategies used to address the issues, has important implications for designers of youth sport coaching materials and coach education programs. A valuable youth sport coaching book could be structured around the five types of coaching issues identified here: (a) athlete, (b) coach, (c) environment, (d) organization, and (e) performance. Each section of the book could be divided into two parts. In the first part the type of coaching issue could be discussed in-depth with real examples of youth sport coaches' experiences. In the second part various strategies used to address the type of issue could be presented. The contribution of a book such as this to youth sport coaches is that it would provide an essential connection between coaching issues and coaching strategies that is currently missing from most coaching texts. By nesting coaching strategies in the five types of coaching issues, with real-life illustrations, the strategies are no longer presented out of context. Several coaching texts are available that come close to addressing the five types of issues revealed in the present study, but they are still short on real examples (e.g., Leblanc & Dickson, 1997) or long on expert-driven scientifically derived knowledge for coaching (e.g., Martens, 1997). Paulson's (1980) book on youth sport coaching is an example of a text that provides an issue-based approach, complete with suggested strategies from the field. In the second half of his book, Paulson presented 29 common coaching issues with a brief example and then a short description of possible strategies. Although a valuable text for any youth sport coach, Paulson's book is dated and needs to be updated to better represent the present reality of youth sport coaching.

A similar approach could be taken to structure a coach education program, or at least part of a program. Numerous coaches, and researchers, have raised concerns about the gap between coaching theory and coaching practice. For example, large-scale coach education programs have been criticized for their low impact on coaches once they return to the field (Abraham & Collins, 1998; Gilbert & Trudel, 1999a; Siedentop, 1990). The results of the present study provide insight into this apparent gap. Large-scale coach education programs are designed from an expert or top-down approach (Campbell, 1993; Douge & Hastie, 1993; Haslam, 1990; Houseworth et al., 1990). The content of the programs has been borrowed from theories of coaching science based on research with elite level coaches, which is then expected to be applicable to a youth sport environment (but on a smaller scale). Similar to the structure of most coaching texts, the material is presented out of context. In addition, the material does not cover the full range of issues experienced by youth sport coaches. Although there are sections on athlete, coach and performance issues in coach education programs, there is little or no discussion of environment and organization issues. Youth sport coaches would benefit from discussions that create an awareness of the full range of coaching issues that may be experienced in youth sport. By including sections on all types of coaching issues experienced by youth sport coaches, and a presentation of proven strategies for addressing the issues, coaches will have a valuable opportunity to 'fast-track' the development of their coaching repertoires. Presently, youth sport coaches are often unprepared for many of the types of issues they experience in the field (Gilbert & Trudel, 1999a).

Trigger points for reflection. Sport coaches at all levels repeatedly champion experience as the primary source of knowledge for coaching (CAC, 1996a; Côté, 1993; Gould et al., 1990; Salmela, 1996; Saury & Durand, 1998). However, experience alone does not guarantee

improvement or learning for a coach (Bell, 1997; Douge & Hastie, 1993; Martens, 1997).

Reflecting on experience is considered central to the development of a coach's repertoire.

Reflection is what differentiates the coach who simply accumulates years of experience from the coach who develops competence through experience (Martens).

What, then, triggers some coaches to reflect-in and on some of their experiences? In the present study, challenging situations of everyday practice, also referred to as coaching issues, were found to be a critical impetus for the experiential learning process and reflection. A theoretical assumption that underlies most learning theories is that problems provide the impetus for learning (Dewey, 1938/63; Jarvis, 1987; Schön, 1983). John Dewey, the forefather of experiential learning theory, believed that the most valuable experiences were those that were troublesome and forced an individual to critically examine his or her practice, "problems are the stimulus to thinking...[cognitive] growth depends upon the presence of difficulty to be overcome by the exercise of intelligence" (p. 79). There were many examples in the present study where coaches considered generating a coaching strategy but never did because no issue was set to trigger a reflective conversation (see case summaries in Chapter 5). In those examples where no issue was set the coaches did not reflect on their experiences because they were not troubling enough to warrant reflection. Therefore, experience was accumulated but the coaches did not capitalize on it as a learning opportunity.

Reflection on unchallenging experiences likely only serves to strengthen existing strategies in a coach's repertoire. For example, a coach may attend a coaching clinic and reflect on the course material after the course, but if he or she does not set the experience as a challenge to his or her existing repertoire of strategies, then no new knowledge is likely to be generated (e.g., Gilbert & Trudel, 1999a). Therefore, reflection on unchallenging situations (i.e., things that

went well or non-issues) is not likely to generate any new coaching strategies and may have only limited value. A study of elite level basketball and ice hockey coaches provides further support for the proposition that reflection is most likely to be found only when coaches experience challenges in their everyday practice (Schinke et al., 1997). Schinke and colleagues found that coaches often engaged in post-season reflection to develop or refine their practice. However, the coaches claimed to reflect mostly on unsuccessful or disappointing seasons filled with many challenges, “reflections upon unsuccessful seasons often served as the basis for revisions of the coaches’ visions” (p. 68).

The discovery that issue setting is a critical determinant of experiential learning and reflection confirms what has been concluded in studies of experiential learning with other populations (Dewey, 1938/63; Lave, 1988; Schön, 1983). The present study, however, makes a unique contribution by providing empirical evidence for this proposition. Only recently has research-based evidence surfaced to support the claim that the most meaningful learning experiences, which are dependent on reflection, are those that are triggered by conflict or personal dilemmas (e.g., Clarke, 1995).

Does this conclusion imply that coaches who set and reflect on the most coaching issues will develop the most extensive coaching repertoires? In a word - no. It was found that an abundance of coaching issues restrict or retard the experiential learning process. When a coach sets too many issues at the same time, he or she is likely to abandon several issues or only reflect at a surface level (characterized by sparse creative thought and one cycle through a reflective conversation). Coaches need time to critically assess their everyday coaching and the environment in which they coach. However, the objective should not be to try to find issues, but instead to determine which puzzling situations warrant critical and deep reflection. Furthermore,

coaches should not try to avoid issues, or even worse to blindly apply pre-packaged generic strategies (a problem solving approach). Instead coaches should be taught to be critical of their coaching (a problem setting approach). When coaches are critical of their coaching they can engage in a reflective conversation in the action-present - while they can still make a difference to the situation - to generate new coaching strategies thereby enriching their coaching repertoire.

Maintaining personal journals has been suggested by many authors as a valuable method for documenting and setting issues, which in turn fosters reflection (Francis, 1995; Holly, 1989; Knowles, Cole, & Presswood, 1994; Posner, 1996). Although journal writing has been advocated mostly in the field of education, accounts from expert coaches of elite sport indicate that they too keep detailed journals of their practice (De Marco & McCullick, 1997). Because journal writing is a very personal and applied method, it likely would have only limited impact if presented through large-scale coach education programs. However, if journal writing is introduced through community-based sport associations to coaches when they assume their coaching positions, there may be a greater likelihood that the journals will be used. For example, when coaches are first oriented to their local sport association, typically at a preseason meeting with the coaches, they could be provided with a sample journal and a description of how and why they should experiment with keeping a journal. In addition, the receptiveness to journal writing may be increased if supporting quotations from model coaches, both from the local association and from elite sport, are included with the journal. Because journal formats and journal writing are deeply personal, it should be stressed to the coaches that the journals are not to be viewed as 'homework' to be checked or evaluated by directors of the sport association. Instead, journal writing should be encouraged as a valuable method for setting coaching issues and fostering professional growth through reflection.

Francis (1995) developed and tested four structured journal writing tasks with preservice teachers that can serve as a blueprint for journal writing for coaches. The first task, critical incident analysis, requires a coach to write a short description of a coaching issue that was recently experienced. This is followed by a description of the personal meaning (feeling, beliefs, assumptions) about the issue. Francis suggests that the descriptions then be shared and discussed with a critical peer. A second exercise for journal writing requires a coach to list characteristics of an 'ideal' coach and practice session. This list is then compared to a list of the actual characteristics of the coach and one of his or her recent practice sessions. The objective of this journal task is for the coach to identify discrepancies between the two lists and to generate, either alone or with the assistance of peers, possible strategies to reduce the discrepancy. The third journal writing task is the one most often associated with journal writing - personal diary. For this exercise, coaches can be asked to note personal reflections on their coaching and youth sport. The fourth and final suggested journal writing task is referred to as metaphors. Based on the widely-held proposition that professional knowledge, or knowing-in-action, is largely tacit and difficult or impossible to verbalize, metaphors can "provide insights into ideas that are not explicit or consciously held" (Francis, p. 238). Therefore, coaches could be asked to write a paragraph beginning with the words 'youth sport coaching is like...' This exercise will allow coaches to critically examine their tacit beliefs about coaching, and engage in further reflection on their conception of an 'ideal' coach and practice session.

Although coaching issues were found to often trigger reflection and experiential learning, this conclusion must be interpreted with caution. In the present study, coaching issues served to narrow the data collection to those experiences that were considered particularly challenging or puzzling enough to cause a coach to generate a new coaching strategy. In this sense, the focus of

the present study was on how coaches learn through a certain type of coaching experience, what Schön (1983) would label the 'low swampy' ground of coaching practice where routine strategies do not easily apply and new strategies must be generated. Therefore, it is inappropriate to conclude that coaching issues are the *only* triggers for reflection and experiential learning. Future research should remain open to discovering how coaches learn in and from *all* types of coaching experiences (e.g., successes as well as failures or non-issues as well as issues). This approach would require a methodology that allows coaches to explain how they developed any new coaching strategy. However, it can never be known when an experience will lead to the generation of a new strategy and it is methodologically impossible to track all of a coach's experiences. One alternative would be to focus the data collection on coaching strategies used by competent coaches and trace the origin backward, as opposed to focusing on specific types of coaching experiences and working forward to a new coaching strategy. Yet because this approach would require a reliance on retrospective recall by the coaches, the validity of the data would have to be seriously questioned.

Perhaps a more credible, and practical, solution would be to conduct case studies with entry level coaches who are in their first year of coaching. These coaches could be interviewed at each event (game or practice) and asked to list the coaching strategies they used in that specific event. They could then be asked to explain how they generated any or all of those strategies. To enhance the validity of the data, only those strategies for which a coach could vividly and comprehensively explain its origin should be included in the analysis. This alternative, although not without its own limits, may prove fruitful because the data would be collected close to the action with coaches who would likely have generated their coaching strategies just prior to implementation. Novel research designs and methodologies will have to be continuously

explored to gain further insight into how, when, why, and what coaches learn through experience.

Role Frames

The second core theme that warrants discussion is related to how coaches frame their roles as youth sport coaches. Similar to how coaching issues provided the gateway for accessing the experiential learning process, an analysis of role frames provided a conceptual backdrop to better understand the experiential learning process and reflection for each coach. For example, a coach's decision to experiment with a strategy such as benching athletes could be partially explained by a review of his or her role frame. A composite role frame diagram for a model youth sport coach was prepared from the case studies (see Figure 5). There are two levels of components in a coach's role frame, boundary components and internal components.

Boundary components. The age group and the competitive level of the athletes were revealed by all six of the case study coaches as boundaries on their approach to coaching. A consideration of the age group of the athletes is commonly discussed in coaching texts and coaching programs (CAC, 1988; Leblanc & Dickson, 1997; Martens, 1997). The age group role frame component included consideration of the various developmental characteristics associated with athletes in an age category (e.g., Peewee hockey = 12-13 year olds). For example, the way age group is used in the present study is analogous to the stages of development presented in the CAC's coaching theory manuals (CAC, 1988; 1989a).

The possible influence of the competitive level, however, is seldom made explicit in coaching materials or clinics. Community-based sport in Canada is divided into recreational and competitive levels. For each age group, the recreational level "caters to the participation of all those who are interested in participating in the particular sport" (Wankel & Mummery, 1996, p.

28). The competitive level typically restricts participation through skill tryouts and the environment is very different from recreational sport. In ice hockey for example, competitive leagues usually play more games (average of 65 versus 37), use different rules (no body-checking), and the players are taller, heavier, and stronger (Bernard et al., 1993; Chouinard & Trudel, 1993; Roy, Bernard, Roy, & Marcotte, 1989).

All six of the case study coaches indicated that the competitive level of the team they were coaching was a major determinant of how they framed their role as a coach. The coaches in the two focus groups also indicated that they altered their approach to coaching based on whether they were coaching recreational or competitive youth sport. This finding raises the obvious question: How and why do coaches bracket their role according to the competitive level of the athletes? A review of popular coaching texts revealed no discussion of the competitive level of the athletes as a consideration for youth sport coaches. Although Salmela's (1996) discussion of coaching contexts does address competitive level considerations, it is specific to elite level coaching (i.e., international and professional coaching). Yet, the results of the present study clearly show that there is a common implicit assumption in the youth sport environment that competitive sport requires an approach very different from recreational sport. Support for this proposition is found in a study of youth football coaches in which the verbal behaviors of the coaches during games differed by competitive level (Dubois, 1982). A fruitful avenue for research in youth sport can be the exploration into how and why coaches view recreational and competitive youth sport differently, and the impact of this view on their coaching.

In addition, there is evidence in the present study to suggest that the boundary components of a coach's role frame may include more than only the age group and competitive level of the athletes (see Figure 5). For example, two of the coaches cited the gender of the athletes as an

influence on the structure of their internal role frame components. This is a phenomenon that also requires further exploration. Men have traditionally comprised the vast majority of youth sport coaches (CAC, 1996a; Gould & Martens, 1979; Weiss & Sisley, 1984). If a male coach who teaches a team of opposite gender athletes does not modify the internal components of his role frame what impact will this have on the athletes? Although participation in youth sports by boys still outnumbers that of girls, the gap has decreased in recent years because of increased sporting opportunities for young girls (De Knop, Engström et al., 1996). However, at the same time there has been an increase in the number of girls dropping out of organized sport (De Knop, Engström et al.). Could it be that girls dropout of youth sport because male coaches don't adjust their approach to coaching to fit the gender of the athletes?

Studies of young female athletes and their coaches provide support for gender differences, particularly related to an emphasis on the social aspect of sport that girls appear to value more than boys (Boyd et al., 1997; Gill, Gross, & Huddleston, 1983; Gould, Feltz, & Weiss, 1985). However, the impact of how coaches frame their role based on the gender of the athletes has yet to be fully explored. It is not the purpose of this discussion to suggest that coaches should only instruct same-gender athletes. Additional research is needed to examine how gender differences (physical and psychological) of youth sport participants influence the way coaches frame their role.

Internal components. The second level of components in a coach's role frame is the level of internal components that is surrounded by the boundary components (see Figure 5). Although the terms role frame and internal components have not been used in the coaching literature, a review of suggested approaches to coaching reveals many similarities to the findings of the present study. For example, frequently cited characteristics of a competent youth sport coach include an

emphasis on: fun, sport specific development, athlete personal growth and development, modeling behavior, and perspective of sport in relation to other activities (CAC, 1989a; Gould & Martens, 1979; Gummerson, 1992; Martens, 1997). The abundance of diverse components to a coach's role frame supports the proposition that youth sport coaching is a complex and challenging task. Yet, most of the coaching literature related to how coaches should frame their roles is opinion-based and prescriptive. The present study makes a unique contribution to the coaching literature by providing an empirically based portrait of how model coaches actually frame their role. Furthermore, the results are grounded in the coaches' behaviors as well as their statements thereby reducing the threats to validity inherent in a reliance on verbal self-report data when examining cognitive systems (Pajares, 1992; Wilcox & Trudel, 1998).

One internal role frame component in particular warrants further discussion - winning. Coaches of youth sport often model their approach to coaching on elite or professional sport where winning is emphasized (Martens, 1978; Vaz, 1982). Although winning is seldom discussed as the only component of a coach's role frame, youth sport coaches including those in the present study, typically place winning at or near the center of their approach to coaching (Chaumeton & Duda, 1988; Siegenthaler & Gonzalez, 1997; Wilcox & Trudel, 1998). For example, in a recent study of competitive youth ice hockey coaches it was found that their decisions during games were often guided by a concern for winning (Gilbert, Trudel, & Haughian, 1999). The coaches in that study frequently used the more skilled and physically developed players during critical times of the games (e.g., last few minutes of a close game). In another example Wilcox and Trudel mapped a competitive youth ice hockey coach's approach to coaching and also found an emphasis on winning. However, the coach also believed in athlete personal and sport specific development. These two beliefs often resulted in an internal conflict

for the coach (Martin), “Martin believes in coaching to win but he is equally concerned with developing the hockey skills and the social skills of his players. Though it is not always easy, he feels it is important to achieve balance between these two primary objectives” (p. 61). Comments from coaches in the present study provide additional support for the frequent psychological struggle between conflicting role frame components such as winning and athlete development (see Chapter 5).

The discussion on how coaches frame their roles has at least two important implications for coach education programs. First, providing beginner youth sport coaches with examples of how model youth sport coaches frame their role can be used as a template, or guide, with which they can structure their own developing approach to coaching. Schön (1983) discussed this type of application as a way for practitioners to ‘try on’ a way of framing their role, “it would help the practitioner to understand the competences he would need, and the kind of person he would become, if he framed his role in a particular way” (p. 315). Second, coach education programs could include exercises to help coaches bring their tacit role frames to the forefront of consciousness, thereby permitting review and analysis. Role frame components, like belief systems, are tacit and therefore are difficult to verbalize (Argyris et al., 1985; Clarke, 1995; Pajares, 1992; Schön, 1983). Role frame analysis has been cited, under various labels and across domains, as a critical step in personal and professional development (Argyris et al.; Barnes, 1989; Fernández-Balboa, Barrett, Solomon, & Silverman, 1997; Geddis, 1996; Kruse, 1997; Powell, 1992; Schön). Role frame analysis allows an individual to critically examine the underlying components that guide and influence his or her behaviors. Simply lecturing to coaches about the importance of certain role frame components (e.g., equity, fun, personal growth and development) will likely have little or no effect on a coach’s approach to coaching.

Modification of the way a coach frames his or her role may only be accomplished through exercises that bring tacit role frame components to the foreground.

Argyris and colleagues (1985) have discovered through their research that role frames can surface by interrupting practitioners while they are in the process of addressing a challenging issue. They concluded that by “directing individuals’ attention to what they are doing, thinking, and feeling at the time” (p. 283), a practitioner can critically evaluate and possibly restructure his or her role frame. Similarly, coaches could be asked, individually and in small groups, to address a series of typical coaching issues. While engaged in the process of thinking about how to resolve the issue, coaches could be asked to respond to questions such as ‘Why is this considered to be an issue?’ and ‘What strategies could be used to address the issue?’ Another alternative, and perhaps more effective, would be to have coaches reflect-on coaching issues they had just recently experienced or were presently experiencing (if the clinic is offered during the season). In either case, coaches could then be asked to create a visual display of their approach to coaching (role frame diagram). For the final step in the exercise, time would be allotted to allow the coaches to critically evaluate their role frame diagrams. A similar approach has been advocated to foster role frame analysis with teachers, referred to as critical incident analysis (Francis, 1995).

Although these types of exercises were not completed with the coaches in the present study, support is provided for the value of creating and reflecting-on one’s role frame. For example, in the member check interviews each of the case study coaches was presented with a portrait of his or her role frame prepared by the researcher. The coaches were then asked to evaluate the perceived accuracy of their role frame diagrams. All of the coaches expressed that this was a valuable learning experience for them. For most of the coaches the role frame diagram reinforced

their perceptions. Yet, some of the coaches were surprised by the diagrams. Their bewilderment, and the subsequent discussion that occurred in the member check interview, forced them to review the way they framed their roles and conducted themselves as youth sport coaches. For example, Jackie didn't realize that the role frame component 'fun' was a peripheral component of her role frame. After reflecting on her approach to coaching during the 1997 soccer season she concurred with the portrayal. This caused her to modify her role frame to ensure that the fun component was more of a central component in her approach to coaching.

To conclude the discussion on role frames, there is likely no one 'model' role frame because of the myriad of environment and individual athlete differences each coach experiences. However, there does appear to be common components of a role frame for youth sport coaching as described by the case study coaches. Yet the objective should not be to strive towards one prototypical role frame, but instead to provide opportunities for periodic frame analysis to surface and evaluate the tacit role frame components that influence practice. The present study is one of only a few empirical examinations of how coaches frame their approach to coaching, and therefore provides valuable insight into this phenomenon. The results are strengthened by the fact that the role frame components were not only inferred from an analysis of the coaches' interview statements but also corroborated by observations of their behaviors.

Although each coach validated their role frame representations, the role frame diagrams cannot be considered exhaustive portraits of possible role frame components for a model youth sport coach. For example, only two coaches cited athlete gender as a boundary role frame component. It is possible that this may have also been an influential component for the other coaches but did not emerge in the analysis. Because role frame components are considered tacit, and the primary objective of the present study was not to uncover youth sport coaches' role

frames, a more focused study of how youth sport coaches frame their roles is needed. Future studies on how coaches frame their roles should not limit their data collection to certain types of experience (such as coaching issues in the present study) or to the methodology used in the present study. For example, a methodology that includes video cueing stimulated recall interviews could be used to uncover tacit role frames (Trudel et al., 1996; Trudel & Gilbert, 1999). Wilcox and Trudel (1998) recently employed such a methodology, but their research was restricted to only one hockey coach based on convenience sampling. A more comprehensive study of model youth sport coaches across various sports, competitive levels, and age groups, may provide a more credible role frame template that could serve as a foundation to share with beginning coaches.

Types of Reflection

Three types of reflection were found in the present study: (a) reflection-in-action, (b) reflection-on-action, and (c) retrospective reflection-on-action. Different types of reflection have been previously discussed in the literature (Munby & Russell, 1989; Newman, 1996; Schön, 1983; 1987; Shulman, 1987). However, it is difficult to find a consensual definition between authors for any type of reflection. Although Schön's (1983) theory served as the conceptual framework for the present study, a reformulation of the concept of reflection is needed based on the findings that emerged. Schön's unique contribution to experiential learning theory, and reflection, is his description of reflection-in-action; the special type of reflection that is inseparable from activity. His definition of reflection-in-action is characterized by two features, it must occur (a) in the midst of action and (b) within the temporal boundaries of the action-present (the period of time in which reflection can make a difference to the immediate situation).

However, because Schön (1983) concedes that the action-present can vary widely among situations - from a few seconds in the middle of a tennis rally to several months in a legal case - his definition is problematic. On the one hand Schön believes that reflection-in-action is necessarily embedded in the thick of the activity. At the same time, reflection-in-action is described as reflective thought that occurs anytime within the action-present. Take the example of a coach who struggles with the issue of a disruptive athlete and engages in reflection to generate and test strategies. If the coach reflects while the athlete is being disruptive, during a game or practice, this would clearly fit Schön's definition of reflection-in-action. However, if the coach thinks about the dilemma outside of the time when the athlete is being disruptive, but still within the time in which his or her reflection can make a difference on the situation (action-present), is it considered reflection-in-action or reflection-on-action? More often than not, the coaches reflected on their dilemmas outside of the activity (e.g., at home after the practice or at work with colleagues). Yet, because the coach can still influence the disruptive behavior of the athlete anytime during the remainder of the sporting season, it is reflection within the action-present, one of the defining characteristics of reflection-in-action. But at the same time, it is not reflection 'in the midst of action,' so how can it be considered reflection-in-action?

This is the same criticism advanced by Court (1988) when she attempted to apply Schön's definition of reflection-in-action to teaching. Similar to the environment of youth sport, the action-present within which teachers work lasts several months (i.e., the length of the school year). So although a teacher may reflect about a disruptive student after class, his or her reflection can still influence the situation during subsequent classes; the temporal dimension of the action-present is still respected.

For the purpose of the present study, therefore, Schön's concept of reflection-in-action is interpreted to only apply to the reflection that occurs in the midst of activity. Reflection that still occurs within the action-present, but not in the immediate action, is considered reflection-on-action (e.g., the coach who reflects about a dilemma in between games or practices). Reflection-in-action and reflection-on-action both occur in the action-present, but the former takes place in the 'heat of the moment,' while a coach is engaged in the situation. For example, if a coach suddenly experiments with a novel strategy to resolve a dilemma on-the-spot during a game or practice, it is considered an example of reflection-in-action. If the coach pauses to think about his or her reflection, or if the dilemma persists and the coach generates additional strategies and conducts further experiments within a time-frame in which the dilemma can still be addressed (action-present), the reflection is considered reflection-on-action.

This interpretation also leaves room for the third type of reflection that was found, retrospective reflection-on-action. Retrospective reflection-on-action applies to all reflective thought that occurs outside of the action-present (e.g., after the season or after a coach's reflection can no longer impact the situation). Retrospective reflection-on-action is similar to Schön's description of reflection-on-action (described as 'thinking back' on a situation to consider how one could have acted differently or why a dilemma occurred). Retrospective reflection-on-action is genuinely a 'thinking back' type of reflection because there is no longer an opportunity to address the issue. An example of retrospective reflection-on-action is seen if the coach continues to think about a dilemma outside of the action-present (i.e., after the season when the dilemma can no longer be addressed).

Although researchers have previously described different types of reflection, no author has synthesized all three types of reflection into a single discussion. In terms of how the different

types of reflection influence experiential learning, the first two types of reflection can be considered modes of learning *in* experience, while the third type of reflection can be considered a method of learning *from* experience. Because of the popularity of the term 'reflection' in the educational literature, it is imperative that a concise definition of the different types of reflection is used. Therefore, the clarification of the distinctions between the three types of reflection made in the present study extends the discussion on theories of reflection.

The purpose of the present study, however, was not to identify or focus on one particular type of reflection. Yet it was revealed that the most frequently documented type of reflection in the present study was reflection-on-action. This is not to suggest that the coaches did not reflect-in-action, yet there were very few documented examples of this type of reflection. The reason why reflection-in-action was not discovered more often is likely a result of the research methodology. Unwittingly, the research design was structured to specifically capture reflection-on-action. By questioning coaches about coaching issues and their experiential learning process outside of their activities (e.g., before or after games and practices) the researcher only allowed for reflection-on-action to emerge. A methodology that collects data on cognition while the coach is involved in the activity is required to capture reflection-in-action. The methodological difficulties in documenting episodes of reflection-in-action have been noted elsewhere (Clarke, 1998; Hatton & Smith, 1994). Because reflection-in-action is thought to occur in the crucible of action (Schön, 1983), the only way to access it is in-action, using techniques such as think aloud or concurrent probing. However, these techniques are laden with methodological limitations, particularly when conducting studies in the natural environment (Yinger, 1986). Schön's study is the most comprehensive account of reflection-in-action, yet he has not described his

methodology, which is often cited as a limit of his work (Usher et al., 1997). It remains to be seen if actual episodes of reflection-in-action can be reliably documented.

Reflective Conversation

Central to the experiential learning process used to transform experience with coaching issues into knowledge for coaching is a reflective conversation (see Figure 4). The reflective conversation includes the four stages of issue setting, strategy generation, experimentation and evaluation. These four stages are an extension of the two stages of a reflective conversation suggested by Schön (1983; 1987). Schön's description of a reflective conversation only included problem setting and experimentation (see Figure 1). Although Schön does not allocate a separate stage for strategy generation and evaluation of experiments, he does acknowledge their importance. For example, evaluation of experiments is embedded in his experiment stage. However, the omission of a separate stage for strategy generation is a possible weakness of his theory. The theory of reflection developed in the present study is more similar to the four-stage theory proposed by Argyris (1982). Argyris's theory includes the four stages of discover, invention, production and evaluation (see Figure 2).

The main difference between the Argyris (1982) theory and the one developed in the present study is the language used to describe the stages. Different terminology was used in the present study to more accurately represent the data that was collected and to allow for direct comparison to Schön's theory which served as a conceptual framework. Issue setting and experimentation are used because they are more consistent with Schön's (1983) terms of problem setting and experiment, rather than Argyris's discovery and production. Furthermore, issue setting includes, but is not exclusive to a process of discovery. Issue setting in the present study includes both a process of discovery (identification of an issue) and a process of framing an issue (why it is

considered an issue). Strategy generation is used instead of invention because not all strategies are 'invented.' Invention implies construction of a new strategy to address an issue (Argyris) but in the present study strategies were occasionally generated from another source such as a coaching peer or coaching materials (books or videotapes). Lastly, evaluation is a term used both by Schön and Argyris, and most appropriately describes the process used to judge the effectiveness of experiments.

Another difference between the theory developed in the present study and those of Argyris (1982) and Schön (1983) is the flow of movement between the stages. Although all three theories suggest a clockwise cycling through the reflective conversation, a return to the issue setting stage was not found in the present study (see Figure 4). In both the Argyris and Schön theories there is a return to the preliminary stage of discovering or setting of the problem (issue setting). This process is referred to as reframing of an issue (Argyris et al., 1985; Schön). There was no evidence to suggest that the coaches in the present study returned to the issue setting stage once a reflective conversation was initiated. The coaches were not found to reframe, as defined by Schön, a coaching issue once it was initially set (identified and framed). Based on the results of the present study, the flow of movement between the stages of evaluation and experimentation can also be reversed when virtual world experiments were conducted (see Figure 4). This possibility was not discussed by either Argyris or Schön.

Perhaps the most notable difference between the theory developed in the present study and those proposed by other researchers, and the most significant contribution to theories of reflection, is the exposure of the internal mechanisms in the reflective process (see Figure 4). Numerous theories of reflection have been presented in the education literature (e.g., Argyris, 1982; Clarke, 1998; Knowles et al., 1994; Schön, 1983). However, no theory has gone beyond a

surface, or global, description of the stages in the reflective process. This limitation is cited as one of the major weaknesses of research on reflection (Calderhead, 1989; Clarke). In the present study, each stage in the reflective conversation was explored to shed light on previously uncharted territory. This micro-analysis of reflection provides insight into what actually occurs when an individual reflects. Other than the experimentation stage, which Schön divided into virtual and real world experiments, other studies have stopped short of examining the options used by individuals when they proceed through the stages of reflection. In Calderhead's review of the research on reflective teaching, he concluded that reflective teaching (and reflection) was in danger of remaining nothing more than a widely used slogan unless research was conducted to unpack the reflective process, "it is clear that the processes of learning to teach are complex and, at present, inadequately conceptualized...a clear conceptual grasp is required of what the processes of reflection involve"(p. 49). Therefore the results of the present study extend previous theories of reflection by illuminating the internal structure of each stage in the reflective process in the environment of youth sport coaching.

Research with expert, or model, coaches of elite sport hints at the possibility that the stages in a reflective conversation found in the present study may explain how sport coaches in other contexts develop competence through experience. For example, in Salmela's (1996) study of 22 highly respected and knowledgeable coaches of provincial, national and Olympic teams in Canada, at least three of the four stages of the reflective conversation are evident. Because Salmela did not focus on uncovering the experiential learning process, only brief discussion was allotted to the topic. However, he found that all of the coaches engaged in reflection to learn from experience, referred to as a process of "drawing lessons from mistakes" (p. 32). In his description of the process, the three stages of strategy generation, experimentation and evaluation

are clearly evident. A quotation from Salmela is used to support this conclusion, with the terms used in the present study inserted into his statement: “many learned by trial and error [reflective conversation], by coming up with a plan [strategy generation], applying it [experimentation] and evaluating the outcome [evaluation]” (p. 31). Although inappropriate to make widespread generalizations from six case studies to other coaches, and particularly coaches at other levels, a comparison to other research on coaching provides support for the transferability of the findings.

Chain of discovery. A reflective conversation is often described as a spiral, or chain of reflective cycles (Argyris, 1982; Knowles et al., 1994; Schön, 1983). In the present study, however, frequent breaks in the chain were found. Yet, when a coach needed to return to a chain and reinitiate a reflective conversation on the same issue, he or she would pick-up the conversation where it was previously broken. Therefore each chain that related to one issue typically comprised numerous cycles through a reflective conversation, that provided a chain of dialogue that could be traced back to the original issue setting stage. When multiple episodes of reflection are strung together and viewed only from a global perspective, the reflective process may appear as a single example of reflection. Furthermore, when viewed retrospectively a single example of reflection may appear to be responsible for significant discoveries, referred to as a sudden ‘aha’ experience (Gruber, 1981).

As illustrated in the present study, and supported in other research on experiential learning and the reflective process (Clarke, 1998), discoveries are instead typically the result of repeated episodes of reflection connected to each other. Reflection and experiential learning appear to comprise multiple cycles of reflection strung together by reflective themes (Clarke). Numerous cycles through a reflective conversation are conducted until ‘suddenly’ a strategy or idea is discovered. What now may be reported as a single episode or discovery was likely a series of

multiple episodes nested within a global theme of reflection. This process appears to underlie all major discoveries, “The thinking person goes over the same ground many times... This multiplicity of perspectives grows slowly through hard work and sets the stage for the *re-cognition* we experience as a new insight” (Gruber, 1981, p. 57-58).

The results from the present study, and supporting evidence from the literature in education and psychology, may explain the difference between coaches who learn through their experiences and coaches who simply accumulate experience. Reflection has repeatedly been advocated as an important process for coaches (and teachers) to enhance their professional repertoires (Knowles et al., 1994; Martens, 1997; Posner, 1996; Smith & Smoll, 1997). Reflection is important, but connected reflection is critical. If cycles of reflection are not connected by reflective themes (Clarke, 1998), an individual could easily repeat the same experiments (same mistakes) year after year when similar issues of practice are experienced. Dewey (1910) long ago discussed the importance of ‘connectedness in growth’ for reflection and experience to serve as meaningful learning opportunities.

The successive portions of the reflective thought grow out of one another and support one another; they do not come and go in a medley. Each phase is a step from something to something - technically speaking, it is a term of thought. Each term leaves a deposit which is utilized in the next term. The stream or flow becomes a train, chain, or thread. (p. 2-3)

Conditions on the Profile of a Reflective Conversation

Although all of the case study coaches engaged in reflective conversations to address coaching issues - with its four stages of issue setting, strategy generation, experimentation and evaluation - the profile of a reflective conversation often varied both within and between

coaches. The profile of a reflective conversation was found to depend on: (a) access to peer sounding boards, (b) stage of learning, (c) issue characteristics, and (d) environment.

Access to knowledgeable peer sounding boards. Similar to Kruse's (1997) study with teachers, consultation with peer sounding boards was based on three criteria: trust, respect and expertise. For example, all of the case study coaches worked with a coaching staff that included one or more assistant coaches. If assistant coaches were not accessible, or not highly regarded for their coaching knowledge, then a coach would often seek a peer sounding board outside of the immediate coaching staff (e.g., a parent), and even sometimes outside of the team (e.g., other coaches).

The value of consulting with knowledgeable peers has frequently been advocated, both in the literature on experiential learning and on coaching (Beynon, 1994; De Marco & McCullick, 1997; Schön, 1983; Smith & Smoll, 1997). Research with teachers, coaches and self-educated adults provides empirically based justification for the merit of peer consultation (Brookfield, 1981; Francis, 1995; Hatton & Smith, 1995; Kruse, 1997; Salmela, 1996; Tough, 1966). For example, Brookfield completed a study of 25 highly skilled adults who achieved competence in various domains without formal training. He found that the primary, or most valued, source of information was peers, "subjects would mention influential books and magazines but would preface these comments by declaring that their 'real' source of information was their fellow enthusiasts" (p. 21). However, to date the role of peers has only been described as an option for strategy generation, either in the form of advice seeking or reflective transformation. Therefore, the present study makes a unique contribution not by revealing peers as pivotal consultants in the experiential learning process, but by providing insight into *how* peers serve as sounding boards in numerous ways and at different stages in a reflective conversation (see Figure 4). There were

three different roles that peer sounding boards could serve at the strategy generation stage alone (advice seeking, joint construction, and reflective transformation).

The important and diverse role that peers play in the experiential learning process can be nurtured through community-based sport associations. Although coaches are often expected to consult with members of their coaching staff such as assistant coaches (e.g., Smith & Smoll, 1997), the results of the present study demonstrate that in the youth sport environment this option is not always feasible, nor preferable. The results also show that if a member of the coaching staff is not selected, the coaches will find a peer sounding board elsewhere if possible (e.g., parent, league administrator, other coaches). However, not all youth sport coaches will have access to peer sounding boards outside of their team either. A similar warning has been expressed in the public school teaching environment (Beynon, 1994; Kruse, 1997; Schön, 1983). For example, only some of the teachers in Kruse's study of teachers from three different schools were "lucky enough to have well informed and thoughtful colleagues. Unfortunately, other teachers in this study were not as lucky. Their colleagues were not as well informed or predisposed to be helpful" (p. 59). This limitation is magnified in the youth sport environment where coaches do not work in close physical proximity to their peers (e.g., a school building). Youth sport coaches are volunteers who have only limited access to coaches outside of their own coaching staff. Similar to the teachers in Kruse's study, only some of the coaches in the present study were 'lucky' enough to have access to knowledgeable peers.

Two suggestions are presented here to increase the access to coaching peers: issue discussion meetings and coaching pods. Both of the associations in the present study (soccer and ice hockey) held meetings with their coaches throughout the season, but the meetings were sporadic and primarily focused on league or team administration. Time could be allocated during

these meetings to allow coaches to discuss current issues. This type of meeting would likely be effective if used in conjunction with journal writing (see earlier discussion). Coaches could be asked to bring their journals with them and use the opportunity to openly discuss and reflect on how to address any pressing dilemmas. Besides the obvious value of fostering communication and collaboration between coaches, no additional cost need be incurred by the association if the discussion groups are included in already scheduled meetings. In addition, by providing coaches with opportunities to discuss real issues experienced in their everyday coaching, the discussions will have greater significance for the coaches. Schön (1983) concluded that individuals will pay more attention to information that has immediate and personal meaning for them, or when their 'operative attention' is high. Although it can only be speculated, this could be one of the major reasons why large-scale coach education programs often have little or no impact (Gilbert & Trudel, 1999a; Siedentop, 1990; Woodman, 1993). In large-scale coach education programs information is presented out of context and coaches are asked to discuss hypothetical coaching situations, thereby increasing the likelihood that their operative attention is low.

The other suggestion for community-based sport associations is referred to as coaching pods. In youth ice hockey and soccer, there is generally more than one team per age group. The coaches of teams within the same age group could form a peer network and discuss coaching issues as they are experienced. The most senior, or competent, coach in each age group could be assigned the responsibility for periodically checking-in with the other coaches and coordinating group discussions. Because of their size, coaching pods would be flexible and adaptive to immediate concerns. Furthermore, coaching pods would provide opportunities to share ideas among coaches working with athletes at the same stage of development. A similar idea has recently emerged in teacher education programs where a group of preservice teachers is sent to

the same school for their practicum experience (e.g., Lock, Munby, Hutchinson, & Whitehead, 1998). By working in the same school in a sort of teaching pod, the preservice teachers have many opportunities to discuss their practice dilemmas and share strategies.

Stage of learning. There is evidence to suggest that most of the coaches in the present study started their coaching careers in an acquisition stage of learning, and gradually shifted towards a construction stage of learning. Each of the case study coaches indicated that with their perceived development as a coach, they gradually decreased their reliance on coaching materials.

This proposition is consistent with research on elite coaches (Fleurance & Cotteaux, in press; Salmela, 1996) and teachers (Calderhead, 1989; Munby & Russell, 1989). For example, Munby and Russell's research on reflection and the development of knowledge for teaching provides numerous examples of how reflective teachers have evolved in their reliance on 'expert' sources for generating strategies. An example of the evolution they discovered is presented with one of the teachers (Nancy) from their research. They concluded that Nancy's professional growth as a teacher paralleled her shift away from books and expert advice to creative thought. Their conclusions closely parallel the results of the present study.

The shift in preference for sources of strategy generation, from acquisition to construction, found in the present study and the research on teaching can be extended even further when compared to theories that explore different types of learning (e.g., Rumelhart & Norman, 1978). Over 20 years ago Rumelhart and Norman proposed a continuum of human learning consisting of three types of learning. The three types of learning they proposed were labeled accretion, tuning and restructuring. Accretion is the simplest form of learning where facts are acquired and stored in long-term memory. The second type of learning, referred to as tuning, is more complex and involves refining existing knowledge structures (schema) based on new information. Lastly,

restructuring is considered the most complex type of learning because it involves the creation of new schema. Restructuring can be considered analogous to the 'aha' experience where one appears to gain a sudden insight or discovery, but is really based on many hours or years of accumulating, revising and reflecting on experience. When the findings of the present study are viewed in relation to the three types of learning suggested by Rumelhart and Norman, the coaches appear to have evolved from an accretion type of learning early in the development of their coaching repertoires, to a restructuring type of learning.

Grimmett (1989) proposed a similar continuum of learning. Grimmett focused on reflection as the underlying process of all types of learning but concluded that reflection guided learning, and practice, in three different ways: (a) reflection as instrumentally mediating action, (b) reflection as deliberating among competing views of practice, and (c) reflection as reconstructing experience. In the first perspective the reflective process is used to acquire and apply authority-based knowledge (e.g., from texts, clinics, videos). In the second perspective, a practitioner will seek out competing action strategies and reflect on them before selecting what is considered an appropriate strategy for his or her unique and specific practice dilemma. The third perspective is most closely aligned with Schön's (1983) conceptualization of reflection. Reflection transforms practice, and experience and knowledge are reorganized, or reconstructed.

A practitioner's position on the continuum of learning stages may also be influenced by his or her approach to learning, also referred to as a learning orientation (Calderhead, 1989). Although all of the case study coaches were found to reflect on their practice, there was a difference in the extent of their reflection. Schön (1983) also found varying degrees of reflective practice. He concluded that the most reflective practitioners possess a special type of quality of practice referred to as artistry. Schön discussed the concept of artistry with an example of a

reflective teacher. It is evident from his explanation of artful practice that a reflective practitioner will internalize challenging practice dilemmas, seeing them as deficiencies in his or her professional practice as opposed to externalizing them as deficiencies of others, or placing them beyond the realm of personal control.

An artful teacher sees a child's difficulty in learning to read not as a defect in the child but as a defect 'of his own instruction.' So he [sic] must find a way of explaining what is bothering the pupil. He must do a piece of experimental researcher, then and there, in the classroom. And because the child's difficulties may be unique, the teacher cannot assume that his repertoire of explanations will suffice, even though they are 'at the tongue's end.' He must be ready to invent new methods and must 'endeavor to develop in himself the ability of discovering them.' (p. 66)

Schön's (1983) description of how an artful teacher internalizes challenging practice dilemmas is remarkably similar to comments from the most reflective coaches in the present study. For example, one of the soccer coaches (Jennifer) had an athlete that was extremely disruptive throughout most of the 1997 soccer season. Instead of viewing the dilemma as solely a result of an athlete deficiency, she regarded it as a personal inadequacy of her coaching. Although the issue persisted and her frustration mounted, she refused to terminate the reflective conversation and her attempt to generate an effective coaching strategy. Jennifer proceeded through at least seven separate, yet connected, cycles of reflection in her attempt to resolve this issue.

So your gut reaction is to say 'Take a hike, I don't need this headache. These kids are not going to be pulled down by one that doesn't want to put the effort in and is going to pull away from my energy.' Because that is what it does, it just drains you and as an individual,

as a coach working with a group where you have one who is just ruffling feathers and being disruptive. But on the other hand I was also looking at it as a challenge and saying, 'All right, where am I failing here to be able to maintain his interest and desire to participate?'

LOOKING BACK, WOULD YOU STILL HAVE SELECTED THAT PLAYER FOR YOUR TEAM?

Yes. Because I know a little about his socioeconomic background and I know that the mother is doing her utmost to keep him off the street and have him involved. I almost feel that it is a social responsibility to keep a kid like that. So I look at it as my inadequacies if I can't capture him. [Jennifer, Validation interview]

A coach's learning orientation, in turn appears to be influenced by his or her experience in the sport. Moreover, it is the combination of experience as a coach and an athlete. The two coaches with the most years of experience as competitive athletes (Richard and Jennifer) relied on coaching materials less than any of the other case study coaches and preferred to evaluate the experiments on their own (self-evaluation). In fact, these two coaches were the only two who had not accumulated an extensive personal library of coaching materials. Their many years of experience as athletes, watching and learning from their coaches, likely influenced their learning orientation. This proposition is also supported in research on teaching (Barnes, 1989; Powell, 1992). Before they enter teacher education programs, most teachers will have spent at least 12 years in the public school system as 'teacher-watchers.' This extended 'apprenticeship of observation' has been found to influence most beginning teachers' approach to learning to teach.

The four examples provided in this discussion (present study, Grimmett, 1989; Rumelhart & Norman, 1978; Russell & Munby, 1989), from different theoretical frameworks and different fields of study (psychology, education, coaching), all point to a continuum of learning stages.

Although it can only be proposed because of the type of data collected in the present study, coaches' professional growth appears to mirror the processes described in the literature on human learning and reflection. The existence of a continuum of learning stages, and learning orientations, was only unearthed late in the data collection and analysis process. Only by completing all the preliminary analyses, creating comprehensive case summaries, and reviewing the findings from a global perspective, was it possible to 'see' a learning continuum. In terms of case study research, this discovery reinforces the critical importance of periodically 'stepping back' from the data and looking at the big picture. For the field of coaching, the continuum of learning described herein should be considered tentative until further research validates its existence and clarifies boundaries between stages on the continuum.

If the continuum of learning stages proposed in the present study is supported in future research, this breakthrough can have important implications for coach education. The likelihood of a continuum of learning stages, and a coach's position on it, could be used by course conductors of large-scale coach education programs. Although coaches may enter the program from different learning stages and learning orientations, the content and structure of the course is pre-set and fixed. If coaches could be assessed at the beginning of a course to determine their stage of learning and learning orientation, perhaps the course content and structure could be modified to fit the profile of the coaches entering the course.

Issue characteristics and environment. The type of issue, and the challenge of the issue, are two issue characteristics that influence the profile of a reflective conversation. This finding is consistent with the description of how practitioners generate strategies dependent on the type and challenge of the issue experienced (Argyris, 1982; Schön, 1983). The relatively routine, or less puzzling issues, are analogous to the high hard ground of professional practice described both by

Argyris and by Schön. The most challenging issues of practice don't lend themselves well to generating strategies from sources such as professional materials or personal repertoires. Argyris and Schön believed that model practitioner's engaged in a reflective conversation only when non-routine and challenging issues were experienced.

The environment in which a youth sport coach 'works' also appears to be an important condition of a reflective conversation's profile. For example, if a coach perceives a restriction on his or her freedom to be creative and experiment with new strategies, then he or she may rely less on creative thought as a source of strategy generation. Instead, the coach may shift to a reliance on existing strategies from his or her repertoire that have been tested and proven to be safe and acceptable.

The influence of environmental variables on a practitioner's freedom to reflect and engage in creative thought was also discussed by Schön (1983; 1987). Schön concluded that institutional environments that were open, cooperative, and nurtured creativity would be conducive to reflective practice. He provided the example of a typical American public school as a contrast. The public school system was not considered conducive for reflective practice because of its knowledge transfer model of education and organizational structure. Public schools were typically regarded as conservative and most attempts by teachers to reflect-in and on dilemmas of practice were viewed as threats to the system, "the freedom to reflect, invent, and differentiate would disrupt the institutional order of space and time" (1987; p. 333). Schön's observations were supported by comments from teachers who had participated in some of his projects.

An awareness of the type of environment that is needed to nurture reflective practice is useful for community-based youth sport associations. By developing shared visions and objectives, through communication with parents, coaches, administrators and athletes, an environment

should be created in which practice dilemmas should not be viewed as weaknesses or coaching deficiencies, but instead should be shared and openly discussed. Coaches may then be provided discretionary freedom to reflect and invent novel strategies. Individuals responsible for structuring the environment of youth sport must ask themselves a similar question to that posed by school principals in Schön's discussion. They "would have to ask, in framing their own roles, whether to 'let a thousand flowers bloom' or advocate their own standards of excellence" (p. 335). In a youth sport environment conducive to reflective practice, role frames and coaching strategies could then continually be evaluated and restructured.

Part II: Synopsis of Discussion and Implications

In the second part of the discussion chapter, a summary of the discussion points and implications for research and coaching is presented. All of the information presented in this part of the chapter has been previously discussed in Part I; no new ideas are presented here. Instead, the purpose of this synopsis is to leave the reader with a concise overview of the major contributions of the present study, both to research and practice.

Contributions to Literature on Experiential Learning and Coaching

The present study provides empirical support for the widely held belief that challenging issues of practice serve as critical triggers for a reflective conversation. This reflective conversation is central to the process of learning in and from experience. Support for the proposition that only certain types of issues trigger a reflective conversation in model practitioners is also provided (i.e., the 'low swampy' ground issues). The present study makes a unique contribution to the literature by providing concise definitions of three types of reflection (reflection-in-action, reflection-on-action, and retrospective reflection-on-action). The type of reflection documented in the present study is mostly restricted to reflection-on-action. A

different methodology is required if an attempt to record episodes of reflection-in-action is launched. Although reflection-in-action is a popular theory, Schön's (1983) description of the process remains the most detailed in the literature. Because he has not described his methodology, and the limitations of studying interactive cognitive processes, it remains to be seen if reflection-in-action can be reliably documented.

The present study makes another new contribution to theories of experiential learning and reflection by providing an in-depth description of the stages in the reflective process. For the first time, the different options that can be employed at each stage in a reflective conversation have been explored and documented. Furthermore, insight into the important role that peers can play in the reflective process has also been provided. The present study goes beyond merely supporting previous studies that have shown that peers are critical in the experiential learning process, to demonstrate *how* peers play different roles at different stages in a reflective conversation.

In relation to the literature on coaching, the present study provides portraits of how model coaches in the youth sport environment frame their role as a coach. Although many of the role frame components advocated in the coaching literature emerged, the present study makes the unique contribution of providing empirically based examples of actual role frames. The present study also provides a first step towards unpacking the frequently cited conclusion that coaches learn through experience. Perhaps the study's most notable contribution, however, to the field of coaching is not the confirmation that coaches do indeed learn through experience, but an explanation of *how* coaches learn through experience. In addition, based on a review of other coaching studies, the reflective conversation found in the present study appears to be valid in other coaching contexts.

Avenues for Future Research in Coaching

Based on a review of the findings of the present study, four directions for future research are suggested. First, the impact of common coaching strategies, such as benching, on athlete psychological development is needed. Perceptions of athletes appear to be a missing link in our understanding of the coaching process, particularly related to the use of coaching strategies. Second, the influence of the competitive level and gender of the athletes on how coaches frame their roles requires further exploration. More insight is needed to explain why coaches bracket their approach to coaching based on athlete characteristics. In relation to athlete gender, this is a particularly important line of inquiry considering the high number of male coaches who dominate youth sport coaching and the increasing dropout rate of young female athletes. Third, although the reflective conversation discovered in the present study appears to be valid outside of the immediate study, it is much too early to trumpet it as a definitive theory of how coaches learn through experience. More research is needed to explore the validity of the theory of reflection, particularly with coaches in different contexts such as recreational youth sport, elite level sport, and coaches of individual sports (e.g., track and field, tennis, gymnastics). Lastly, the existence of a continuum of learning stages for youth sport coaches needs to be explored in more detail. An understanding of the developmental learning continuum can have widespread practical implications for coach education program designers and course conductors.

Implications for Coach Development

Based on the small sample, limited to ice hockey and soccer, these suggestions should be viewed as exploratory ideas more than definitive directions for improving coach development. First, developers of coaching materials and coach education programs should consider using an issue-based approach. By structuring coaching texts or programs around the common types of

coaching issues experienced by youth sport coaches, and frequently used strategies, these resources can bridge the gap between coaching theory and coaching practice. Coach education programs could also provide opportunities for coaches to explore how they frame their role as a youth sport coach. Examples of role frames of model youth sport coaches in the present study could be shown as templates or guides for beginning coaches. Furthermore, frame analysis exercises would be valuable to help coaches surface and evaluate their own role frames. The last suggestion directed at coach education program leaders relates to the stages of learning and learning orientations discovered in the present study. If course conductors could assess the learning stages and orientations of coaches when they enter a course, efforts could be made to modify the course to fit the profile of the coaches entering the program. At the very least, an awareness of the existence of different stages of learning and learning orientations, and how they can influence the learning process, can help course conductors when they are preparing to teach a course.

Part II of this chapter concludes with suggestions for administrators of community-based sport associations. This is an appropriate ending point because community-based sport associations are the closest link from the present study to coaches in the field. Because of their size, it is difficult to initiate changes in large-scale coach education programs. Furthermore, not all coaches enter large-scale coach education programs or refer to coaching materials such as books and videotapes. Therefore, it is in the community-based sport associations where the implications of the present study can most readily be operationalized.

First and foremost, individuals responsible for organizing community-based sport associations should strive to create an environment that nurtures the reflective process. Youth sport coaches need to feel comfortable with exposing and sharing their issues with others.

Coaches also need freedom, within reason, to engage in creative thought to generate and experiment with novel coaching strategies that may not fit the standard model of coaching. To further support reflection, community-based sport associations could encourage journal writing as a valuable exercise for professional growth. Lastly, the importance of having access to knowledgeable and respected coaching peers is critical to facilitating the reflective process. Structuring an environment that provides access to peers should be a priority for community-based sport associations. Two peer-related options that can be easily implemented, and have minimal or no cost, are issue-discussion meetings and coaching pods. At the very least, implementation of these two strategies may generate more communication and collaboration between coaches in an association. It is hoped that these suggestions will be realized in some form, with the ultimate goal of assisting youth sport coaches cultivate the learning opportunities inherent in their experience.

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Appendix A

Sample of Focus Group Node Report

Q.S.R. NUD.IST Power version, revision 4.0.
Licensee: Wade Gilbert.

PROJECT: PhD, User Wade Gilbert, 3:56 pm, May 11, 1999.

(8 1 3 1) /Focus Group/Issues/Athletes/CO

*** Definition:

Lack of commitment / responsibility. Includes attendance and tardiness, discipline.

+++ ON-LINE DOCUMENT: Hockey focus group

+++ Retrieval for this document: 15 units out of 879, = 1.7%

++ Text units 46-51:

*M6: This situation here, I think, basically was a discipline thing.

The kid was wrong, wouldn't listen, so that was the reason he was missing his time on the ice and so the parent didn't agree with me and confronted me in the parking lot and he was about two inches away from my face shouting at me, when I told him to cool-down and talk to me in 24 hours. Then he started to walk away.

++ Text units 508-511:

*M4: Actually another point too, that he brought up earlier, was

just, as part of discipline again, even more to do with the sportsmanship part of the game, it is if you say a bad word, it costs you a buck. At first at couple of the parents were, What do mean a

++ Text units 559-563:

*M3: To think of one example, just give one example, we had a

player who caused a fight in the stands and continued to take that out into the parking lot and he was finished right there. He had already had one chance. That was the end of his, and it was just a few days before Christmas too, but that was the end of it.

+++ ON-LINE DOCUMENT: Soccer Focus Group

+++ Retrieval for this document: 99 units out of 864, = 11%

++ Text units 8-22:

*M1: Well right off the bat, the first thing that comes to my mind is

player-parent commitment. You know once you get a team, everybody at tryouts, when you are at the competitive level, everybody at the tryouts are very keen, they are fully focused, they are great, then sometimes after you form the team you find out that the commitment isn't there and you have very good levels of degree of commitment. This is, I think a bigger problem at the recreational levels than in the competitive teams, but it is still I think an issue everywhere and sometimes it is the player, sometimes it is the parent. It can range from whether they show up on time or at all or whether they...

*F1: Whether they call to let you know if they are not coming.

*M1: Or also if they are there in spirit or they fool around. So I think sort of commitment is a big issue.

*M2: I think that is very true and even though at the beginning you

++ Text units 51-60:

it is to add on to that issue that it is hard, and then what is the recourse for you as a coach if it does happen that the player doesn't show up, the player misses out. You have a checklist and you say, Ah, Look, and you try to penalize but maybe it is not the child, it is

the parent you know. They are not up front with you, there is divorce cases, or separation, and so it really is, there is a lot to contend with all of a sudden you know.

HAS ANYONE ELSE HAD THAT SIMILAR EXPERIENCE?

*F2, M3, M4: Yeah, yeah.

++ Text units 73-94:

*M4: I think maybe I've been a bit fortunate in that respect in that

I've got a bunch of kids, you know most of them have been with me for two or three years now and they play soccer in a year-round basis now, for most of them that is their prime sport. But even at that you still run into problems. They are all keen, they all want to be on the team, they all want to play, but I'm going through a phase right now actually where we ran this 10 kilometre race on the weekend and I told them three weeks ago right, three times a week, you start off and you build up to twenty minute runs and thirty minute runs and forty minute runs. Now I'm 48 years old and I haven't run a 10 kilometre race in ten years and I finished ahead of half my team so obviously it is maybe familiarity breeding contempt. These things can be difficult to deal with, you know you give them a program, they are 14 year old kids, you expect that they will show some responsibility but they don't. It is what I'm dealing with right now.

*M2: Bringing on the discipline to go along with how far can you

go and how are they willing to really buy into this sport is the sport that you are really enthusiastic about and motivated about and you spent a lot of time, is it at the same level as the other ones? Soccer, relatively quite new in some respects compared to other sports, the longevity that we have had hockey, we can't compare that, but

++ Text units 108-110:

*M4: I think to get back to the commitment issue, again, what I find

is that I don't have a problem getting them to come out to practices. Practices are very well attended and they know that if

++ Text units 150-152:

that respect in my experience. The commitment of the kids seems very good, they are really keen to play. I have to brakes on them almost. That is one of my problems right now. But for me almost, I

++ Text units 206-215:

*M3: One of the other points that I thought that Len touched on, and

correct me if I'm wrong Len, was the issue of discipline and self-discipline, or was it motivation.

*M4: Yeah.

*M3: I mean it was motivation sort of tied into the issue of how to get into the head of a 14 year old in terms of self-discipline.

*M4: Yeah. You try to treat them like adults I guess. I mean, each year they are going to get older so you expect that if you say go and run three times a week, they will go and do it. Especially when they know...

++ Text units 375-377:

*M2: Absolutely, but then I come back again, where is your commitment? Where is your availability and ability? You have

draw a line here.

++ Text units 410-412:

*F1: Sometimes thought it just comes down to the parents are going

to cottage for the weekend and you are 12 years old so you are going and you are not coming back.

++ Text units 419-420:

*M2: Well you try to find alternatives. I mean this year because

there was no one willing to help out in the fundraising. If there is a

++ Text units 473-474:

*F2: There is still always, what we found is that it is always the

same parents volunteering and that happened last year so what we

++ Text units 581-591:

*M2: The issue of the boys versus the girls, I find that there is more

volunteers on the boys side to help out with either assistant coaching and I find it difficult more on the girls side where it is all the mothers who drop-off the girls and the majority of them have not had any sports oriented type of, not soccer, it would be great if it was soccer, but not any other kind of sport experience, and they are not there even too interested to watch them. So, in trying to get them motivated in helping out in any way as far as the practice setting up, what not, it was... Last year I had more fathers who were willing to help out who came out, but this year, I hardly see any fathers. The only one I have is the equipment manager. But in

++ Text units 691-700:

*M1: But there are always kids, there are always situations though

that you come across and there are no, like I had, a couple of years ago I had a kid who was, I was not exactly sure what the problem was, we never got into it very much, but she was developmentally challenged in some way and, you know, extreme shyness, very difficult to coach and there is no, I think a lot of the coaching standards are based on average kids, you know. I had one boy I coached who extreme, who was extremely aggressive, he was 7 or 8 years old, and he was hyper and aggressive and his mother just told me to yell at him and I couldn't do that. So I think that there

++ Text units 724-728:

*M1: We are not in the problem section here, but the over-

commitment of a lot of kids who are exceptional athletes. They are not just in soccer, they are in a million things and piano and things like that. You know, I haven't seen a lot of material that deals with that.

+++++
+++ Total number of text units retrieved = 114
+++ Retrievals in 2 out of 50 documents, = 4.0%.
+++ The documents with retrievals have a total of 1743 text units,
so text units retrieved in these documents = 6.5%.
+++ All documents have a total of 27089 text units,
so text units found in these documents = 0.42%.
+++++

Appendix B

Focus Group Coding Matrix

Sample 1: Issues

Sample 2: Strategies

Focus Group Coding Matrix B (Within Group) - Issues

Issue (Code)	COMPLAINTS ABOUT PRACTISING TIME	Rating
Extensiveness (how many different coaches)	2	***
Internal consistency (do coach(es) change their mind)	✓	***
Consensus (do other coaches agree or disagree)	no supporting comments	***
Intensity (language, type of words)	weak/neutral ("some parents")	*
Specificity (detail, specific examples)	real, but not specific	**
Notes		
Global Rating	Level of importance: *weak **strong ***very strong	**

Focus Group Coding Matrix B (Within Group) - Strategies

Strategy (Code)	ATHLETE FINES/ MONE TARY + PHYSICAL	Rating
Extensiveness (how many different coaches)	4 coaches	****
Internal consistency (do coach(es) change their mind)	✓	**XX
Consensus (do other coaches agree or disagree)	many supporting comments	***X
Intensity (language, type of words)	Strong "works well" "no problems"	***X
Specificity (detail, specific examples)	very specific accounts	***X
Notes	great example many supporting comments	
Global Rating	Level of importance: *weak **strong ***very strong	***X

* code parts to AG strategy

Appendix C

Background Interview Guide

Section A – Coach

1. Experience as a coach in this sport, distinguish head coaching from other positions.
2. Experience as a coach in other sports.
3. Experience as an athlete in this sport.
4. Coaching development: certification, clinics, resources (books, videos, other coaches, self-directed learning activities).
5. What is your conception of a coach's role at this level? Does this role differ in games and practices?

Section B – Environment and Athlete

6. Do you have a coaching staff or assistants? If yes, discuss their role both before and during practices and games.
7. Describe the team/athletes you currently coach (ability, characteristics, expectations).
8. Do you have any objectives for this team for this season?
9. Describe a typical week in your current coaching position (i.e. schedule, meetings).
10. Describe a typical practice session (i.e. when you arrive, routines, drills, what happens after the practice).
11. Describe a typical game (i.e. when you arrive, routines, what happens after the game).

Section C – Coaching Issues

12. What are some typical coaching issues that you have to address as a youth sport coach in this sport?
13. What coaching strategies do you use to address these issues?
14. How did you develop or acquire these strategies?
15. Have you had to deal with any coaching issues with this year's team yet?

Appendix D

Sample Team Document - Hockey Coach 2

Our Expectations from the Parents

Players are expected to work hard on the ice at all times (Games & Practices). Coaching staff works on the bench (game), on the ice (practices), as well as off the ice (dressing rooms, away at tournaments etc). We see the **TEAM** as one nucleus, where every member of the Team (players, coaches, manager, trainer, parents etc) are one. However, much more work, support and cooperation will be required from persons surrounding the Team.

This support and cooperation has to come from you the **PARENTS**. The following points are what we "as coaches" are expecting from the parents:

- to encourage the players (not only their son but all the players) with positive attitude regardless of wins or losses;

- to get the players on time (games and practices). We expect the players to be fully dressed 15 mins prior to games and or practices;

- to respect our time with the players; ie we need 15 mins to talk to the players before each game/practice (match plan) and 10 mins after game/practice (recap on the game). No parents are to be in the room during that time frame;

- any conflicts or complaints should be formulated as soon as possible and preferably be resolved at our level. It would be appreciated if you could wait at least 24 hrs prior submitting your complaint (to protect our feelings);

- support the team/players from the bleachers but please don't tell them (players) what to do or what they should have done. This is our job;

- If a player can't make it (games and practices) we would appreciate to be notified A.S.A.P. (a minimum of at least one day before the activity(not 10 mins prior);

- to have the players attending every game and practice. Practices are sometimes more or equally as important than games;

- to inform us of any medical condition pertaining to their son (medication etc) and to fill the proper form (when distributed);
- to help the team with fund raising: All parents are expected to be active with the fund raising campaigns. Every dollars counts. Corporate sponsors are welcome, especially large ones;
- Dress code: Players' dress code for all games is white turtleneck and black pants;
- Practice jerseys: each player will be assigned to a line and color; and
- during the season, if you have any suggestions regarding the welfare of the team, please let us know.

Our expectations from the players

Each and every player will be requested to respect and follow these rules:

- to give 110% effort at all times (games and practices);
- listen attentively to coaching staff (drills, rules, lessons etc);
- to understand and accept that this is a "**Team Effort**" and that all players are as important as himself. This is not a single individual effort but the sum of everyone's effort and hard work. Any win or loss will directly result from the team work put into it;
- players will be told and will be asked to keep in mind that the first goal of this season is to "**have fun**". The learning of the game, the development of their individual and team skills, the winning of a game will follow;

- players will be required to constantly demonstrate a **"Positive Attitude"** and to accept defeat and frustration. Emphasis will be put on sportsmanship, respect of their team mates (no criticizing of other players - everyone has something to learn) as well as respect for their opponents;

- no bad or abusive language will be tolerated (on ice, on the bench or in the room) and especially during tournament, away games etc;

- respect of the officials (no bad mouthing or answering back) as well as respect to the coaching staff and any other team assistant;

- all players are responsible for supplying their own tape;

- to reflect a good image upon **themselves and the team**;

- all players will be requested to minimize horseplay in locker rooms, dressing rooms, hallways, lobby's and public areas (at home or other arenas);

- when entering the dressing room, hockey sticks are to be placed (side by side) on the wall near the entrance door. Hockey bags will be stored under the seats;

- to keep the dressing room clean (no damage, etc). After games or practices, no tapes or any other objects will be left on the floor;

- in order to prevent injuries, there will be no walking around while getting dress or undress;

- players are responsible to ensure that they bring the game jerseys (both jerseys) and hockey socks to every game. This is very important for having the correct colour for the game. **As a minimum standard, Jerseys are to be cleaned once a month (washing and drying) and players should pay attention to their equipment on a regular basis; and**

- if unhappy, to report any problems and talk to the coaches. Don't wait.

What Parents and Players can expect from us

- Parents as well as all Players can expect our total undivided dedication and attention to the team and each player;
- to teach each player more about the game while **having fun**;
- to treat each player on an equal basis. No favoritism;
- Each player has the right for equal ice time;
- Parents and players will be informed of any changes as soon as they are known to us ; and
- Although we will strive to have a winning team, **having fun is definitely priority number one.**

Positions and Services Proposed

The following is a list of positions and proposed services opened to volunteers who would like to assist us and more importantly the **TEAM**:

Team Manager

This is certainly the most important position required to obtain a smooth and well orchestrated team. Duties vary from conducting liaison with other associations for Tournaments, Exhibition Games, keeping the parents informed of changes through efficient communication (verbal/written) and financial management.

Team Trainer

Another important position is the "trainer". The trainer has the responsibility of ensuring that a "first aid kit" is always available during games. Because he is on the players' bench he is the first person to go on the ice to attend a player in case of injury. The trainer must be qualified in **First Aid** and either have the **Trainers' course** or be willing to take it (the Association will reimburse course costs).

Time Keeper/Game sheet Recorder

Like in any hockey association, we must supply a time keeper and a game sheet recorder for every game. Both functions can be learned very easily. It would be preferable if we could establish a pool of trained people that can be relied upon to do the job (it is not fair to have the same people constantly doing it). Time keepers are considered as minor officials and thus are to remain neutral during the games (i.e. no coaching or cheering from the sidelines).

Penalty Bench Assistant

Although we should not have a lot of penalties, we will need a volunteer who will be at the penalty bench for every game. This will prevent argument(s) between players awarded penalties and will ascertain that no time is lost when the player goes back on the ice or his bench once the penalty is over. Again, this is not a task which is hard to learn and more than one person is welcome to volunteer.

Emergency Response Team

This team will be responsible for identifying and reducing risk to our players. The team will be made up of a Risk Manager (Team Trainer), Control Person (Coach and or Assistant-Coach) and a Call Person (Team Manager). Their primary responsibility will be:

- be familiar with each rink's emergency facilities and equipment;
- take control of the emergency situation until proper medical authority arrives;
- know the location of the emergency telephone, have a list of emergency telephone numbers; and
- be able to give directions to the arena and know the best route in and out of the arena.

(Note) - Although the team will be mainly composed of the coaching and management staff, parents are more than welcome to inform the team of any potential risk that has not yet been identified by the team. Suggestions are always appreciated.

Fund Raiser

Proceeds from any form of fund raising will go to the TEAM in order to subsidize costs for our tournaments, exhibition games, end of year team party, etc. The recommended fund raising events are: Skate-o-Thon, Raffle Tickets and 50/50 Tickets for home games (Samples of last year's tickets are available).

DISCIPLINE

HORSE PLAY

NO HORSE PLAY AT ANYTIME IS ALLOWED, ON OR OFF THE ICE.

WHEN A PLAYER IS HORSING AROUND, IT IS DANGEROUS NOT ONLY TO HIMSELF BUT TO OTHERS AROUND HIM, NOT TO MENTION THE DETRIMENTAL AFFECT THIS HAS ON THE GAME OR PRACTICE SESSIONS.

TO CURTAIL THIS SITUATION, WE HAVE ADOPTED A TWO STEP APPROACH:

FIRST - THE PLAYER(S) WILL BE WARNED

SECOND - THE PLAYER(S) WILL BE ASKED TO LEAVE THE ICE AND UNDRRESS

FIGHTING

NO FIGHTING WILL BE TOLERATED EITHER AT PRACTICES, HOME GAMES AND OR AWAY GAMES/TOURNAMENTS.

IT TAKES TWO TO TANGO. BOTH THE INSTIGATOR AND THE RETALIATOR WILL BE SENT TO THE DRESSING ROOM FOR THE REMAINDER OF THE GAME OR PRACTICE.

IF THIS HAPPENS, THE COACHING STAFF WILL TALK THIS OUT WITH BOTH THE PLAYER(S) AND THE PARENT(S).

PLAYERS WILL NOT BE ALLOWED TO RETURN TO THE ICE UNTIL THE COACHING STAFF HAS INFORMED THE CONCERNED PARTIES THAT IT IS PERMISSIBLE.

COACHING PHILOSOPHY

OUR COACHING PHILOSOPHY IS TO DEVELOP SKATING AND HOCKEY SKILLS AND EMPHASIZE TEAM PLAY WHILE HAVING FUN.

- WE INTEND TO ESTABLISH PLAYER POSITIONS AS EARLY AS POSSIBLE
- DISCOURAGE PUCK HOGS AND ENFORCE TEAM PLAY
- PROVIDE AS MUCH AS POSSIBLE EQUAL ICE TIME FOR ALL PLAYERS
- FIGHTING WILL NOT BE TOLERATED AND MAY RESULT IN GAME(S) SUSPENSIONS.

"IMPORTANT REMINDER"

ALL PLAYERS ARE REQUIRED 1/2 HOUR BEFORE EVERY GAME OR PRACTICE & TO BE DRESSED 15 MINS PRIOR TO GAMES AND OR PRACTICES

HOCKEY SEASON

DURING THE SEASON PLAYERS WILL HAVE APPROXIMATELY 35 HOURS OF ICE TIME FOR PRACTICES AND CLOSE TO 50 LEAGUE GAMES. TIMINGS AND LOCATIONS WILL BE PROVIDED IN DUE COURSE.

THERE IS AN OPPORTUNITY FOR EXHIBITION GAMES AND OUR PARTICIPATION IN APPROXIMATELY SIX TOURNAMENTS. TWO TOURNAMENTS ARE PLANNED TO BE OUT-OF-TOWN, E.G. PEMBROKE IN NOVEMBER 1997 AND LAKE PLACID IN MARCH 1998.

TOURNAMENTS

THE ASSOCIATION WILL PAY FOR TWO OR THREE TOURNAMENTS. TO QUALIFY FOR THESE SUBSIDIZED TOURNAMENTS, WE AS A TEAM WILL HAVE TO PARTICIPATE IN FOUR BINGOS. ALL PARENTS MUST PARTICIPATE IN AT LEAST ONE EOVV BINGO. DRESS FOR WORKING AT THE BINGO IS: WHITE SHIRT/BLOUSE, BLACK PANTS.

WE WOULD LIKE TO TRY FOR AT LEAST FOUR ADDITIONAL TOURNAMENTS THROUGHOUT THE SEASON. DATES AND LOCATION ARE TO BE CONFIRMED.

FUND RAISING ACTIVITIES

There will be some fund raising events during the season. With respect to fund raising activities, all participants shall do their utmost to ensure:

- that younger groups have responsible adult supervision;
- that players/participants use the "buddy system" and are instructed to obey all "No Solicitation" signs, "Beware of Dogs" signs and other instructions/signs of home owners;
- all players/participants are instructed not to enter a house without their "buddy" and not to enter garage facility;
- that door-to-door canvassing is conducted in the player/participant's neighbourhood only whenever possible; and
- that the fundraising activity is safe and free of hazards from traffic or other adverse conditions.

HOCKEY TAPE

ALL PLAYERS ARE RESPONSIBLE FOR SUPPLYING THEIR OWN TAPE.

PROBLEMS WITH COACHING STAFF

IF AT ANY TIME DURING THE SEASON YOU HAVE A DISAGREEMENT WITH THE STAFF, WE WOULD ASK THAT YOU FIRST WAIT AT LEAST 24 HOURS BEFORE DISCUSSING THE MATTER. THEN APPROACH US WITH YOUR CONCERNS.

NAME TAGS

NAME TAGS ON JERSEYS WILL BE USED.

VOLUNTEERS

THE KEY FOR A SUCCESSFULL SEASON IS WITHOUT A DOUBT "THE ASSISTANCE OF VOLUNTEER PERSONS". THIS TEAM AS WELL AS THE ASSOCIATION RELIES HEAVILY ON VOLUNTEERS IN ORDER TO FUNCTION PROFESSIONALLY AND EFFICIENTLY. ANY FORM OF ASSISTANCE WILL BE MOST WELCOME.

COMMUNICATION

ANY INFORMATION RELATED TO THE TEAM (INCLUDING CHANGES IN SCHEDULE) WILL BE COMMUNICATED AS SOON AS POSSIBLE. PARENTS AND PLAYERS WILL BE NOTIFIED EITHER VERBALLY OR IN WRITING. MEETINGS WILL BE CALLED WHEN NECESSARY SINCE SOME EVENTS MIGHT HAVE TO BE DISCUSSED AND AGREED BY ALL. SINGLE DECISIONS RELATED TO SPECIAL ACTIVITIES (PARTIES, TOURNAMENTS, ETC) WILL NOT BE TAKEN ONLY BY THE STAFF. PARENTS WILL BE INVOLVED IN THE DECISION MAKING PROCESS. EFFICIENT COMMUNICATION (BOTH WAYS) WILL CONTRIBUTE TO MINIMIZE CONFUSION AND LAST MINUTE SURPRISES.

SCHOOL WORK

PLAYERS SHOULD BE REMINDED THAT THEIR "SCHOOL WORK" SHOULD BE THEIR PRIORITY NUMBER ONE. IT IS TOO EARLY AT THAT AGE TO CONSIDER A FULL HOCKEY CAREER. IF PARENTS NOTICE THAT THEIR CHILD IS EXPERIENCING DIFFICULTIES WITH THEIR GRADES, THEY SHOULD NOTIFY THE COACHING STAFF. OUR POINT OF VIEW IS: **SCHOOL FIRST, SPORT SECOND.** BECAUSE THEIR IS AN END OF SEASON ASSOCIATION SCHOLARSHIP AWARD, THE COACHING STAFF WILL BE ASKING FOR HARD COPIES OF REPORT CARDS THROUGHOUT THE SCHOOL YEAR.

Appendix E

Sample Field Note - Game 1 with Soccer Coach 3

x ask if any troubles/issues dealt w/ in game.

7:27 1-2

7:35 reflecting w/ ass't.

7:37 half time

7:39 reflecting w/ ass't.

7:54 - discipline / sideline.

7:55 - may cancel game on Saturday because not enough players

8:08 2-2

8:12 3-2

8:12 Hats off, WHAT IS THIS?

8:20 3-3

Team has only gained one point in league play so far this tie. 0-3-1 so far.

PRACTICE JUNE 18 6:00 PM
HORNETS NEST

Appendix F

Sample On-site Interview with Coach H2

***INTERVAL 2 PRE-POST INTERVIEWS, H2, DEC 5 - 14**

***PRE-GAME 3, DECEMBER 5, 1997**

***TONIGHT YOU ARE PLAYING ORLEANS. HAVE YOU PLAYED THEM BEFORE?**

We did, we already played them. They beat us 1-0. We played a good game. We can beat this team. We had a lot of opportunities. We just didn't capitalize on them and they have a strong goalie, but besides that, we can take this team easily.

***OKAY, AND ARE YOU EXPECTING A FULL TEAM TONIGHT?**

I am missing one player. He is gone away on a trip to Florida. He will back tomorrow.

NO INJURIES?

No injuries, everything is good.

***OKAY, AND ARE YOU STILL SPLITTING EACH GAME FOR THE GOALIES?**

Yeah. Still doing that and they are playing excellent. No complaints.

***OKAY, AND HAVE THERE BEEN ANY ADDITIONS OR PLAYERS DROPPED SINCE I'VE BEEN HERE?**

No. Just line changes. Just switched some wingers, pairs of centers, just switched the lines around and then it is going good right now. There is a spark.

RIGHT ON. I HEARD YOU TIED AND YOU WON YOUR LAST TWO GAMES.

Yeah.

***OKAY, AND IS THERE ANYTHING ELSE GOING ON, ANYTHING SPECIAL ABOUT TONIGHT THAT YOU WILL BE DOING?**

No. Just the same gameplan. Just to skate, play your positions, to be disciplined and organized. Actually had a player suspended, he is back tonight. He got suspended last week for slashing, it was a really bad slash. So he was gone for two games. He will never do it again. It was kind of like unintentional, but, I would have suspended him too. It was a two-hander. So that cost us a game because he was thrown out the last five minutes of the game and it was 2-1 and they scored two goals on that power-play. So when I talked to the kids, I tell them not to go in the box and I always use him as an example, the situation of that game, how it doesn't help us when we get penalties. So we have been doing good so far without penalties, but besides that, everything is going good.

***POST-GAME 3 INTERVIEW**

***FIRST OF ALL, YOUR IMPRESSIONS ON THE GAME?**

Very, very upset. We started big, very big, but like I told the kids out of the game, out of 16 players I had tonight, about four or five kids came out to play and you can't win hockey games when you only have four or five kids. So I kind of told them, that is basically why we lost, the whole team wasn't in it. One line would go on and dominate that shift and then I would put out the next line and they couldn't even get out of our own zone. They just weren't skating or they weren't in it.

IS THIS A BIG DIFFERENCE FROM THE LAST COUPLE OF GAMES?

Yeah.

AND DO YOU HAVE ANY IDEA WHY OR WHAT YOU ARE GOING TO DO ABOUT THAT?

No. Well, I told the kids that if, it is getting a little bit annoying now because basically they are taking it as a ride. When they want to play, they want to play, when they don't, they don't. And for the ones who don't play when they don't feel like it, they hurt the other guys who do want to

play. So I told the players in the dressing room, maybe I am going to have benching a few players. It is not something I like doing, it is not something I believe in doing at this age, but you know, if they get punished, maybe they will understand and they will change their attitudes. Some kids have pretty poor attitudes on this team. I think that is more what it is because I know they can skate. I know they can work. It is just what they are thinking this day type of thing.

SO WILL YOU START TO BENCH PLAYERS?

I probably will after Christmas, because we have been doing this for about three months and since day one, constantly at practices and games, play your positions, skate and backcheck. Those are three simple things that I want them to do. And some of them still don't do it because they don't want to. So, I mean, after three months I think by now, because some of the players do do it now because I keep repeating it. They know that is what they should do. But for the ones that have the attitude problem, maybe they are going to wake-up if they have to sit off a couple of shifts.

BEFORE YOU SAID YOU DON'T WANT TO BENCH PLAYERS AT THIS AGE. IS THAT SOMETHING THAT YOU DECIDED ON YOUR OWN TO CHANGE?

Yeah, I just decided this just now.

LIKE JUST TODAY?

Yeah just today, because it is just getting ridiculous. Now it is getting ridiculous. I mean last year I just kind of had to say You could be benched, and they would go out and play because they didn't want to be benched, but these kids now, it is like okay, The coach gave me shit but it doesn't mean anything because I still get to go out and have the same amount of ice time. So I realized, well maybe I should start putting a little punishment with what I am telling them, so they know I am serious and they know that if they don't do it then they are not going to be able to play as much as the other players who do want to play.

I WILL HAVE TO FOLLOW THAT AND SEE HOW THAT GOES.

***ALSO, I NOTICED A COUPLE OF TIMES YOU MENTIONED POOR LINE CHANGE, OR NOT A GOOD TIME TO CHANGE.**

Yeah.

IS THAT SOMETHING UNIQUE TO TONIGHT? I KNOW WE TALKED BRIEFLY ABOUT IT BEFORE BUT IS THAT A RECURRING PROBLEM?

Some shifts, you know. And it happens to the ones who are not in the game, you know, who don't care, who say, Whatever, I am tired, I want to go off, but the puck is in our zone. So yeah, it happened maybe 10%, you know, sometimes it won't even happen during the games.

Sometimes we got the line changes going down to a fly. But it is more or less an attitude problem now than anything.

***AND ANYTHING YOU SAW TONIGHT GOING TO AFFECT WHAT YOU WILL DO IN PRACTICE?**

We will do a lot of skating. Defense had a weak game so we will take them aside for about 20 minutes or so individually and do his thing. There is going to be skating. I mean we had a lot of chances, a lot of chances. But the forwards kept doing too much of the stick-work instead of using their legs. So I think tomorrow I am going to concentrate more on going around a pylon or an object and just using your legs instead of going between the legs, the fancy Mario Lemieux stuff, you know. Because I mean, we had a lot of 2 on 1's, 1 on 1's, and they got stuck instead of just using their legs.

IS THERE ANYTHING ELSE YOU WANT TO ADD TO THAT?

I hope things start changing man (laughter).

Appendix G

Interval Summary Interview Guide

(Hockey coach example)

General Questions

1. How were coach certification programs that you were supposed to take, did you complete the programs, comments?
2. What are your reasons for coaching?
3. How long do you foresee yourself coaching hockey?
4. You often refer to past playing experience as source of knowledge. What role does that experience play in your development as a coach? Compare to other resources.
5. Said would watch videotaped game from [name of parent]. Have you watched it and how did you use the information?

Issues

6. Update on attendance. At the coaches meeting in November you said that it had come to a critical point. What measures were taken to deal with this issue?
7. You said you would include backchecking in every practice, where did you get these drills?
8. Have you had to speak with [name of player] regarding the discipline issue?
9. Update on player substitutions, length of shifts, any better?
10. Because of lack of scoring you said you decided to switch line combinations. Whose idea was it to make line changes? Was anyone else consulted when deciding on the new line combinations?
11. You mentioned several times that players were not playing their positions during games. You said you spoke to them – gave them a mouthful – after one game. Have you tried / developed any other strategies? Origin? Was this issue discussed with others?
12. After one game [name of player] slammed his stick in frustration, you said he had history of that. Has that been an issue for you all year?

Appendix H

Interval Summary Interview with Coach H1

*INTERVAL 2 SUMMARY INTERVIEW, H1, JANUARY 15, 1998

*I HAD THREE KIND OF GENERAL QUESTIONS BEFORE WE GET INTO MORE SPECIFIC ISSUES. ONE I SHOULD HAVE ASKED YOU WAY BACK BUT I MISSED IT AND THAT REALLY GETS AT THE HEART OF WHY WE ARE HERE. WHAT WOULD YOU SAY YOUR REASONS ARE FOR COACHING? WHY ARE YOU A COACH? WHY ARE YOU COACHING RIGHT NOW?

That is a good question.

YOU CAN TAKE SOME TIME TO THINK...

More and more we wonder why, right? Well...

I KNOW WE TALKED ABOUT IT A LITTLE BIT...

I guess originally I got involved because the programs my kids were involved in needed help. I think, there was a lot of mismanagement, poor leadership I suppose. People just weren't able to coordinate that well on ice and off. Some, just a lot of disorganization to the hockey programs and the children were the ones to suffer for it overall, and my kids were there so, and I like hockey. So I just wanted to get involved, so I would have more control of the situation, when I am the coach. Not to say I am the best for the job. Of course there are a lot of shortcomings myself, but at least I have more control of the environment, and that was a lot of it at the time. Now as you coach more and more, you have to grow with it and maybe carry on after the kids are gone. Yeah, there is a lot of joy in it, a lot of personal satisfaction I think, overall. You have some heartaches with it, but I think that was it. So in the beginning I enjoyed the sport, I liked to be involved to help, but then I wanted to have more control of the situation so then I upgraded through the coaching program, the clinics, and then we would just volunteer as head coach. Then there is nobody to blame but myself.

SO THAT IS REALLY HOW YOU GOT INTO IT BUT ARE THOSE THE SAME REASONS THAT YOU ARE THERE NOW?

Pretty well.

*OKAY. THIS IS SOMETHING THAT XXXX BROUGHT UP AND I NEVER WOULD HAVE THOUGHT ABOUT IT. HE HAD A PROBLEM WITH TRYING TO GET THE KIDS TO TIE THEIR OWN SKATES AND IT CAUSED A LOT OF HEART ACHE IN THE DRESSING ROOM AND HE WAS DOING IT AND THE ASSISTANT COACHES WERE DOING IT AND THEY WERE ALWAYS LATE. YOU NEVER MENTIONED THAT TO ME. IS THAT AN ISSUE FOR YOU? DO THEY DO IT THEMSELVES?

Most of mine this year, I still have two or three of them that get somebody to tie their skates. I'll torment them to death. Just from experience, usually the kids at age 11 can usually do their own, so there are a few in there, I mean, just out of badness, I don't give them a real hard time but I try to encourage them to do their own and keep the parents out of the dressing room. At the novice level I had, you get two parents designated, tell the kids to get dressed, get their skates on and ready to go, and then once they are done, then two parents would come in and sweep the room.

TWO DIFFERENT PARENTS I HOPE.

Yeah, most of the time. A lot of times you get the same ones, the ones that hang around and are standing outside the door ready to do it and they enjoy it. So that the coaches don't have to do it. Now this year the couple that I do have, sometimes XXXX will do the last couple because people are coming late, you know, stuff like that. So while I am preparing the team then they might be tying up the last pair just to speed it up a bit.

SO IT IS NOT REALLY A BIG PROBLEM THEN?

I, I mean it is just life, something you have to deal with. Like I say, I've got some new kids up from house league, if I had the same crew, all the kids I've got from last year do their own skates. I pushed them last year to do their own skates so they are programmed. But the newer ones, there are a couple there that are not used to doing it so they get dad to come in or mom.

I JUST BRING IT UP BECAUSE I SEE HOW IT COULD BE A PROBLEM AT THAT AGE GROUP.

The atom is the transition period. Definitely if I had the peewees there would be no parents. It is time for them to do their own.

*OKAY. ANOTHER THING THAT I HAVE STARTED TO SEE COME OUT WITH THE OTHER COACHES, WHEN THEY TALK ABOUT THESE DIFFERENT ISSUES AND HOW THE COACHES RESOLVE THEM AND DEAL WITH THEM, IT SEEMS THAT EVERY COACH TALKS ABOUT THE ROLE OF SOMEONE ELSE, A COLLEAGUE OR A PEER. IT COULD BE AN ASSISTANT COACH OR A PARENT OR AN OUTSIDE COACH, SOMEBODY THEY LIKE TO TALK TO TO HELP RESOLVE COACHING PROBLEMS. BUT I NOTICED THAT YOU HAVEN'T REALLY TALKED ABOUT THAT TOO MUCH, IT HASN'T REALLY COME OUT MUCH. IS THAT I JUST HAVEN'T NOTICED IT OR DO YOU PREFER TO DO THINGS ON YOUR OWN?

Well I got two good helpers so we have been able to resolve most. I've called XXXX, I usually notify him if there is something going on, but we have been able to deal with situations amongst the three of us.

BECAUSE YOU PROBABLY NOTICED THAT I OFTEN ASK IF YOU TALKED TO THE ASSISTANTS ABOUT THAT. SO WOULD YOU SAY THAT GENERALLY YOU DO SPEAK WITH ...

Unless something, well they will find out later. Like something if I get a call, somebody rant and raving. They will hear about it later because they might not be there to help deal with it. But they were there when we had the meeting with the parents. I wanted them there because they had their own views because they are dealing one on one with these players, a lot of times, especially during the games. They are at the gates, they are there. I am up watching the game and they have their own views and comments on what has transpired in different situations. I mean they are there, right at the trenches, they are the front line, they are taking some of the brunt of this, whatever the problems are. So I especially wanted them there. Some of the coaches I know, and they have had siblings, you know brothers of some players, because they will ask. I mean we all talk among each other, at times we pass each other in the hallway. Some of the coaches have been here for a while so they know a lot of the families, they will ask How is this guy? Yeah, I had the same problem with his brother. You know, that idea. And then usually the parent will come into the discussion. That always helps because then you know what you are up against sometimes, how the parents are going to react in certain situations. Networking helps at times.

BUT WOULD YOU SAY THAT WHEN YOU ARE FACED WITH AN ISSUE OR A CHALLENGE THAT YOU TRY TO DESIGN A STRATEGY OR RESOLVE IT FIRST ON YOUR OWN AND THEN GET FEEDBACK FROM YOUR ASSISTANTS OR DO YOU GO RIGHT AWAY TO YOUR ASSISTANTS AND SAY THIS IS WHAT WE HAVE TO DEAL WITH, WHAT SHOULD WE DO?

I have done both, it depends on the situation. Sometimes it is only me that has the problem. I have a strategy, I may ask for a comment, a suggestion...

BUT NOT ALWAYS?

No. But with these two more times than not they have been involved. Last year I had XXXX, and XXXX wasn't on the bench at that time but XXXX was. I was kind of in alone last year. But as time went on with XXXX last year, he became more involved. I pretty well dictated, ran the program, but he had a lot of suggestions here and then at times, but like this year, I made a point at the start of the year to tell them, You will be more actively involved in everything, because he may run the team next year, and they enjoy it because there is more harmony. Everybody has an input.

*OKAY, THAT TAKES CARE OF THAT. NOW GETTING ON TO SOME OF THE MORE SPECIFIC THINGS THAT WE TOUCHED ON ALREADY. WITH REGARDS TO THE PRE-GAME WARMUP, AND THE PREPARATION. YOU SAID YOU ONLY GET A MINUTE ON THE ICE SOMETIMES, NOT EVEN, AND THEY ARE NOT READY AND IT TAKES THEM HALF THE GAME TO GET INTO IT. YOU SAID THAT YOU SPOKE TO XXXX, OR HE SPOKE TO YOU ABOUT IT. HE SAID HE WANTED TO TRY A SONG, OR SOME PREPARATION THAT HE HAD USED WITH HIS MIDGET TEAM. HAVE YOU TRIED THAT?

No, I think he felt it was more suited for the older kids, that one. But he still, he helps get them pumped up sometimes. He has tried to liven them up a bit mentally, wake them up before they go out.

DO YOU FIND THAT IT HAS HELPED AT ALL?

Oh yeah, every little bit helps with this bunch. They are happy. They get along very well. The morale is there. Yeah, he will help get them going. They enjoy that.

DO THEY HAVE A TEAM CHANT OR ANYTHING?

Well there is a YYYY one that they use. They will use that leaving the dressing room, that helps.

SO XXXX HAS HELPED A LITTLE BIT THERE, IN THAT AREA. Yeah, more just before we leave the dressing room, get them going. We never did get to that stage, to use that song.

JUST BECAUSE IT IS NOT APPROPRIATE FOR THE AGE.

Yeah.

*OKAY. AND ALSO I NOTICED A FEW TIMES, AND YOU HAVE MENTIONED IT YOURSELF, THAT PLAYERS ARE LATE GETTING ON THE ICE FOR PRACTICES AND COMING AT THE LAST MINUTE, AND YOU SAID YOU MAY EVENTUALLY, YOU DIDN'T WANT TO BECAUSE YOU REALLY DIDN'T FEEL IT WAS THE KIDS' FAULT, IT WAS THE PARENTS' FAULT, BUT IF IT WAS REALLY BAD YOU WOULD HAVE TO BENCH SOMEBODY TO TRY AND SEND A MESSAGE. HAVE YOU HAD TO DO THAT?

No. I think the problem is still lingering. But they, you know, for the better part they are there. We are still getting started at five minutes after, it depends of

course on the time of the practice. I don't know. We went to the push-up routine and that sped them up.

PUSH-UPS?

Ten push-ups for every minute they are late getting onto the ice.

OKAY.

So that worked.

WHOSE IDEA WAS THAT?

Oh, I just kind of threw that in there. It just kind of came along because there were some, they didn't seem to be all that motivated to get out on the ice. When you got 12 of them out there and you are waiting for two, you say Okay, the big clock is at the end so I just wait at the gate and when they stepped on, two minutes, okay, 20 push-ups. So every little bit helps, I think it helped to encourage a few of them to get out.

DO YOU STILL DO THAT?

Oh yeah. Well my one goalie is really bad so XXXXX gets after him. Actually in the last two outings he has been ready, with not a lot of push. You don't rant and rave and make an issue out of it. There are a lot things you can say and do, kid around, a lot of subtle comments. And they all join in on it after a while and then it becomes a game, who is going to be ready first and last, stuff like that.

SO IT HAS IMPROVED THEN A LITTLE BIT?

Yeah, I think overall. There is still the odd one. I mean there is some it will come, they are just late, so they are scrambling. It is not his fault probably anyway.

HAVE YOU DONE THAT BEFORE WITH OTHER TEAMS OR IS THAT THE FIRST TIME YOU HAVE DONE THAT?

Well it is probably the first to that extent, I would always use one as an example, you know, coming out late and taking their time, stop the practice and everybody come over and watch, little Johnny is showing us how to do push-ups, but I've never, I mean, we are always trying new things, so that seems to work pretty well.

AND I GUESS JUST THE LAST QUESTION RELATED TO THAT, HOW DID YOU COME UP THAT IDEA TO BRING IN THE PUSH-UPS? DID SOMEONE ELSE TELL YOU ABOUT THAT OR WAS IT ON YOUR OWN?

Well you just kind of...

OKAY.

You just kind of fall into it, always thinking of little angles to come at them, to get them to do what you want them to do.

WOULD YOU USE THIS AGAIN, LIKE WITH SUBSEQUENT TEAMS?

Oh yeah, so then probably with another team it would be the first thing I do, and if that didn't work then I would try something else.

I WILL HAVE TO WATCH FOR PUSH-UPS NEXT TIME I AM OUT.

You just have to dig into the bag of tricks there and see what works for that group of kids.

*OKAY THANKS. ONE WE TALKED ABOUT, A WEAK DEFENSEMAN, WE TALKED ABOUT THIS A FEW TIMES, YOU JUST FELT HE WASN'T READY FOR THIS PARTICULAR LEVEL. YOU WERE OCCASSIONALY BRINGING UP A DEFENSEMAN FROM XXXX'S TEAM. SO, DID YOU END UP KEEPING THAT DEFENSEMAN ON YOUR TEAM?

Yeah, yeah he is still there. I moved him to the wing.

AND DO YOU FIND THAT THAT HELPED OR THAT IS BETTER?

He causes me less heart-ache on the wing, or the team, not me, because he was getting burned badly on defense, and I only had four defense. So that meant he was on 50% of the time so we just moved him up on the wing...

AND PUT A WINGER BACK TO DEFENSE?

Yeah, a fellow I had on defense last year.

AND AGAIN WAS THAT YOUR IDEA ALONE OR DID YOU DISCUSS THAT IN A GROUP?

No, I made that decision. XXXX probably would have suggested it but he might not, he likes to work with them, you know, and try to help them improve, and he was improving to a certain extent, but this young lad is very laid back. His attitude was So they score a goal every shift. It didn't bother him, so that is fine, that is good that he didn't get wound up about it. So I just put him up, in a place where he is less harmful. And he is improving. I told him, I talked to him about it before I moved him. I said, you know, I am trying to help you develop your skating a bit more and I think the wing will be the place, because they do a lot of skating on the wing. I mean, he has been doing alright. The first few shifts, I think he got a goal.

SO YOU ARE GOING TO KEEP IT THAT WAY FOR THE REST OF THE YEAR?

Yeah.

OKAY. DO YOU REMEMBER HOW LONG AGO YOU DID THIS? WAS THIS RECENT?

First part of December. Like I say I have limited resources so you just kind of do the best you can. I wouldn't drop him, I don't think, flat outright. The old story, you make your bed... I was talking to the AA guy, he wanted to drop four on me.

REALLY.

Oh yeah. He was fit to be tied with his group, but he knew he couldn't do that either really unless you have kids to come in to take their place, there is not much you can do. You can work it out amongst teams. If it came to that, if he picked up four that he wanted really bad, even if I had four he could use, you really have to sit down with the... and I would have to sit with XXXX, because now I am trying to drop somebody. You would want the parents. I mean everybody has to be in agreement.

ISN'T THERE A DEADLINE FOR MAKING CHANGES LIKE THAT?

End of January. You would make that decision in November anyway. But we just had a lack of players in our district so there really is nothing we can do. I talked to the South End coach and once they get started, same with XXXX, I mean, we had other political issues here on ages, on the age restrictions that they want. But the South End guy had two or three kids that should be on my team. But once that team is built, everybody gets pretty comfortable. He is not going to encourage his kids to move up. He has some goal scorers and skaters. Sometimes it is discouraging when you are trying to field an A team. I mean, there is the process there. In A you are trying to feed these two teams. B is development as far as I am concerned. You take as many as you can. I took 10 year olds last year to build for this year. So sometimes you win, sometimes you don't. So when you are trying to field this AA and A, I think that sometimes that should be the focus of your program, competitive anyway, that is the way I perceive it. Of course the kids have to want to be where they are at.

SO I GUESS A SOMETIMES YOU GET CAUGHT RIGHT IN THE MIDDLE.

Right in between.

*OKAY. ANOTHER THING WE TALKED ABOUT WAS THE ISSUE OF SHIFT LENGTH. SOME PLAYERS WERE TAKING TOO LONG. THEN

YOU MENTIONED THAT YOU DID ACTUALLY BENCH ONE PLAYER ONE TIME FOR THAT. AND YOU JUST KEEP REMINDING THEM ABOUT THEIR SHIFTS. AGAIN, WHOSE IDEA WAS IT TO TAKE THAT APPROACH?

Well it is my job there, I mean, I am in charge of making the decisions on player usage, for the better part. XXXX will sometimes jump in on the defense, because he kind of controls the defense because he knows who has been out, who is tired, because there is only four. So if, a lot of times he will look after the defense. Sometimes I will throw a forward back, we will make a switch. Okay, we got a powerplay, lets move XXXX back, because I know somebody is having a bad day and one guy is doing well, so put this guy out to support him. But when it comes to that, I am the one. XXXX will watch them, he will comment to them on that, but if there is any action to take then I will because I am in the middle, so I can shuffle them down to the end, the resting area.

AND OTHER THAN THAT ONE TIME HAVE YOU HAD TO DO THAT, DO YOU RECALL?

No. Overall I think their nuggies are getting the hang of it, they are not questioning me as much. This is a big change for those kids, all of a sudden we are changing our lineups. They are used to one line after the other, normal rotation. I've had some objections at time, like XXXX, he doesn't understand. He figures he is being disciplined or something. I say No XXXX, that is not the case. You stay here, you get ready to go next, but right now... So you know, it is all part of the learning curve for him. The others don't, they all understand because most of them went through it last year, not to this extent. I am being a little more competitive this year than last year. Last year I didn't do that much, like I said my philosophy has always been the B is development.

DO YOU FEEL MORE PRESSURE NOW TO FOCUS A BIT MORE ON WINNING THAN DEVELOPMENT?

No. For their benefit maybe, for them to be a bit more successful in a game because they know, most of them know their limitations now, their abilities. Because I've told, you know I've said now that we have penalty killing units, some are doing it better than others. So if we have a penalty and you get moved back, then there is a reason. And then you go out when we go five aside, that idea. You try to explain it to them as best you can so they understand it. And it only encourages them to try harder in practices, because now they see, a couple of them it woke them up – But now I can penalty kill coach! You get those comments. So I will say, Okay, you are right, get out. So they are thinking all the time, they are not just sitting there. There are some of them, they really have their heart in it, so that is good. When they will turn to me and tell me, then I know it is getting through and they try hard.

ACTUALLY WITH THE MAN ADVANTAGE, THAT IS ANOTHER THING I WANTED TO TALK TO YOU ABOUT. THE IDEA OF USING A PENALTY KILLING UNIT, WAS THAT SOMETHING THAT YOU THOUGHT OF ALONE OR WAS THAT A DISCUSSION AMONGST THE COACHING UNIT? BECAUSE I KNOW AT THE START OF THE YEAR YOU HADN'T PLANNED ON DOING THAT RIGHT?

Not at the beginning. If they are all able to do the job it makes your life a lot easier. We were getting, I mean there were penalties coming up and we were getting killed, so we had to work on it. I mean we did some last year but it didn't sink in that well. We are still very defensively oriented I guess as a team because we are trying to cut down the goals against to keep the game a little bit closer and then one day somebody will start filling the net.

WHO DECIDED ON THE PLAYERS THAT WOULD BE ON THE PENALTY KILLING UNIT? WHO SELECTED THE PLAYERS?

Well just from the games we played I guess. I mean all three of us see but I will pick who is going on next. I pretty well know that there are four or five of them that do really well.

AND THAT IS BASED ON YOUR OWN OBSERVATIONS?

Yeah, I guess, most of them. It is just more my observations. XXXX doesn't make a lot of those decisions, at this point. He is learning a lot. He is in that mode right now. He just says, You tell me what you want, where XXXX was there last year. XXXX knows hockey, so he will make suggestions on stuff like that. I think XXXX would next year, he would be able to jump in. He is still working on the gate there, he gets wrapped up in the action, the game itself.

*OKAY. WITH XXXX, YOU MENTIONED THAT HE HAD A BIT OF AN ATTITUDE PROBLEM AND YOU SAID YOU ARE JUST KIND OF KEEPING ON HIM ALL THE TIME. AGAIN, HIS SITUATION, IS THAT SOMETHING YOU TACKLED ON YOUR OWN?

Well I guess it is more me, now XXXX talks to him. XXXX talks to him a lot, the ones with the attitudes, one on one before games and even before practices sometimes he will go and talk sometimes, talk about the previous game. And I will talk to him. But I tell him that I am monitoring him. We had a chat one day, some of his outbursts, signs of frustration. I just tried to remind him that he is the captain and to keep his cool, he has to set an example. If he doesn't, of can't, then we will have to move the C to somebody else. There are a number of kids that are there that work very hard, very deserving. So that is ongoing, that will be until the end of time I think. He is one of those that is a good hockey player, but will always be like that. You just kind of have to work with him all the time. He is frustrated. He is not as successful as he wants to be. He has a big role on our

team, but he hasn't accepted his limitations yet. He wants to do too much, so I keep working with him to tell him use your linemates to take the pressure off yourself, throw it out to the winger, he is wide open. You know, that idea.

YEAH.

Feed little XXXX, if you see him there and he is covered, well throw it ahead of him, if XXXX can't get it, then go get it, if XXXX gets it, then get out in front. Little things like that to help him take the pressure off himself.

*OKAY. WHAT ABOUT, SAME TYPE OF QUESTION WITH XXXX. I KNOW YOU HAD A MEETING WITH THE PARENTS AND WITH HIM AS WELL. IS THAT SITUATION OKAY RIGHT NOW?

Well so far. I don't think it is a dead issue yet. He is still at practices there, he gets frustrated. I remember Walkley arena there, like the night you were there, he is still, he is another lad there that just, it is all how you view yourself, you want to do those things but don't have the ability. So I will keep doing those drills, need to progress from there, and it only helps them develop their skills too. He has to be able to accept that. I told him they have to work hard at it, if you can't do it... not to say that they won't do it, but you try to bring up a situation that they did become successful at. The start of the year you couldn't do this, after some practices you could do this, so this is the same thing, this is another skill that you have to work at, to develop. They will see each other and they see some that are doing it, that are successful at, but they can't do it and the other ones can so they want... that is just kids, growing up. They deal with it, some get frustrated and some will just dig in and work at it.

OKAY. THAT IDEA OF HAVING THAT MEETING WITH THE PARENTS, IS THAT THE ONLY PLAYER THAT YOU HAVE DONE THAT WITH ON THE TEAM?

Yeah.

AND WHOSE IDEA WAS IT TO SAY, OKAY WE NEED TO HAVE A MEETING....

We all had an agreement on that one.

OKAY.

The other two were getting frustrated, we just kind of, all at the same time said This is it. We've tried to deal with the player as much as we can without getting the parent involved. All three of us understood that, we assumed, but we have come to find out that the player had a lot of pressure from that side. And I made, I had a couple of conversations, go up in the stands and talk to the parents, we've

been making a lot of comments, just in passing. Throw your philosophy at them a bit...

SPRINKLE IT?

Yeah, just to let them know, so maybe they will catch it, take a hint, without coming right out and saying, Listen, get off the kid's back. As I stated at the opening meeting with the parents, I said, I want to be the focus of their troubles, to be the ogre. You guys stay in the stands there and cheer and be happy, throw flowers, you know, stuff like that. Let me be the bad guy. Most parents catch the drift right away. I had a couple of these last year that went through this so now they kind of understand a bit more where I am coming from, so there is that maturity on both sides of the ice.

OKAY, THAT TAKES CARE OF THAT.

*AGAIN, WITH THE MAN DISADVANTAGE, WHEN YOU ARE SHORT-HANDED, YOU MENTIONED ALSO THAT YOUR POWERPLAY IS WEAK AS WELL, SO WHY DON'T YOU USE A POWERPLAY UNIT LIKE YOU USE A MAN DISADVANTAGE UNIT?

I have a little bit of late. I am starting to get into it a little bit more, but I don't have a lot of skillful players to run a good powerplay, just as well use them all, develop them all at the same time, or try to develop them. They are very weak in puck control on our team, overall.

SO IT IS DIFFERENT.

Yeah, different situation. If I had a couple of lines worth of stickhandlers there it would be alright, but I don't, so I just try to work on them all. It is all I can do.

THAT SOUNDS GOOD.

*ANOTHER THING YOU MENTIONED TO ME WAS THAT SOME OF THEM ARE GETTING BETTER AT FORECHECKING, BUT THEN THEY DON'T HAVE THE SUPPORT FROM THEIR LINEMATES. SO THEY GET IN THERE AND FORECHECK AND GET THE PUCK AND THERE IS NO ONE ELSE TO HELP THEM.

Yeah.

ARE YOU GOING TO TALK TO THEM ABOUT THAT OR DO YOU WORK ON THAT DURING PRACTICES?

Oh we do, we have done a couple of drills here in practice just to show them where we want them and just, you try to explain to them that it is a, read and react, read and react, it is judgment, how you respond. If you have a guy in there,

you have to read the play, which way is he going, you have to be there somewhere. We want you to challenge that breakout before they get outside the blueline, the second man try and cut it off and that is where they are not, they are allowing them to get out too far before they challenge the other team. We've actually sat them in positions and done drills, dump it in and two guys in forechecking one guy, you know that idea. The centreman, we are trying to build around the centreman because they are typically your strongest players of course, on your team. I mean if they don't have enough upstairs, you are in a bind. You just have to keep working with them, try to develop that awareness, someone has to be there. If they don't have it, well you try to develop it. Games they will go out there and they are perfect, in there like stink, and then the next game you would never know they had a pair of skates on in their lives, just sitting out at centre ice. So it goes with the age.

*OKAY. AND LAST QUESTION. I REALIZE SOME OF THESE ISSUES ARE STILL HANGING AROUND SO IT IS NOT LIKE...

Probably will for the next ten years with some of them eh.

THIS IS WHY I ASK YOU ABOUT THEM BECAUSE I KNOW THEY ARE, YOU ARE DEALING WITH THEM ON AN ON-GOING BASIS AND THEY AREN'T REALLY GOING AWAY. SO I AM JUST KIND OF GETTING UPDATES ON THEM. AND THE LAST ONE, AT THE INTERVIEW THAT WE TALKED AFTER THE PRACTICE AT WALKLEY LAST TIME, YOU MENTIONED THAT YOU WERE GETTING TIRED OF ALWAYS DEALING WITH THE LOSS, SO YOU JUST TRY TO FOCUS ON THE POSITIVES WITH THE KIDS. I HAD A FEW QUESTIONS FROM THAT BECAUSE THIS IS THE FIRST TIME THAT YOU REALLY KIND OF MENTIONED THAT TO ME. OKAY ONE OF THEM IS, DO YOU CONSIDER LOSING TO BE A MAJOR ISSUE? IS IT EVEN AN ISSUE FOR YOU? LIKE YOU SAY YOU ARE GETTING TIRED OF THE LOSS. AGAIN DOES THAT COME BACK TO BECAUSE IT IS A LEVEL HOCKEY?

I don't think it is a serious issue, it is not the end of the world, and I've always tried to maintain that. Maybe it is just me, I was tired.

BUT YOU ALSO MENTIONED THAT THE PLAYERS ARE USED TO IT NOW, THEY ARE USED TO LOSING?

Well they are dealing with it a lot better, just the odd comment. There is not as many comments from them as there was at the start of the year, especially those that are new to the program, it was a building pattern there for a while but they seem to be dealing with it a lot better. And a lot of that is probably from being together because there is a lot of peer pressure now, talking amongst themselves, just go out and work hard and do their best. So I think we've got that point across for the better part. It is still, they have had some good games. The kids, from that

practice, we had that Monday night in Cornwall, that freezing rain night, they are really starting to look like a team now, you know. I have really noticed an improvement. It is unfortunate we have this break right now, because we will have a few days of rough hockey now, I know we will.

SO IT IS NOT THAT THEY ARE USED TO LOSING, IT IS THAT THEY CAN DEAL WITH IT BETTER?

Well they deal with it better now. The parents have been, for the better part, good. They are taking an active role now. They are going to the executive now over this lack of ice-time. They are aware of the fact that if we had more ice-time these kids would have won some games. We've had some games that were very close, you could see them cresting and then we have five days off and they drop. When we have a run of every second day or a run of four, they are ready to play hockey, and they play much better.

WITH GOING TO THE EXECUTIVE, THIS ISSUE OF ICE-TIME, THIS JUST RECENTLY CAME UP I GUESS? THE PARENTS KIND OF ANGRY...

Well I had a meeting, I wanted to prepare for Lake Placid and review the budget and blah, blah. I made a mistake, I left (interview interrupted by Pierre).

YOU WERE MENTIONING THAT YOU HAD A MEETING MORE FOR LAKE PLACID, IS THAT WHEN THIS CAME OUT THEN?

Well, they had a lot of time alone, you see we were having a practice, so I guess they started discussing and I mean, it had been brought up before too, and I told them, if you can find an hour, and we've done that, if you find ice anywhere, let me know. We will go to the executive and they will pay for it, it is just that the ice is not there. So they are frustrated. As I thought about it, I will have another comment to XXXX as this season kinds of wraps up, for next year is, we are fielding the A team for the city of Ottawa and there is a pr. issue there, you know, reputation. Canterbury's B team is getting twice as much ice as the Ottawa A team. The A team is a much better game and most people understand that. If you enjoy the game and the kid wants to progress, you are better off in the A league, for your dollar. And they don't take it from that perspective. Not to say that the A team should get more ice than the B team, maybe. You might want to maintain an understanding, where there is a minimum for the A teams. All the A teams in YYYY have the same problem right now, conditioning is a big problem. As far as I am concerned it is a big problem at that level. It is much more of a problem than at the B level because the game is more intense. Anyway, I will make my comments, there is nothing they will do about it this year.

SO BASICALLY THE PARENTS GOT TOGETHER AND WROTE A LETTER TO XXXX?

Yeah.

HAVE YOU SEEN THE LETTER?

Yeah, they c.c.'d me.

ARE THEY COMPLAINING ABOUT JUST THE LACK OF ICE-TIME OR ARE THERE ARE OTHER THINGS THEY ARE COMPLAINING ABOUT?

No, just the ice-time.

IT REALLY HAS NOTHING TO DO WITH YOU THEN?

No.

OKAY. JUST RELATED TO LOSING, ARE YOU USED TO LOSING?

Well I don't like it, I don't like it, but I've got a job to do, I have to accept the challenge. I guess on my own I get tired, it is frustrating because you have some games that are so close. I was more disappointed at the beginning, at the political side of it all, you know. Players that should have been on the team should have come out, Ottawa West people that should have been out for this team. We are feeding two AA teams. There are a lot of players that should be playing here but you can't force them, so I just kind of rationalize it out for my own mind. We just do the best we can and help those kids. I mean they have all progressed from day one. Playing that Blackburn team at Christmas helped them. Even though they are losing in the A league, they know they can beat the best B team. No doubt that they are not the best A team, but there are some A players out there and they are better than the B. We should have beat that Blackburn team.

OKAY, LAST QUESTION. DO YOU FEEL THAT THIS YEAR IS PERHAPS YOUR MOST DIFFICULT AS A COACH, OR MORE DIFFICULT THAN OTHER YEARS? I NOTICED THERE ARE A LOT OF ISSUES THAT SEEM TO BE COMING UP. DO YOU FEEL THAT YOU HAVE A LOT ISSUES THIS YEAR OR IS THIS TYPICAL?

A lot of it is typical. You deal more now politically because it is an A team, people expect more, even myself. At times your sights are set a little bit high, you have to bring yourself back to reality. My father-in-law calls me the eternal optimist because I see there is a spark of hope there and you see it all the time. You tell them Nice game, and a lot of time it happens, but not for three periods. Some of that I blame on conditioning, a lack of ice-time, cover all aspects of the game where they are lacking. I don't know, I don't, I am not one to worry about my own reputation. They can always get somebody else. It is not a big deal to me. I'd prefer if they were more successful. You always feel much better about what

you are doing if you are actually achieving something. The game against Blackburn, things like that, let them know, kind of keep the hope up.

THE ETERNAL OPTIMIST, I LIKE THAT.

Well, some other people don't look at it that way and then you are miserable, you might as well quit. They are there to play hockey and have fun, keep the fun in it, especially the fun. Like XXXX says, it has to be fun, and that comes back to why you get involved. Mr. XXXX says, when you go to the rink that you want to be there and you are happy.

MOST OF THE TIME EH.

If you are happy, they will be happy, win or lose. There are times when you want to curse everyone of them but they are a good bunch of kids for the better part, it is not that bad. So we are shooting, I mean my focus now is Lake Placid. We made a good showing last year as a B team and we should be hopefully in the same division this year.

END OF INTERVIEW

Appendix I

Member Check Interview with Coach S1

*S1 VALIDATION INTERVIEW, JANUARY 29, 1998

*I HAVE A FEW QUESTIONS FIRST RELATED TO MISSING INFORMATION.

Okay.

YOU MENTIONED THAT YOU TOOK SOME COURSES WITH XXXX HARRISON. HOW LONG AGO WAS THAT?

I took a winter coaching program which was a fairly high level program, I found it to be a lot better than the Level II course that I took. It was every Friday night over the course of the winter. I took that in 1996-97. Fairly recent. But with XXXX, I learned a lot in that course but what I've learnt from XXXX, XXXX has been out to his camps in the summer and we hired him to run our skill development program in the winter, I am there. So basically I am pulling a lot of information off of XXXX. So it is a combination of that course plus just the amount of time that I spend around him, or used to spend around him, just through osmosis.

*OKAY. PLAYER ATTENDANCE WAS ONE ISSUE THAT WE TALKED ABOUT. WHEN I LEFT LAST TIME YOU SAID YOU DEVELOPED A PLAYER CONTRACT.

Yeah.

AND YOU SAID THAT WAS THE FIRST TIME THAT YOU HAD DONE THAT...

Yeah, first time I have ever used a written contract.

DO YOU PLAN TO USE IT AGAIN BASED ON YOUR EXPERIENCE THIS PAST SEASON?

This year I am not the head coach, so I have kind of stepped back out of it a little bit. I am going back to University and taking a trip, so it is a big commitment and you need to be fully committed. I would feel guilty if I took on the responsibility and then just passed it on. So I will be the assistant coach this coming season.

OKAY, SO THAT IS YOUR PLAN FOR NEXT SEASON, BUT DO YOU PLAN TO EVER COACH AGAIN AS A HEAD COACH?

I don't know. There is some travel plans coming up over the next couple of years. I think about it a lot. What I would like to do is I would like to leave this age group and if I did coach as a head coach, go back and pick-up like a U10 or a U11 and work through with them. That is what I would do. I think I am going to be an

assistant coach probably for the next two years and then I would make a decision. I may like the freedom a bit too much, because a lot of the other things that we like to do, the camping, the hiking, we have put that on hold for 10 years. So I don't know. Who knows, I may jump back in. I may even just offer my services during the winter to take the kids out to do skill development and then turn them over to someone else for the summer program. That would allow us to do what we want to do as a family. And then I could also volunteer to help out when I am in town. So there are a lot of options to stay involved, but as a head coach, competitive soccer is a huge commitment, weekends.

WELL THE REASON I ASKED ABOUT THE CHECKLIST IS BECAUSE YOU SAID IT WAS SOMETHING NEW THAT YOU TRIED THIS YEAR AND I WONDERED IF YOU THOUGHT IT WAS BENEFICIAL?

Oh yeah. It was beneficial. I think it just kind of made them aware, I think. At this age I would use that again if I found it necessary. If I was coaching the same group of kids, if the circumstances hadn't changed, that would be distributed at the parents' meeting and requested to be returned back to me so that right up front they know what the expectations are and if you are going to be gone to the cottage for three weeks and then you are going to be gone on holidays for two weeks, then maybe you should be playing Division II or Greenbelt.

*HOW COMFORTABLE ARE YOU WITH THE LEVEL OF IDENTIFICATION IN THE PAPER?

Keep it anonymous, but I wouldn't change anything.

*HOW WOULD YOU SAY MY PRESENCE AFFECTED YOU OVER THE PAST SEASON? DID YOU DO ANYTHING DIFFERENTLY?

I would have to say that, yeah I thought about that a little bit. I think knowing basically what you were looking for, I think a lot of my dialogue I sort of had in the back of my mind and a lot of my dialogue was sort of targeted at the technical knowledge and information, that part of it, as opposed to other parts of the game. I think a little bit was reflected in the model as well. That was pretty interesting. There were some surprises in there. For me, I had to take a look at that and say, Well maybe, I mean for example I am looking at, I mean a lot of it is pretty accurate. I was really surprised to see this out here (fun), and that sort of cued me and I looked back on the season a little bit and it wasn't quite the same as other seasons. It wasn't as much fun as other seasons. So that may be accurate and so it makes me think maybe I was a little too serious. I know some of the kids on the team were serious and they were intent on doing well and finishing well in the league and developing their individual skills, and maybe I was taking that a little too serious as well. So that was interesting. I made some comments about the model. Even this is over a season, this is very fluid. This would change depending on a lot of factors, like if the players age, if this was two or three years ago this

would change substantially. Discipline is not really an issue for players at that age, they just want to get out there and do well and they will do whatever you ask them to do. And I think the fun thing would be in the centre and the discipline would flip out and emphasis on team would probably not be as important because you are trying to develop individual skills. A lot of it has to do with the makeup of the team. Number one – the age of kids. I found myself doing and saying things that I never had to say before because they were getting to that age where the teenage years are just starting to kick in and challenging and that kind of stuff. The level of competition would certainly affect this model. If you were coaching house league, or if you were coaching girls' soccer where the social part of the game, for a lot of them that is primary.

HAVING SAID THAT, WOULD YOU SAY THAT THE MODEL IS FAIRLY REPRESENTATIVE OF THE WAY YOU COACHED THE TEAM LAST YEAR?

Well I had a comment about modeling behavior, I thought it would be in the middle. Modeling behavior, a lot of that was established in previous years because I coached these kids for a number of years and things like language on the field, behavior on the field, sportsmanship, all that stuff had been established prior. And then the new kids in catch onto it pretty fast. So I really didn't have to spend that much time on it this year, although I consider it quite important. If anything comes up on the field I would definitely deal with it, yellow cards, red cards, etc. A lot of that in tournaments, the social behavior, acceptable behavior in restaurants and around other people and so on. Also, more through actions, through actions as much as through words and a lot of this is based on dialogue as opposed to just how you model behavior, like a ref makes a bad call, you may not be saying anything but your body might. Behavior standards are often discussed and reinforced through the parents because the parents are still a big part of their lives at this point. For example, we spent 30-40 minutes at the parents' meeting right at the beginning of the season discussing just what is acceptable and what is not acceptable as far as behavior is concerned and then I tried to follow, get a consensus from the parents and then tried to follow that. And I also made them very clear, as a coach, what I will accept and not accept. There was complete consensus on that. So that is not reflected in the model and I can understand why that is not there. That is about the only one, and it is a tough one to pick-up on. I mean modeling behavior, you can lecture kids until you are blue in the face but if you are not modeling it yourself then it is completely irrelevant, you are just a hypocrite. And I would say, this became an issue off and on throughout the season (discipline), so that definitely moved in here (in centre) where before it would have been out here. Even last year, there was only one time last year that I had to kind of tighten things up and it worked, and it worked so well and so fast that within a couple of weeks I could loosen up.

ARE THERE ANY OTHER THINGS YOU WOULD CHANGE ABOUT THE MODEL.

Some of these would change, like this year emphasis on team became important, but important because, attendance for example and commitment to other players on the team, 12 players and one sub going into a tough game, emphasis on the team is important. Also it can be used as a tool more now, peer pressure, you can use it to pick-up their work ethic in practice. So I would say that that is fairly important. And the discipline, I had to spend more time on that this year. Equity is always important, that doesn't matter what age, that is pretty critical. Safety becomes more of a factor now that they are getting older and more physical, faster. You have to learn proper technique. This thing...

THIS WASN'T THE PURPOSE OF THE STUDY.

Oh no, but this is interesting, and this would change at different times of the season as well. Like you are going into the playoffs and something like that, you have to get them more focused, more intense.

SO IT IS MORE FLEXIBLE THEN?

Yeah, it is almost like three dimensional. At certain times in the year discipline is an issue and it is not an issue and then all of a sudden something else comes to fore. I thought this was interesting. It was interesting for me to see somebody else kind of place my priorities. But this is one (fun) that I would hopefully learn from and say that I should have spent a little bit more time sometimes, maybe it would have been better to lighten up instead of getting more intense. There are different ways to accomplish your goals, maybe I was thinking one-track. We had a fun season. The kids, they seemed to have a fun season.

SO THE INFLUENCE OF THE PROJECT ON YOU AS A COACH, DO YOU FEEL THAT, DID I INFLUENCE OR CHANGE THE WAY YOU USUALLY COACH?

You didn't, well you didn't change any practice plans, there were other factors that changed what I would do in practice. I think you changed the amount of dialogue that I had with the kids. I tended not to talk as much as I normally do. I was just kind of subconscious about having a mic on. That would be in the practices. In the practices I would say that I would talk a lot more to the kids. In the games, I don't say that much. There is not much that you can change in a game. I think just sitting back and trying to get removed from the game and see what is going on and at half-time maybe one or two quick changes that you think might change the outcome of the game, as opposed to yanking players aside all the time and telling them this and telling them that. I don't think in the game situations I changed much but I would say in the practice I didn't verbalize as much.

AND IN TERMS OF THE PROCESS THAT WE WENT THROUGH, TALKING ABOUT THE ISSUES THAT CAME UP. IS THAT SOMETHING I KIND OF FORCED ON YOU, THAT YOU NORMALLY WOULDN'T DO, THINKING BACK AND REFLECTING? WERE YOU DOING THAT MOSTLY BECAUSE I WAS ASKING YOU TO DO THAT?

I never thought about that when I was going through the issues so I don't think...

BASICALLY WHEN YOU READ THE DOCUMENT DID ANYTHING REALLY JUMP OUT AT YOU AS BEING OFF?

No. These (issues) were all things that cropped up and had to be dealt with. These were things that XXXX and I observed. No, everything is fine there.

WOULD YOU SAY THAT AFTER HAVING READ THIS, DID IT CHANGE ANYTHING FOR YOU? THE WAY YOU MAY COACH IN THE FUTURE? LIKE THE FUN THING, TRYING TO INCORPORATE MORE FUN?

Yeah.

ANYTHING ELSE?

I would just say I think the model is fairly accurate, although it has to be fairly fluid and I think making it more fun, testing their limits and making it more challenging doesn't mean that you have to take the fun out of the game. That I think would be, in and of itself, worthwhile. If they aren't having fun, they are probably not going to stick with it. I could tell they had a fun season, but looking at it now there have been seasons where we have had a lot more fun, more social stuff, more team bonding and that kind of stuff.

*IS THERE ANYTHING ELSE IN THE DOCUMENT THAT YOU WANT TO COMMENT ON?

I made comments and then later on I realized that that was addressed later on. But this one here, coach's role is framed by ..., I would also consider individual and team goals. When they are really young, you need to establish those, but when they are, some of these kids had their own goals, so you have to consider the social aspect of the game, how important is that to the boys, to a group that is really tight, the social aspect of the game can be very important. Some teams the players come out to play and win games and that kind of stuff. Personal development, some of the kids are really keen on becoming the best that they can and some of them are just having fun and you have to try to balance that out. Individual goals, desire to play high quality soccer, not necessarily winning, but some of the boys really want to play on a good team and they value that. I can see some of them sometimes getting frustrated with some of their teammates. So you have to, as a coach, say okay, do I need to maybe need to respond to that. Maybe I

need to tighten things up and maybe I need to work on this a little bit or maybe that player just has things a little bit out of focus. So all of those things, all that stuff is coming in and you have to assess it. That affects your appreciative mindset, especially when the kids are hitting 13-14. With the older kids that will certainly determine how a coach deals with his coaching responsibilities.

***ANYTHING ABOUT THE LEARNING PROCESS ITSELF?**

Oh yeah, I had some comments about that. A large amount of time was dedicated to increasing coaching knowledge in the first three or four years until a comfort level was achieved. I put an awful lot of work in at the front end, basically because as a community coach, I got rooked into it just like everybody else. My son was placed on a team and I was given a phone call, if I didn't volunteer to coach the team might not run that summer. So baptism by fire, so now what do I do. Well, take some courses, get some books, watch some videos, and you load up at the front end and you get all this stuff going and luckily I sort of knew, because I was a teacher, I knew how to plan something and have a logical progression, moving from simple to more complex. So if they couldn't do this, you would have to step back and work slower and all that kind of stuff. So I wrote here, At this point, after 10 years, I am often relying on self-experience and self-repertoire when I am stuck. When I look back at the 16 issues that had to be resolved, 90% of them were resolved by either self-experience or self-repertoire and I think there were two or three with other coaches or coaching staff. Year one or two that would have been radically different. It would have been, Oh yeah, I have to go and consult this manual or this book or watch the video. If I wanted to do something on finishing I would have to go and watch a video and I would make notes while I was watching the video, or if I needed some drills I would go to a book and find some drills, or maybe talk to another coach or something like that. But once you get, you have used a lot of this stuff and it just becomes second nature and you know what works and what doesn't work.

WHEN YOU SAY YOU KNOW WHAT WORKS AND WHAT DOESN'T WORK, IS THAT BASICALLY THROUGH...

Trial and error.

KIND OF LIKE THE EXPERIMENTATION?

Yeah.

SO YOU EXPERIMENT WITH A STRATEGY AND IF IT WORKS YOU KEEP IT AND IF IT DOESN'T, THEN YOU TRY SOMETHING ELSE?

Well you don't necessarily try something else, like you have to modify an awful lot. You are always doing that as a coach, I mean even this group that I am working with now, very high skill level. We were playing a passing game that

was not working, it was breaking down, and Jim was starting to get a little frustrated because you know the level of the player and you start to think that they are just not focused and I could see that Jim was getting frustrated and I was more removed from the situation and he was more involved and I could see, I knew that if the grids were narrow, if we just made the grid another five or six yards wider, give them a little more space, it would work. I suggested that to Jim and finally, he let them go a little bit longer and then we did make the grids bigger and then bang, right away they picked up on it. Although at the level that they are at it should have been working. You just have to, you are always modifying, if something is not working, there is a reason for it, and it is not always the fact that the kids are not interested or not trying hard, it is just that something needs to be changed. That is just through experience. To tell you the truth, it is one of the key differences between a good coach and poor coach. Any parent can setup pylons and put them into a drill situation, but you have to be able to analyze. You have to be able to recognize when something is being done properly by the kids and if something is breaking down, that if it is breaking down and you can't figure out why, you've wasted a practice and the kids aren't learning.

ONE THING THAT CAME OUT WITH EVERY COACH SO FAR IS THIS IDEA OF A KNOWLEDGEABLE PEER TO CONSULT WITH.

Absolutely. There probably are some coaches out there without them, or at least they don't use them because there are some coaches who think they are the best thing since sliced bread and they don't need to consult anyone. I've seen that. We've got some pretty good coaches in our club, they take no courses. XXXX was holding these coaching clinics all summer on every Saturday. We would take one team and focus on one skill and XXXX would setup a complete practice and run through the whole practice and coaches were invited out to participate, and it was always the same three or four guys all summer long. It was really a waste of his talents.

*IS THERE ANYTHING ELSE THAT YOU WANTED TO COMMENT ON?

No, I don't think so (flipping through member check document). Oh yeah, the proposition here coaching director plays minor role in strategy development. I'd say minor DIRECT role, but I have absorbed so much from XXXX through osmosis, most of it free. This is good here (proposition about knowledgeable assistant coach). Having somebody with a lot of soccer experience, assistant coaches I've had in the past, they just kind of helped me setup cones and organize, look after the kids while I went to another group. While I was gone there was no analysis of the coaching. But with XXXX it was different, especially in the games. Like I would tell XXXX, just watch the game and just before half-time come and talk to me and we will compare what we observed. He was pretty sharp with his assessments.

SO THAT WAS DEFINITELY A BENEFIT.

Oh yeah.

YEAH THAT IS AN INTERESTING THING TO COME OUT TOO.

But the thing is it is so hard to find one competent qualified person who is willing to give up the time to coach a team, let alone get two of them together. I just happen to luck out this year. I say here for me it is both, coaching knowledge is acquired (as well as constructed). In the first, the time that I put in at the front end, but that is what I was doing at the front end, I was just acquiring, I was just trying to learn as much as I could and learn as much about the game and then you start to, you really start to construct it, and that may happen quicker with some people or it may not happen at all. Some people may still be acquiring the knowledge after many years.

THAT IS A GOOD POINT.

And it still is acquired you know. I still go back to my books now and then.

WHEN YOU TAKE SOMETHING FROM A BOOK, DO YOU TRY IT FIRST, EITHER TALK TO XXXX OR TRY IT ON THE FIELD? LIKE DOES IT AUTOMATICALLY BECOME PART OF YOUR REPERTOIRE OR DO YOU FIRST HAVE TO TEST IT?

At this point, I can tell, like I will go through my books and in one section I have 15 games on a shooting, I know which ones will work based on the age and the skill level of the kids I have. Out of the 15, maybe there is five that are appropriate. Out of the five maybe there is three that will focus on the type of finishing that I want them to focus on. Out of that, maybe two of them will work. After a while you get to know. Maybe one has too much organization, too much setup involved and you weed it out that way and then you try them out. But usually by that point, most of them will work and then once you try them out then you get into the modification on the spot. If it is a little too difficult, simplify it, break it down, maybe you are trying to teach them too much, break it down into smaller pieces.

THAT IS DIFFERENT FROM WHEN YOU FIRST STARTED COACHING?

Oh when I first started coaching, yeah, I mean, hey, here is a great drill on shooting, that looks good, I would set it up and the kids would go into it and they would go through the drill and I wouldn't really know whether it would work ahead of time or not, I would just hope. And then I would realize that it is not working and then you try to change it to make it work. Sometimes it would, sometimes it wouldn't. And then you would go back to the book. When you got home you would have to reflect on the practice. I did a lot of that. I would come back and say, Oh jeez, What went wrong? That didn't work, that didn't work, that

didn't work. And then you go back in and you maybe watch some videos or look in your books and you know that this was too complicated, find something that does the same thing but is more simplistic and then you record that down and then next time you would try that. So, I don't do much of that anymore. I did an awful lot of that, I did, maybe half an hour before practice and maybe half an hour after practice, just depending on how things went. If it went well, just mark on the sheet, it's a keeper. So a lot of acquisition for me.

***IS THERE ANYTHING THAT YOU FEEL IS MISSING FROM THE DOCUMENT?**

No, it was basically business as usual. I fairly like what I see there. I mean, it is pretty accurate. Based on the amount of time that we had together it is pretty accurate. I think if you spent a whole season with one team some of those things would change.

WHEN YOU SAY SOME OF THOSE THINGS WOULD CHANGE, CAN YOU GIVE ME AN EXAMPLE?

I think, I mean obviously a lot of the issues would change, not change, but you would just be dealing with a lot more issues. You would probably have to start categorizing issues into areas. Here you are dealing with 16 separate issues and of course in a season you may have 50 or 60 issues and then you start grouping them. I didn't feel that what you were trying to accomplish here was driving the agenda at all. It was just, these things were coming up, I was trying to deal with them, you were observing them and then you were asking me questions. It may have, it is hard to say, just asking me about them later may have just triggered my memory and got me thinking about them a little bit, but I am sure that most of those issues I would have dealt with in the same way.

***DID YOU END UP WATCHING THE VIDEOTAPES?**

Yeah, it was weird.

WERE YOU SURPRISED?

Yeah, it is very much different because when you are there the time goes by very quick because you are watching and you are thinking and, you know, when you are watching a drill you are analyzing all kinds of little things. In a game, you know you have to stop at some point and give some coaching points. But when you are watching yourself watching a drill, it is like, What is he doing? He is standing here for 10 minutes, he is not doing anything, that must be boring. But in reality there is an awful lot going on in your mind.

IS THERE ANYTHING THAT YOU WOULD CHANGE AFTER HAVING SEEN THAT?

Yeah, I think I would change, get back to talking more with the boys. I think I would probably spend more time stopping and just talking and making points and so on, just reinforcing. That is primarily what I got out of it.

DO YOU FEEL THAT YOU BENEFITED FROM THIS AT ALL?

Oh yeah. It got me thinking a lot about coaching, about my priorities and what I want to as a coach. Yeah it was beneficial. If I was head coach next year I would change some things next year, one of them I think I would give them some more fun or easy time. Dedicate an hour of each practice to technical or skill development and dedicate an hour to either just scrimmages or fun games. Watching those practices for two hours, you don't notice it when you are there, but the kids must notice it. You come to realize that they are doing a lot. So I think definitely more time would be given to letting them have some fun time.

END OF INTERVIEW.

Appendix J

Issue Checklist Matrix

Sample 1: End of season example

Sample 2: Mid-season example

ISSUE CHECKLIST MATRIX

COACH: (H3)

ISSUE: (P4) Goalie performance (week)

	DATA
Issue Setting	SE-JI (55-58) (491) (512-14) (402-03) (414-17)
Strategies	2 Pull goalie/bench during one game 1 Let goalie continue with new equipment 3 Try refocusing exercise/mental training
Strategy Generation	RE (482-84) (526) 2/3 JC (498-500) (491) 1/2
Experimentation	RW (500) (522-23) 1/2/3 (55-58) (420)
Evaluation	SE (526-30) (558) (495-97) 2/3 1 OT (60-65) (495-49) 2/3/4 1
PROCESS SUMMARY	IZ-JI SK-JC EX-RW EV-SE EV-OT SK-RE EX-RW EV-OT SK-RE EX-RW EV-SE SK-RE EX-RW

Good example of goalie coach role!

~~to examine~~

2:

ISSUE CHECKLIST MATRIX

COACH: H3

(p4)

ISSUE: ~~PTB~~ Goalie Performance

	DATA (517-20)
Trigger Event	TR-SN-SE (244-95) (511-12) (53-54) (402) (41-6) TR-SN-CS (403-04) (414-16)
Problem Setting	PS-ET (23-76) PS-WI (244-95) (513-16) (527-30) (581-82) PS-PT (538-46) PS-CL (526-32) PS-ET (711-12)
Strategy	1 Pull goalie(s) from game(s) 2 Let Dave play/continue with new puds 3 Get goalies (Dave) relax, forget about it
Strategy Development / Origin	1. ST-SR (542--44) (482-84) (510-514) ST-CS EX-RW (578-79) (56) BT-PA (59-62) complaint 2. ST-SE + (498-500) ST-CS EX-RW (501) 3. ST-SR (523-25) (54) ST-CS EX-RW (555-57) BT-SE (526-27) (545)
Action Present / Issue Status	0 end of season

Good example of role of goalie coach in problem id. and strategy development

Q: ~~Origin of pulling? Anything done about puds?~~
~~Goalie coach's role? Do always consult w/ A.S before pull?~~

Appendix K

Data Accounting Matrix

Sample 1: End of season example

Sample 2: Mid-season example

Data Accounting Matrix

Coach: S2 (page 1 of 2)

Legend: no data (blank)
Status: O = ongoing

incomplete data (X)
R = resolved

data complete (✓)

Issue	Issue Setting	Strategy	Strategy Gen.	Exp.	Eval.	Status
1. Maintaining athlete focus	✓	✓	✓	✓	✓	R
2. Economic use of practice time	✓	✓	✓	✓	✓	R
3. Observation skills	✓	✓	✓	✓	✓	R
4. Poor shooting / finishing	✓	✓	✓	✓	✓	R
5. Switching communication modes	✓	✓	✓	✓	✓	R
6. Basic skill development	✓	✓	✓	✓	✓	R
7. Practice planning	✓	✓	✓	✓	✓	R
8. Poor pre-game warm-up	✓	✓	✓	✓	✓	R
9. Pass-back drills ineffective	✓	✓	✓	✓	✓	R
10. 2 nd half lull in team performance	✓	✓	✓	✓	✓	O
11. Ineffective passing drill	✓	✓	✓	✓	✓	R
12. Balance winning + development	✓	✓	✓	✓	✓	O
13. Drop in individual player perform.	✓	✓	✓	✓	✓	O
14. Fundraising distribution	✓	✓	✓	X	✓	R
15. Practice effect on game perform.	✓	✓	✓	X		O
16. Player substitutions						
17. Player attendance						
18. Optimal practice length						
19. Assigning a team captain						
20. Parent-coach conflict						
21. Athlete discipline						
22. Parents who stress winning						
23. Player discouragement						

ISSUES NOT FROM PREVIOUS YEARS ANY MORE

Data Accounting Sheet

Coach: SZ ~~_____~~

Legend: blank = missing data, X = incomplete data, ✓ = data complete
 O = ongoing, R = resolved, I = ignored

(1)

Issue	Problem Setting	Trigger Event	Strategy	Origin / Development	Status
1 keeping athlete focus/attention	✓	✓	✓	✓	✓
2 Economic use of practice time	✓	✓	✓	✓	X
3 observation skills	✓	✓	✓	✓	✓
4 Player attendance	✓	NOT AN ISSUE			X
5 Assigning player positions	✓	✓	✓	✓	✓
6 Switching communication modes	✓	✓	✓	✓	✓
7 Poor administration	NOT AN ISSUE THIS YEAR				
8 Coaching girls re-injuries	NOT AN ISSUE				
9 Player substitutions	✓	NOT AN ISSUE			✓
10 Maintaining basic skills	✓	✓	✓	✓	✓
11 Drill selection/Planning practices	✓	✓	✓	✓	✓
12 Poor game warm-up	✓	✓	✓	✓	X
13 Player discouragement	✓	✓	✓	✓	✓
14 cutting practice/team selection	✓	✓	✓	✓	✓
15 Parents who stress winning	✓	✓	✓	✓	✓
16 Athlete discipline	NOT AN ISSUE				X
17 Optimal practice length	NOT AN ISSUE THIS YEAR				
18 Assigning team captain	NOT AN ISSUE THIS YEAR				
19 Modify passing drill/P2	✓	✓	✓	✓	✓
20 Balancing development/winning	✓	✓	✓	✓	✓
21 goalie switch/kunochi game	✓	✓	✓	✓	✓
22 Poor shooting accuracy	✓	✓	✓	✓	X
23 Pass back drills not working	✓	✓	✓	✓	R

(9)

1

Appendix L

Reflective Memo Samples

MEMO JUNE 4 197

- Today I finished doing coach summaries for ~~XXXXXX~~ ~~XXXXXX~~. I also identified problems that she talked about from background. I also developed a coding system, based on three background interviews and Schön's framework. I have decided to start with large dimensions, based on Schön's framework, and then break them down later. To break them down I will print out all meaning units at each dimension and then regroup them into sub-categories after reading and perhaps have Pierre read them as well, peer debriefing and compare his sub-categories with mine. I will then go and start NUD.15T project, start to enter text/interviews and preliminary indexing.

Ø Show Pierre tree diagram and data analysis file, and coach summaries (will give each coach their summary for feedback before last session).

ACTION PRESENT - like Schön, appears that there are many problems, but action present will vary. Can be small problem noticed in practice, solved immediately, or well or season long problem. Look for differences.

MEMO: ANALYSIS

Jan 29/98

Re-analyzing [redacted] issues, and realized I would benefit from writing a summary of the process used to resolve each issue, write it right on the back of the ISSUE summary sheet (checklist matrix)! I sort of did this for first 2 soccer coaches, but only in interim case summary reports - I had to go back and re-read many issues because the codes are a summary, but lose the context, some of the meaning. Better to summarize right on sheet, point form, after analyzing/read through issue. Best time because fresh-

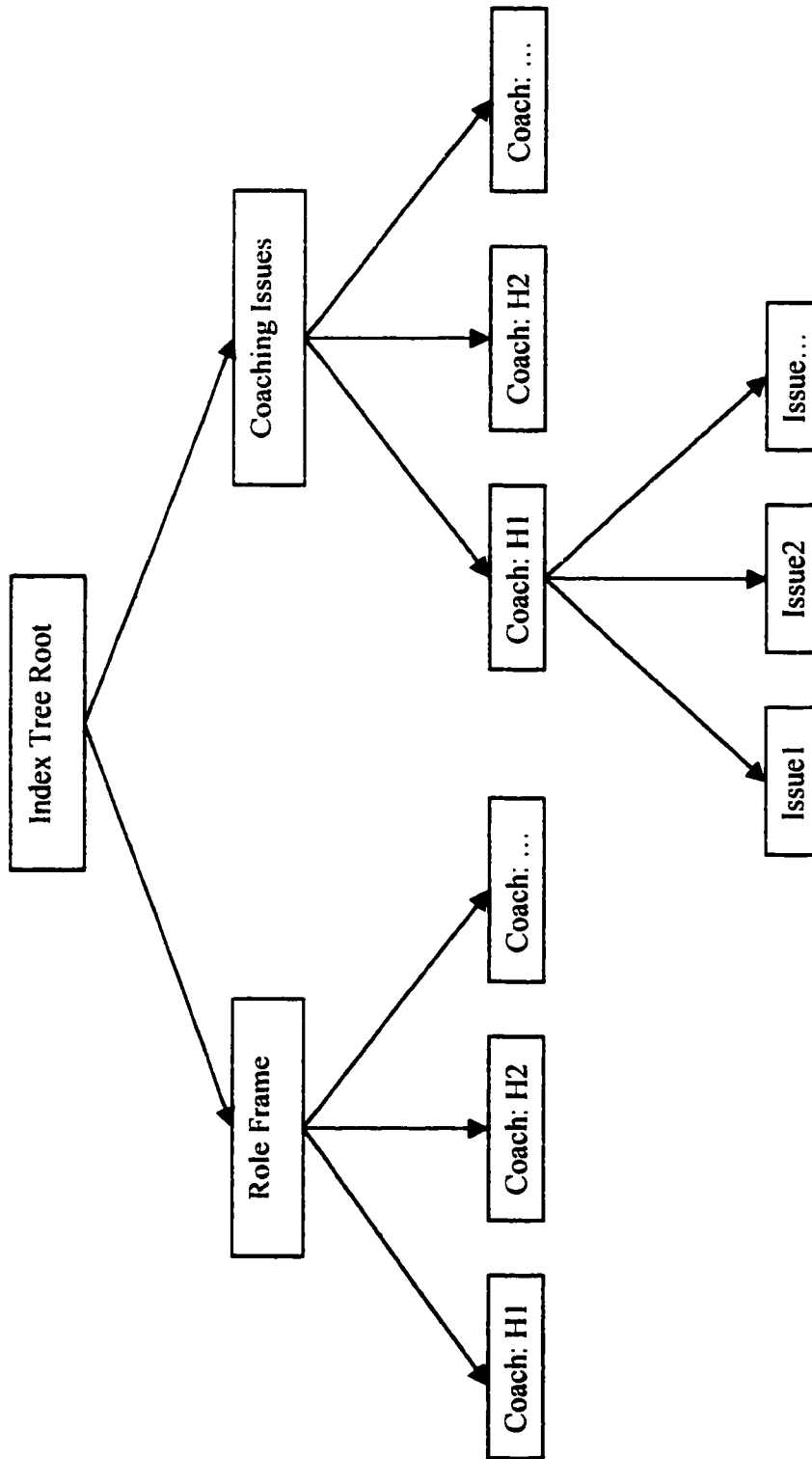
MEMBER CHECK DEVELOPMENT

Instead of giving them transcripts (as done w/ [redacted]) give them issue summary statement (that will now have on back of issue checklist matrix) for each issue. This will verify accuracy of both interpretation and data and make more manageable document.

First version gave to [redacted], summary of demographics, issues (just stated issue/strategy and origin), and propositors. He didn't really feel this was what he expected to see. I think it may have been too theoretical for him. [redacted]

Appendix M

Example of Role Frame and Coaching Issue Node Structure (NUD.IST)



Appendix N

Sample Coaching Issue Node Report with Coach S2

Q.S.R. NJD.IST Power version, revision 4.0.
 Licensee: Wade Gilbert.
 PROJECT: PhD, User Wade Gilbert, 5:57 pm, May 11, 1999.

 (3 1 2 3) /Issues/Issue summaries/S2/P3

*** Definition:

Lull in play in second half

 +++ ON-LINE DOCUMENT: S2 Interval 3 summary
 +++ Retrieval for this document: 43 units out of 754, = 5.7%
 ++ Text units 394-436:

*OKAY, ONE THING THAT WE TALKED ABOUT IN THE
 LAST WEEK THAT I WAS WITH YOU WAS THE LET DOWN
 IN THE SECOND HALF IN THE LAST FEW GAMES. YOU
 MENTIONED AFTER YOUR FIRST PLAYOFF GAME IT
 REALLY HIT YOU AND YOU WERE WONDERING WHAT
 TO DO. THE NEXT PRACTICE YOU INTRODUCED SOME
 HUSTLING AND TACKLING DRILLS. DO YOU FEEL THAT
 THAT WORKED?

Well, we only had three games that followed. Against the
 Cumberland game, yes it seemed to have worked there. Now
 whether it was a direct result of that. I still think it is more of an
 art than a science sometimes. The game that followed that we played a
 different team and of course the difficulty there was that we played
 in a raging rainstorm. They played a really good game all around
 but I think they got killed by the rain. It wasn't they were letting up
 in the second half because it was 1-0 and 1-0 in each half. I think
 the rain got to them in the second half. In the second game we
 actually played a stronger second half than first half. But it is also
 the fact that my team is not an early morning team. It seems every
 time we play first thing in the morning, first half they are kind of
 sleepy. That is another factor that is coming into tournaments. You
 don't see it that much during the season because you don't play
 morning games that often. But I found in morning games, early in
 the morning games, the first half they are like sluggish, and they
 were in the first half against Nepean. The first half they were really
 sluggish. Our goalkeeping kept us in the game, we were only down
 2-1 at half. But the second half they exploded. But they have done
 that. Anytime they have been down at the half they have pretty
 much exploded the second half. The only time we haven't is when
 we played a real superior team and they have exploded and nothing
 resulted. You could see by the end of the second half they really
 kind of folded off, only because it was more psychological. They
 just felt there was no way they could beat this team. So the score
 always looked worse because the last five minutes they were down
 by three goals then they just gave up.

YEAH, YOU REALLY DIDN'T HAVE TOO MUCH TIME TO EVALUATE THAT I GUESS.
 And I am still trying to see, and this is something that my
 tapes will help, it will be nice to see it throughout the season and
 different games, trying to see the things that I say and if my tone
 changes in different types of games. I think sometimes it does.
 Sometimes when we are down 3-0 or 4-0 I have a feeling my
 messages that I am portraying are different, but I can't pinpoint it.

+++++
 +++ ON-LINE DOCUMENT: S2 prepost 3
 +++ Retrieval for this document: 87 units out of 260, = 33%
 ++ Text units 16-33:

*AND AGAIN THE INTENSITY ISSUE. YOU MENTIONED THAT THE TEAM HAD A BIT OF A LULL. IS THERE ANYTHING ELSE THAT YOU ARE DOING TO ADDRESS THAT?

No basically just talk to them about Monday night's game and said basically if you felt bad about Monday night, that is fine, you have to go home and everyone has to try their best but lets get over that now and lets continue on. Basically lets look forward to this game and if everybody plays their best you don't have to feel bad about it.

AND DO YOU THINK BASED ON MONDAY NIGHT'S PRACTICE THAT IT REALLY ISN'T GOING TO BE AN ISSUE ANYMORE? DID THEY LOOK UPBEAT?

Ah, they are but they are still a little distracted because of school but it seems to be wearing off a little bit, but we also did pictures and stuff on Wednesday too. So that kind of broke up the practice a bit. So I am hoping that, they seem to be but practices can always look different than games.

++ Text units 80-96:

SO YOU MENTIONED THE SITUATION WHEN YOU SAID YOU WERE BAFFLED, THAT IS REGARDS TO THE SECOND HALF PLAY?

Yeah. Why it just doesn't seem to be coming together in the second half.

AND IS THAT WHAT YOU WERE TALKING TO XXXX ABOUT AFTER THE GAME?

Well we were just talking about things to get them, change, to get them fired up or just different things to. One thing I've never done before as a coach because I've always thought it was something for older kids is taking a player off specifically if they are not putting effort in or if they are not really doing it the way they should be. I have to think about that one because I'm still not sure that kids at this age, if you do more harm than good. I'm really not sure.

DID YOU ASK XXXX ABOUT THAT?

It was his suggestion and I am just thinking about it.

++ Text units 102-135:

shots, shoot-outs. Other than that I think what we are going to go back to is challenging and maybe I will have to invent a first to the ball drill just to reinforce the first, second and third tackle. They seem to be giving up. I don't know if it is over-confidence or what it is, they seem to give up after the first tackle.

*AND AGAIN WITH REGARDS TO THE SECOND HALF PLAY.

IS THERE ANYTHING THAT YOU ARE GOING TO DO BETWEEN NOW AND THE NEXT GAME IN TERMS OF TRYING TO THINK OF SOME STRATEGY, ARE YOU GOING TO REFER TO ANYTHING?

I'm not sure what I can do. I am going to review some books, the coaching theory part but I don't know if there is going to be any answers in there, and I don't know.

I THOUGHT AFTER THE FIRST HALF YOUR TEAM WAS GOING TO BLOW THEM OUT.

That is right and I'm not sure if that is the feeling they get that suddenly, but now see two games in a row, and the other thing that I am worried about is that it happened two games in a row and you know how psychology is half the battle. Are they going to start self-destructing because they believe they are going to?

ARE YOU GOING TO MENTION IT TO THEM?

No. I am going to try not to this time but I don't know, but they are all going to think about it so I don't know if there is any particular thing that I can or cannot say or whatever.

*IS THERE ANYTHING ELSE THAT YOU WANT TO ADD ABOUT THAT GAME?

No, other than the disturbing aspect of how the second half went down. I have to try and figure out what the remedies are. This is going to take a lot of thought. Lucky this an early morning game. You see it takes me a certain amount of time, to be honest I wrestle with these things mentally for quite a while. Like last Monday's game I didn't sleep well because I kept going... hopefully by tonight if I can go to bed tonight, I will have worked it through my system.

++ Text units 139-149:

*WHAT DO YOU HAVE IN MIND FOR TODAY'S PRACTICE?

Basically, to be honest, I am still stumped...

STUMPED REGARDING...

With regards to last game and what can be the resulting cause. So what I've come up with is I looked at hustling, basically I got a couple of articles, just hustling/tackling drills. Basically, a lot of them are going to be one on ones, two on twos, a couple of first on the ball drills where you play the ball out, the first person to touch the ball is the attacker. So there is going to be a lot of that, first to the ball stuff. And we are also going to be doing some

++ Text units 174-180:

*ARE THESE ALL DRILLS THAT YOU JUST THOUGHT OF YESTERDAY BASED ON YESTERDAY'S GAME?

I was looking for hustling / tackling drills, things that are out there that will get them to hustle.

AND HAVE YOU USED ANY OF THESE BEFORE?

I've used a couple of them before. Yeah, throughout the season I have, so this will kind of be a repeat.

+++++

+++ Total number of text units retrieved = 130

+++ Retrievals in 2 out of 50 documents, = 4.0%.

+++ The documents with retrievals have a total of 1014 text units, so text units retrieved in these documents = 13%.

+++ All documents have a total of 27089 text units, so text units found in these documents = 0.48%.

+++++

Appendix O

Issue Review Matrix - Jackie

	P1	P2	P3	P4	P5
Type of Issue	Athlete	Athlete	Athlete	Athlete	Environment
Issue setting	JO	JO	JO	JO	SE
Strategy generation	AS CT RE JC	RE	AS CT RT	RE	RE
Experiments	RW VW	RW	RW	RW VW	RW
Evaluation	PE SE	SE	SE	PE SE	SE
Process summary	IS-JO SG-JC EX-RW EV-SE EX-RW EV-SE EX-RW SG-CT SG-RE PE-AS EX-VW EV-PE EX-RW EV-SE EX-RW	IS-JO SG-RE EX-RW EV-SE	IS-JO SG-AS EX-RW EV-SE SG-CT EX-RW SG-RT EX-RW EV-SE	IS-JO SG-RE EX-RW EV-SE EX-VW EV-PE EX-RW EV-SE	IS-SE SG-RE SG-CT EX-RW EV-SE

Issue Review Matrix - Jackie

	P6	P7	P8	P9	P10
Type of Issue	Organization	Organization	Organization	Organization	Performance
Issue setting	SE	OT	SE	OT	SE
Strategy generation	CT	CT	CT	RT	CT
Experiments	RW	RW	RW	RW VW	RW VW
Evaluation	SE	OT SE	SE	OT SE	PE SE
Process summary	IS-SE SG-CT EX-RW EV-SE	IS-OT SG-CT EX-RW EV-SE EV-OT SG-CT EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE	IS-OT SG-RT EX-VW EV-OT EX-RW EV-SE	IS-SE SG-CT EX-VW EV-PE EX-RW EV-SE

Issue Review Matrix - Jackie

	P11	P12	P13
Type of Issue	Performance	Performance	Performance
Issue setting	SE	SE	JO
Strategy generation	RE CT	RT	JC
Experiments	RW	RW	RW
Evaluation	SE	SE	SE
Process summary	IS-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-RT EX-RW EV-SE	IS-JO SG-JC EX-RW EV-SE

Appendix P

Issue Review Matrix - Barbara

	P1	P2	P3	P4	P5
Type of Issue	Athlete	Athlete	Athlete	Coach	Environment
Issue setting	JO SE	JO	SE	SE	OT
Strategy generation	CT RE	CT JC	CT CM JC RE	CT	CT
Experiments	RW	RW	RW	RW	
Evaluation	SE	SE	SE	SE PE	
Process summary	IS-SE IS-JO SG-RE EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT SG-CT	IS-JO SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE SG-JC SG-CT SG-CM SG-RE EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE EV-PE	IS-OT SG-CT

Issue Review Matrix - Barbara

	P6	P7	P8	P9	P10
Type of Issue	Organization	Organization	Organization	Organization	Organization
Issue setting	SE	SE	SE	SE	SE
Strategy generation	CT CM RE	CT RT	CT RE	CT	CT
Experiments	RW VW	RW	RW VW	RW	RW
Evaluation	SE PE	SE	SE	SE	SE
Process summary	IS-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT SG-CM EX-VW EV-SE EX-VW EV-PE EX-RW EV-SE	IS-SE SG-RT EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-RE SG-CT EX-RW SG-CT EX-VW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE

Issue Review Matrix - Barbara

	P11	P12	P13	P14	P15
Type of Issue	Organization	Organization	Organization	Organization	Performance
Issue setting	SE	SE	SE	JO	SE
Strategy generation	CT	CT RE RT	CT	CT RT	RT
Experiments	RW	RW	RW	RW	RW
Evaluation	SE	SE	SE	OT SE	SE
Process summary	IS-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-CT SG-RE SG-RT EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE SG-CT	IS-JO SG-RT EX-RW EV-OT EV-SE SG-CT EX-RW EV-SE	IS-SE SG-RT EX-RW EV-SE

Appendix Q

Issue Review Matrix - Jennifer

	P1	P2	P3	P4	P5
Type of issue	Athlete	Athlete	Athlete	Athlete	Athlete
Issue setting	SE	SE	SE	SE	SE
Strategy generation	AS CT RE	AS CT JC RE	CT	CT RE	RE
Experiments	RW	RW VW	RW	RW	RW
Evaluation	SE	PE SE	SE	SE	SE
Process summary	IS-SE SG-RE SG-CT SG-AS EX-RW EV-SE	IS-SE SG-JC EX-RW EV-SE EX-RW EV-SE SG-CT SG-JC SG-AS EX-VW EV-PE EX-RW EV-SE EX-RW EV-SE EX-RW EV-SE SG-CT SG-RE EX-RW EV-SE SG-CT SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE SG-RE EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT EX-RW EVSE SG-CT EX-RW EV-SE	IS-SE SG-RE EX-RW EV-SE SG-RE EX-RW EV-SE SG-RE EX-RW EV-RE

Issue Review Matrix - Jennifer

	P6	P7	P8	P9	P10
Type of Issue	Environment	Environment	Environment	Organization	Organization
Issue setting	OT	OT SE	SE	SE	SE
Strategy generation	CT	CT	CT	CT JC RT	JC
Experiments	RW VW	RW	RW	RW VW	RW
Evaluation	SE OT	SE	SE	PE SE	SE
Process summary	IS-OT SG-CT EX-RW EV-SE EV-OT SG-CT EX-RW SG-CT EX-VW EV-PE SG-CT	IS-OT IS-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE	IS-SE SG-CT SG-RT SG-JC EX-VW EV-PE EX-RW EV-SE	IS-SE SG-JC EX-RW EV-SE SG-JC EX-RW SG-JC EX-RW

Issue Review Matrix - Jennifer

	P11	P12	P13
Type of Issue	Organization	Organization	Organization
Issue setting	SE	SE	SE
Strategy generation	AS CT RE	AS CT	CT RE RT
Experiments	RW	RW	RW
Evaluation	SE	SE	SE
Process summary	IS-SE SG-RE SG-CT SG-AS EX-RW EV-SE	IS-SE SG-CT SG-AS EX-RW EV-SE SG-AS EX-RW EV-SE	IS-SE SG-RE EX-RW EV-SE SG-RT SG-CT

Appendix R

Issue Review Matrix - Bren

	P1	P2	P3	P4	P5
Type of issue	Athlete	Athlete	Athlete	Athlete	Athlete
Issue setting	SE	SE	SE	SE	SE
Strategy generation	CT JC RE	CT JC RE	CT RE	JC RE	CT RE
Experiments	RW VW	RW VW	RW VW	RW	RW
Evaluation	SE PE OT	SE PE OT	SE PE OT	SE	SE
Process summary	IS-SE SG-JC SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE SG-JC EX-VW EV-OT EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-VW EV-PE	IS-SE SG-JC EX-RW EV-SE SG-RE EX-RW EV-SE SG-RE EX-RW EV-SE SG-JC EX-VW EV-OT EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-VW EV-PE	IS-SE SG-CT EX-RW EV-SE SG-RE EX-VW EV-OT EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-VW EV-PE	IS-SE SG-RE EX-RW EV-SE SG-JC EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE

Issue Review Matrix - Bren

	P6	P7	P8	P9	P10
Type of issue	Athlete	Athlete	Athlete	Environment	Environment
Issue setting	SE	JO	SE	OT	SE
Strategy generation	CT RE	CM RE	CT	CT	CM RE JC
Experiments	RW	RW	RW	RW	RW
Evaluation	SE	SE	SE	SE	SE
Process summary	IS-SE SG-RE SG-CT EX-RW EV-SE EX-RW EV-SE	IS-JO SG-RE SG-CM EX-RW EX-RW EV-SE SG-RE EX-RW EV-SE SG-RE EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE	IS-OT SG-CT EX-RW EV-SE	IS-SE SG-RE SG-CM SG-JC EX-RW EV-SE

Issue Review Matrix - Bren

	P11	P12	P13	P14	P15
Type of issue	Organization	Performance	Performance	Performance	Performance
Issue setting	SE	SE	JO	SE	JO
Strategy generation	RE	RE	JC	CT RE	CM CT
Experiments	RW	RW	RW	RW	RW
Evaluation	SE	SE	SE	SE	SE
Process summary	IS-SE SG-RE EXRW EV-SE SG-RE EX-RW EV-SE	IS-SE SG-RE EX-RW EV-SE	IS-JO SG-JC EX-RW EV-SE	IS-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE	IS-JO SG-CM SG-CT EX-RW EV-SE

Issue Review Matrix - Bren

	P16	P17	P18
Type of issue	Performance	Performance	Performance
Issue setting	JO	SE	SE
Strategy generation	RE	CT	CT JC
Experiments	RW	RW	RW
Evaluation	SE	SE	SE
Process summary	IS-JO SG-RE EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE	IS-SE SG-CT SG-JC EX-RW EV-SE

Appendix S

Issue Review Matrix - Richard

	P1	P2	P3	P4	P5
Type of issue	Athlete	Athlete	Athlete	Athlete	Athlete
Issue setting	SE	SE	SE	JO	SE
Strategy generation	CT RE RT	CT	RE CT	CT JC	CT JC
Experiments	RW	RW	RW	RW	RW
Evaluation	SE	SE	SE	SE	SE
Process summary	IS-SE SG-RE EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT SG-RT EV-SE	IS-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-RE SG-CT EV-SE SG-CT EX-RW EV-SE	IS-JO SG-CT EX-RW EV-SE SG-JC EX-RW	IS-SE SG-CT EX-RW EV-SE SG-JC SG-RE EX-RW EV-SE

Issue Review Matrix - Richard

	P6	P7	P8	P9	P10
Type of issue	Athlete	Athlete	Organization	Organization	Organization
Issue setting	SE	SE	SE	SE	SE
Strategy generation	CT	CT RE	JC RE	AS	CT
Experiments	RW	RW	RW	RW	RW
Evaluation	SE	SE	SE	SE PE OT	SE
Process summary	IS-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE	IS-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-RE EX-RW EVE-SE SG-CT EX-RW EV-SE	IS-SE SG-RE EX-RW EV-SE SG-JC EX-RW EV-SE	IS-SE SG-AS EX-RW EV-SE EV-OT EV-PE	IS-SE SG-CT EX-RW EV-SE

Issue Review Matrix - Richard

	P11	P12	P13	P14	P15
Type of issue	Organization	Performance	Performance	Performance	Performance
Issue setting	SE	SE	JO	SE	JO
Strategy generation	CT RE	CT	CM CT JC	RE	JC
Experiments	RW	RW	RW VW	RW	RW
Evaluation	SE	SE	SE PE	SE	SE
Process summary	IS-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE	IS-SE SG-CT EX-RW EV-SE	IS-JO SG-CM SG-CT EX-VW EV-PE EX-RW EV-SE SG-JC EX-RW EV-SE	IS-SE SG-RE EX-RW EV-SE SG-RE EX-RW EV-SE	IS-JO SG-JC EX-RW EV-SE SG-JC EX-RW EV-SE SG-JC EX-RW EV-SE

Issue Review Matrix - Richard

	P16
Type of issue	Performance
Issue setting	SE
Strategy generation	RE
Experiments	RW
Evaluation	SE
Process summary	IS-SE SG-RE EX-RW EV-SE

Appendix T

Issue Review Matrix - Duane

	P1	P2	P3	P4	P5
Type of issue	Athlete	Athlete	Coach	Coach	Environment
Issue setting	OT SE	SE	SE	OT	SE
Strategy generation	CT JC	CT RE	RE CT	CT JC RE	CT RE
Experiments	RW VW	RW	RW	RW VW	RW
Evaluation	PE	SE	SE	PE OT SE	SE
Process summary	IS-SE IS-OT SG-JC SG-CT SG-CT EX-VW EV-PE SG-CT	IS-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT	IS-SE SG-RE EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT	IS-OT SG-CT EX-RW EV-SE SG-CT SG-JC SG-RE EX-RW EV-SE EV-OT SG-CT SG-CT EX-RW EV-SE SG-CT EX-RW EV-SE SG-CT EX-VW EV-PE	IS-SE SG-CT EX-RW EV-SE SG-RE

Issue Review Matrix - Duane

	P6	P7	P8	P9	P10
Type of issue	Environment	Organization	Organization	Organization	Performance
Issue setting	OT	OT	SE	SE	JO
Strategy generation	CT RE	CT AS RE JC	AS CT	CT RE	RE
Experiments	RW VW	RW	RW	RW	RW
Evaluation	OT SE	SE	SE	OT SE	SE
Process summary	IS-OT SG-RE EX-RW EV-SE SE-RE EX-VW EV-OT EX-RW EV-OT SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE SG-RE EX-RW SG-CT EX-VW EV-OT EX-RW EV-SE	IS-OT SG-CT SG-AS EX-RW EV-SE SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE SG-CT SG-JC EX-RW EV-SE	IS-SE SG-AS SG-CT EX-RW EV-SE	IS-SE SG-RE EX-RW EV-OT EV-SE SG-CT EX-RW EV-OT EV-SE SG-CT EX-RW EV-OT EV-SE	IS-JO SG-RE EX-RW EV-SE

Issue Review Matrix - Duane

	P11	P12	P13	P14
Type of issue	Performance	Performance	Performance	Performance
Issue setting	SE	JO	JO	JO
Strategy generation	RE	CT RE	JC RE	CM CT RE
Experiments	RW	RW	RW	RW
Evaluation	SE	SE	OT SE	SE
Process summary	IS-SE SG-RE EX-RW EV-SE	IS-JO SG-RE EX-RW EV-SE SG-RE SG-CT EX-RW EV-SE	IS-JO SG-JC EX-RW EX-RW EV-SE EV-OT SG-RE EX-RW EV-OT SG-RE EX-RW EV-OT SG-RE EX-RW EV-OT SG-RE EX-RW EV-SE	IS-JO SG-RE SG-CM SG-CT EX-RW EV-SE SG-RE EX-RW EV-SE

Appendix U

Vignette of Coaching Issue

Soccer Coach: Jennifer

Coaching Issue #2 (Disruptive player)

Early in the season there was one player who was very disruptive, lazy, and was often refusing to follow instructions during practices. The first strategy that was tried, based on a joint decision between the coach and the assistant coach, was to have the player take “time-outs” during the practices for 20 minutes and then allow him to come back into the practice. This didn’t work. Then the coach had one of the assistant coaches take a disciplinarian role, deal with the player one-on-one. Again this didn’t have the desired impact. At this point the coach was very frustrated and confused, so the issue was discussed with the coaching staff and the coaching director for the association was phoned for advice. A joint decision was made to release the player from the team and inform him that he could return when he wanted to participate. The coach viewed the issue a major challenge and reflected on how the issue could be dealt, other than just kicking the player off the team. The player responded a few days later by saying he wanted to return, and the coach allowed him, although the coach didn’t really believe he was sincere. When he returned he was on probation and the coach tried two more strategies. First, the coach tried to keep the player busy, or pre-occupied, during practices. Second, the coach would bench the player during games and practices if he was disruptive. These strategies were not completely effective either, so the coach decided to modify the benching strategy by making the player stand far away from the other players and the equipment so he wouldn’t be able to disrupt the team. The problem persisted, although not as bad as in the past. The coach discovered, almost by accident, that one of her assistant coaches [name of assistant coach] seemed to have more impact on the player’s behavior, so that assistant coach was brought out to deal with him, and other problem players, periodically for the rest of the year. This final strategy, or a combination of all the strategies together, appeared to finally have a positive impact on the disruptive player and late in the season it was no longer considered to be a major issue, or even an issue at all.

Appendix V

Electronic Text Search with Coach H3

Q.S.R. NUD.IST Power version, revision 4.0.
 Licensee: Wade Gilbert.
 PROJECT: PhD, User Wade Gilbert, 6:11 pm, May 11, 1999.

 (4 6 1) /Learning/H3/coaching materials

*** Definition:

Text search for any reference to books or videos.

+++ ON-LINE DOCUMENT: H3 background

+++ Retrieval for this document: 23 units out of 289, = 8.0%

++ Text units 62-84:

skating clinic and I've had those throughout the years as well, from different people and I've participated with them, but I didn't run the clinics myself, except sometimes at the house level you will do the conditioning camps with the tryouts but that can't really be counted as clinics, but I've helped out.

HOW ABOUT RESOURCES? ARE THERE ANY BOOKS OR VIDEOS THAT YOU USE?

There are lots of resources available which I have always gone to. There is a beautiful well stocked library at the Ottawa District Minor Hockey Association on Merivale road. There is the CHA that has some. There is lots of videos around. I remember one time when I was involved with the XXXX minor hockey association, we purchased a set of videos for each division, from novice to midget, one including goalies, made copies of all those resources, those library books, for our coaches. There is plenty, and I always refer, as a matter of fact just for today, this morning I looked again at some of my books on some of the drills. I am always referring back to them. There are some key words, notes. I feel that if you just don't then you are stagnant and you don't learn anything.

ARE THOSE ARE MOSTLY HOCKEY SPECIFIC TYPES OF RESOURCES?

Yeah, they are.

+++ ON-LINE DOCUMENT: H3 Interval 2 summary

+++ Retrieval for this document: 21 units out of 903, = 2.3%

++ Text units 805-825:

other morning, we are going to be using it next practice, it is a very good drill where the defenseman has to get up there.

IS THAT A DRILL THAT YOU USED BEFORE?

No, never used it.

WHERE DID YOU GET THAT DRILL?

One of my books, France. It is taken from the France Hockey Association drill books. I've got drills from Czechoslovakia, from France, from USA, and also from Germany. I go to the hockey office every now and then and go through the drill books and one that I see that I like, I just make a copy and put it in my... I got rid of all my books about five or eight years ago. I gave them all away and they are not to be found and this pisses me off, it really does because they were good books and I paid out of my own money, like \$25 a book, and I gave to the association, to the coaches within the association to use and now they are no longer there. I had a book on goaltending, I had a book on forwards, on defense, on systems, offensive systems, defensive systems, everything, and they are all gone. And some of my favourite drills were in there,

they were good drills that you can build on. There were two drills that we did the other morning that leads up to the one that I want to use. But this one is going to force the defensemen to rush up ice
 ++++++

+++ ON-LINE DOCUMENT: H3 prepost 1

+++ Retrieval for this document: 11 units out of 632, = 1.7%

++ Text units 473-483:
 that.

*AND WHO DESIGNED THE DRILLS?

I did.

YOURSELF?

Yeah. I spent, I would say about a good hour, a good hour with my video, just for this particular level and try to adapt, see what was good. There are some drills there for Juniors, so I cut down, I've improvised a bit for this level and I've tried to keep it as simple as possible. If we do it, the execution as we move along I think the kids will be okay.

SO THIS IS THE FIRST TIME THAT YOU TRIED THIS

+++++

+++ ON-LINE DOCUMENT: H3 prepost 3

+++ Retrieval for this document: 22 units out of 607, = 3.6%

++ Text units 244-265:

Ottawa Gee-Gees here for a game, they had a special promotion for minor at one of the Gee-Gee games. I selected him to go instead of the other one and then she comes in and attacks me, not attacks me but says I am not being fair. Well, excuse me but I don't need that shit. I don't need that. But one thing, I am reading the book that you gave me from Norm and Jean Perron. It is very interesting book. The first part I find it very, very, not confusing, but hard to grasp. They are talking more psychology I think in the first part, but it is a good book. I will have to read it twice to really grasp it. There is so much material that you can use from Novice to Junior and NHL. There are a couple of good drills in there but you really have to understand what they are trying to teach you and then you look at the drill regarding what they talk about. So it is a very interesting book. It is going to take me some while to go through and then I will have to go back and refresh my mind with what they are saying.

THOSE ARE THE BEST KIND OF BOOKS BECAUSE YOU
 CAN ALWAYS GO BACK TO THEM.

They are, they are. So basically that is about it where I am now.
 WOW, I WASN'T EXPECTING THAT.

END OF INTERVIEW

+++++

+++ ON-LINE DOCUMENT: H3 validation

+++ Retrieval for this document: 67 units out of 452, = 15%

++ Text units 3-48:

YEAR?

Right now I am very involved in the administration of the XXXX Minor Hockey Association. That doesn't mean I won't coach come next September, but right now it is on hold.

*I NOTICED YOU DIDN'T OFTEN TALK ABOUT USING
 COACHING BOOKS THIS YEAR. BUT YOU SAID YOU

USED TO HAVE A LARGE LIBRARY OF COACHING BOOKS.

Yeah.

DO YOU FIND THAT YOU RELIED MORE ON BOOKS AND RESOURCES IN THE EARLY STAGES OF YOUR COACHING OR IS IT JUST SOMETHING I MISSED?

Oh yeah, in the first years, like 20 years when I first started to coach I used the books, I would go back to the books for drills and practices, but through the years you design your own and they don't change all that much really, depending on the level you are coaching. All the material that I had gained through the years I got rid of it so this past year what I've done, every time that I went to the hockey office (ODHA) I would go through the books they have there in their library and I would peak through. Especially when I wanted something specific, a specific type of drill for a specific thing, a breakout for example and say maybe I wanted a variation. This year we've asked the ODHA to put together a package of resources for our house league coaches in XXXX and they are going to do that for us.

EVERY COACH WILL GET THAT?

It will be a library for us and the coaches can come in. We are going to be buying a t.v. with a built-in VCR and if they want to come in and look at some books on goaltending or defensive play they can look at it. I think I am going to be more involved in the administration things. I think you need it, especially if it is close-by for the coaches. For the XXXX minor hockey association it will be in the arena.

BUT WHEN YOU GO TO THOSE BOOKS IT IS MOSTLY JUST FOR DRILLS?

Oh yeah, for drills, for practices, for things where we want some variation. Or like I say I will often take a drill designed for Junior and modify it for the division that I am coaching.

BUT OTHER TYPES OF ISSUES THAT WE TALKED ABOUT, LIKE TEACHING STRATEGIES AND MANAGEMENT ISSUES, DO YOU GO TO THE BOOKS FOR THAT TOO?

YOU DIND'T REALLY MENTION THAT.

No, no. I just use my own experience.

++ Text units 329-349:

were a little bit concerned that we should have been benching their kid. And we asked them if they thought if there was one kid who was is getting too much ice-time, they said, well he deserves it. I am not quite sure about proposition six, constructing drills?

WELL, I FOUND THAT ALTHOUGH YOU WOULD SOMETIMES USE DRILLS FROM COACHING BOOKS, YOU NEVER SIMPLY ACQUIRED THEM, YOU WOULD ALWAYS MODIFY THEM TO FIT YOUR TEAM OR YOUR OBJECTIVES, SO IN THIS SENSE YOU CONSTRUCTED THEM.

Yeah, exactly. Well some drills are just acquired because they are so simple and you can't add, they are so plain and that is it. But I've found that through the years I've had a drill set on paper and by the time it gets to be done in its final stage it has been modified. If I find that we are doing a drill and it works well then what I will try and do is add a component that is maybe designed by the book, it says it is designed for Bantams or Midgets, maybe even Juniors, I will take the Junior drills but I will just take some of the things

out to make it work down to our level. Because a lot of the drills you have maybe 20 kids on the ice and you can have seven kids in each corner and then you come down to the practice and you have

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+++++
+++ Total number of text units retrieved = 144
+++ Retrievals in 5 out of 50 documents, = 10%.
+++ The documents with retrievals have a total of 2883 text units,
    so text units retrieved in these documents = 5.0%.
+++ All documents have a total of 27089 text units,
    so text units found in these documents = 0.53%.
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Appendix W
Interview Log
(Soccer Coaches)

INTERVIEW LOG - SOCCER

DATE	INTERVIEW	TRANSCRIBED	PRELIMINARY CODING	NUDIST INDEXED
April 29/97	S2 backyard	May 12	May 16	✓✓✓
May 6	S3 backyard	May 13	May 17	✓✓✓
May 14	Soccer focus group	May 17	May 24	✓✓✓
May 16	S1 backyard	May 19	May 20	✓✓✓
May 28	S1 practice 1	June 6	June 8	✓✓✓
May 29	S1 game 1	June 6	June 8	✓✓✓
June 4	S1 practice 2	June 6	June 8	✓✓✓
June 8	S2 practice 1	June 12	June 12	✓✓✓
June 9	S2 game 1	June 12	June 12	✓✓✓
June 10	S1 summary 1	July 2	July 2	✓✓✓
June 11	S2 practice 2	June 12	June 12	✓✓✓
June 12	S2 summary 1	July 3	July 7	✓✓✓
June 17	S3 game 1	June 23	June 23	✓✓✓
June 18	S3 practice 1	June 23	June 23	✓✓✓
June 22	S3 practice 2	June 23	June 23	✓✓✓
June 24	S3 summary 1 (a)	July 4	July 11	✓✓✓
June 25	S3 summary 1 (b)	July 4	July 11	✓✓✓
July 7	S1 practice 3	July 10	July 14	✓✓✓
July 9	S1 practice 4	July 10	July 14	✓✓✓
July 12	S1 game 2	July 14	July 14	✓✓✓
July 15	S1 summary 2	July 21	August 18	✓✓✓
July 15	S3 summary 2	July 21	July 21	✓✓✓
July 19	S3 practice 3	July 21	July 21	✓✓✓

INTERVIEW LOG

DATE	INTERVIEW	TRANSCRIBED	PRELIMINARY CODING	NUD 1ST INDEXED
July 20/97	S3 game 3	July 21	July 21	✓✓✓
July 21	S2 game 2	July 26	July 27	✓✓✓
July 22	S3 summary 2	July 25	August 19	✓✓✓
July 23	S2 practice 3	July 26	July 27	✓✓✓
July 25	S2 practice 4	July 26	July 27	✓✓✓
July 29	S2 summary 2	August 12	August 21	✓✓✓
August 25	S1 practice 5	Sept 1	Sept 12	✓✓✓
August 28	S1 game 3	Sept 1	Sept 12	✓✓✓
September 2	S3 game 4	Sept 4	Sept 9	✓✓✓
Sept 3	S3 practice 4	Sept 5	Sept 9	✓✓✓
Sept 4	S3 game 5	Sept 5	Sept 9	✓✓✓
Sept 6	S2 game 3	Sept 7	Sept 18	✓✓✓
Sept 7	S1 practice 6	Sept 10	Sept 12	✓✓✓
Sept 7	S2 practice 5	Sept 12	Sept 18	✓✓✓
Sept 8	S2 game 4	Sept 12	Sept 18	✓✓✓
Sept 9	S3 summary 3	Sept 19	Oct 21	✓✓✓
Sept 13	S1 summary 3	Oct 9	Oct 10	✓✓✓
Sept 18	S2 summary 3	Oct 9	Oct 23	✓✓✓
Jan 30/98	S1 validation	Mar 16/98	Oct 26/98	✓✓✓
April 13/98	S2 validation	Nov 20/98	Nov 21/98	✓✓✓
April 16/98	S3 validation	Oct 23/98	Oct 26/98	✓✓✓

**Appendix X
Interim Report
Doctoral Dissertation**

**Wade Gilbert
543501
Faculty of Education
University of Ottawa
January 12, 1998**

**Advisor: Dr. Pierre Trudel
Committee: Dr. Brad Cousins, Dr. Raymond Leblanc, Dr. John Salmela**

Interim Report

Data Collection

At the time of the proposal, I intended to collect data on nine coaches. This was to include three coaches each from basketball, ice hockey and soccer. I still intend to collect data from coaches in three sports, but will extend the data collection period into the summer of 1998 to collect data with baseball coaches instead of basketball coaches. Baseball still fits my criteria as a team sport, and is a popular youth sport in Canada. Due to baseball's popularity in North America, this move may actually increase the audience for my research.

This decision was made, in consultation with Dr. Trudel in October, when it became clear that it would not be feasible to collect data simultaneously from basketball and ice hockey coaches. I knew in advance that the basketball and ice hockey seasons would overlap, however, I underestimated the time required to collect and analyze the data for each coach (based on my experience with the soccer coaches). Furthermore, collecting data from six coaches at one time was not an option once I began teaching a course in the Fall (same time that basketball and ice hockey seasons begin).

I also decided to extend the data collection intervals with the ice hockey coaches. At the time of the proposal, I suggested that I would collect data with each coach in one-week intervals. This worked well with the soccer coaches, who had fairly regular weekly schedules throughout the summer. The soccer coaches typically had three sessions a week. I found with the ice hockey coaches, however, that their weekly schedules were quite erratic. Some weeks they were only on the ice once and other weeks they were on the ice five times. For this reason, I decided to extend each interval to cover 10-14 days. Furthermore, I decided not to attend every event in each interval. Instead, I have been attending three or four events (what they classified as a "typical" week). This has worked well because I can select to attend home games and local practices in each interval, yet still obtain interview data on all the events that occurred in that interval. Although this means I will collect more data with the ice hockey coaches, this is appropriate because the ice hockey teams have a 32 game regular season schedule that lasts six months, whereas the soccer teams have a 15 game regular season schedule that lasts three and a half months.

Lastly, the interviews that were to be conducted at the end of each interval, were originally intended to be stimulated recall interviews. I expected to use videotaped segments of the issues that arose to stimulate the coaches' recall of the issue. I prepared as planned for the first two interviews, but found that I did not need or use the videotaped segments. The coaches recalled vividly all the events that occurred in the interval. Furthermore, many of the issues that we discussed did not occur during the games or practices. Instead, the issues often occurred off the field of play (e.g. parents, scheduling, fundraising). For this reason, I now call these interviews Interval Summary Interviews.

Although the videotapes are not needed anymore for the interviews, I decided to continue videotaping the events for several reasons. First, the recording equipment, which includes audio recording, allows me to hear everything the coach says during the event. The audio often brings to my awareness issues that I would probably otherwise miss. For example, during a game an ice hockey coach comments to his assistant coach (or to himself) about the players staying on the ice too long. When I hear this, I record it in my notepad and then ask the coach about it in the post-game interview. Sometimes it turns out to be an isolated case and a non-issue. Other times it turns out to be the tip of the iceberg of a much larger issue that the coach never mentioned before. Although, in theory, I don't need the recording equipment to hear the coaches, it would mean that I would have to stay very close to them and follow them all over the sidelines or the playing surface during practices. This is not a realistic option.

Second, I use the video recording to validate the coaches' interview statements. For example, if a soccer coach tells me that he typically discusses issues with his assistant coach during games and practices, I will be able to observe if this actually happens. This was the case with one soccer coach and I have numerous examples on videotape of the two coaches in discussion. Third, I use the videotapes as an incentive to obtain participants. The coaches are informed before the study that, if they choose to participate, they will receive a copy of all the videotapes when the data collection is complete. All of the coaches have been extremely generous in their time and commitment to the project. Therefore, I also feel that this is a way for me to give something to them in return for their participation.

Soccer. Most of the data has been collected with the soccer coaches. All that remains is to conduct a member-check interview once they have reviewed the member-check reports that I prepared for them. Member-check reports have been submitted to two soccer coaches and the report for the third coach is nearly complete.

Ice hockey. I have completed nearly two-thirds of the data collection with the ice hockey coaches. The hockey season finishes at the end of February, with playoffs running into late March. Unfortunately, it appears that only one of the hockey teams will make the playoffs. This has forced me to move my data collection schedule forward with two of the teams (The last interval of data collection with the soccer coaches extended into the first round of the playoffs. In soccer, unlike hockey, all teams qualify for the playoffs).

Summary. Here are the data collection statistics up to January 12, 1998:

- 2 focus groups,
- 6 background interviews,
- 49 videotaped events (23 games and 26 practices),
- 98 on-site event interviews,
- 14 interval summary interviews,
- 370 pages of single-spaced interview transcripts,
- 250 hours in the field collecting data (estimate).

Data Analysis

I have been transcribing and analyzing the interview transcripts as they have been collected. Although at times this has been difficult, simply because of time demands, it is critical to ensure comprehensiveness of the data. Many of the issues that I discuss with the coaches persist throughout the season and therefore it is essential that I stay close to the data and continually update each issue. I have kept a data analysis log to document this process.

I have kept regular meetings with, Dr. Trudel. He has provided valuable feedback and direction throughout the project. Furthermore, I discuss my project and preliminary conclusions, with Dr. Trudel's research group in weekly meetings. I also keep a journal documenting all my reflections throughout the project. These thoughts have been transferred to NUD.IST as memos, and are included in the data analysis.

Results

Preliminary results are consistent with the model of experiential learning proposed by Schon (1983). All of the coaches have been found to engage in a reflective process to construct coaching strategies. All the stages of Schon's model are evident: problem setting, strategy development, experimentation (real and virtual world), and evaluation of experiments (listening to back-talk). The length and depth of the reflective process varies however, and is determined both by the individual coach and the degree of challenge posed by the issue.

An example from soccer coach 3 is used to illustrate evidence of the reflective process. One of the issues that this coach encountered was how to assign a team captain. The coach was being pressured by the assistant coaches to adopt a certain strategy, but was uncomfortable with that particular approach. This dilemma caused the coach to reflect on how to resolve the issue.

I may pick a captain for the entire season. I'm getting over the pressure from the assistants to follow that philosophy. That is something I want to sleep on. I think I'm in agreement with that. So I'm not sure to be honest what is the most appropriate choice at this point.

[background interview]

Preliminary results also extend Schon's model. One of the most interesting findings is the integral role of peers in the construction of coaching knowledge. Respected peers include assistant coaches, parents, league administrators, and other coaches not associated with the team. Some of the coaches rely more heavily on peers, however, each coach has a peer who plays an integral role in knowledge construction. These peers can influence the reflective process at various stages.

An example is drawn from soccer coach 1 to illustrate how peers can play an important role in the problem setting stage. At one point, the coach was asked why certain conditioning drills were re-introducing into the practices.

My assistant noticed that as well, especially at the recent tournament. I had noticed it and my assistant came up to me and said, You know, some of those teams looked a lot crisper on the field than we were. So we decided it was time to start working them a little harder.

[interval 3 summary interview]

The coach proceeded to describe the specific drills that were re-introduced into the practices. I then paraphrased the coach's statements and probed for additional information. Unexpectedly, the coach elaborated on the entire process of issue identification and problem setting.

Question: Okay, so you and your assistant coach both noticed that it was an issue, but did you design these drills on your own or did your assistant have any input on that?

Coach: No, I design them on my own. A lot of what has happened this year is, because we are so busy, it is hard for my assistant coach and I to get together. We haven't jointly planned any practices. I thought at the beginning of the season that we would have done more of that and I had good intentions of doing that, getting together and maybe planning out a season plan, but it is hard. So the way it has been working is primarily my assistant coach will make some observations and his observations are pretty accurate. He has been around the game quite a while and he has coached a lot and quite often his observations match mine, so then okay, we should address this. So then it comes back to me to plan something, to fit it in. [interval 3 summary interview]

Another example from soccer coach 1 is used to show how coaches sometimes experiment (test) strategies on a respected peer. This is congruent to Schon's conception of a virtual world experiment. Strategies can be experimented with in some other medium (he gives the example of an architect using a computer simulation) before they are implemented in the real world. With the coaches, if the strategy is evaluated favorably by the peer, then the coach will proceed to experiment with it in the real world (on the practice field or in a game situation). In this example, the coach developed a strategy to deal with the issue of poor attendance by one of the players. I asked the coach to elaborate on how the selected strategy was developed, and if he ever discussed it with the assistant coach.

Yeah I did. I had to contact him (assistant coach) by phone and I let him know that I was concerned with attendance and he agreed and I said well here are the sanctions and he said that sounds reasonable. So I typed up a sheet. [interval 3 summary interview]

Further support for this proposition is found in another quotation with this coach. In this example, the coach elaborated on how coaching strategies were developed and the important role played by the assistant coach.

Before I go looking for anything to do I've got it planned out in my mind step by step, going from simple to the more complex, a little bit of challenge and then onto a game situation and so on. And then I go back and say, How is this going to work, and ask my assistant, What do you think of this? [interval 1 summary interview]

Dissemination of Findings

I have started to prepare the preliminary findings for dissemination to the research community. A presentation on the role of the peers in knowledge construction (based on the results from the three soccer coaches only) has been accepted for the annual conference of the Canadian Society for the Study of Education (CSSE), to be held in May. I am also in the process of preparing two more presentations to submit to a world congress on sport pedagogy to be held in July. These two presentations will be more of an overview of the project, with some preliminary findings from both ice hockey and soccer. As the audience for this congress will be sport-based, I will discuss some of the issues that the coaches dealt with in the two sports.

Future Plans

In the next three months, I intend to conduct the member-check interviews with the soccer coaches, complete the data collection for ice hockey, and establish contacts for baseball. I will collect the baseball data during the summer months. All data collection should be completed by October 1998. I intend to deposit my thesis by early January 1999. Preparation of the final document will be facilitated by the fact that I have been analyzing the data and writing reports throughout the data collection process.

Appendix Y

Case Study Protocol

(prepared at the time of the thesis proposal, April 1997)

**The Construction of Coaching Knowledge in Amateur Team Sport Coaches
Project Overview**

Who: Wade Gilbert, Ph.D. candidate, Faculty of Education, University of Ottawa. Supervised by Dr. Pierre Trudel, School of Human Kinetics, University of Ottawa.

Educational Background: Master of Arts (Human Kinetics) and Bachelor of Physical Education.

For the past five years have conducted research with amateur and college level ice hockey coaches and referees. Research examines both the behavioral and the cognitive aspect of coaching and officiating.

What: Case study project on the construction of coaching knowledge in amateur youth team sport coaches (basketball, ice hockey, and soccer).

Where: Ottawa-Carleton region

When: May 1997 - May 1998

Why: Part of the requirements for the degree of doctor of philosophy (Ph.D) in education, and interest in fields of sport pedagogy and amateur coaching.

Project Overview

The Construction of Coaching Knowledge in Amateur Team Sport Coaches
Wade Gilbert

Abstract

The recent stream of inquiry into how practitioners construct their professional knowledge is a result of the gap between theory and practice found in traditional professional development programs (Argyris & Schön, 1974; Schön, 1983). Theorists from an alternate school of thought have focused on the learning that occurs through experience (Dewey, 1933; Kolb, 1984; Schön). A theory of experiential learning that is specific to professional knowledge construction in the context of practice has been advanced by Schön (1983). The premise of this influential theory is that model practitioners construct professional knowledge through a process of reflection-in-action. Opportunities for reflection-in-action arise when a practitioner's actions yield unexpected outcomes. Important processes in reflection-in-action include: role framing, problem setting, developing repertoires of strategies, and creating virtual worlds of practice.

Schön's (1983) theory has provided the framework for research into numerous professions, most notably teaching. The value of this type of inquiry, however, has not been transferred to study of coaching. There is a need to understand how amateur coaches construct coaching knowledge through direct practical experience for several reasons. First, amateur coaches play an influential role in youth development (Martens, 1990; Smith, Smoll, & Curtis, 1979). Second, the typical North American amateur youth sport coach receives very little, if any, professional preparation (Coaching Association of Canada, 1996b; Weiss & Sisley, 1984). Third, coaches at all levels repeatedly cite direct experience as the primary source of coaching knowledge (Coaching Association of Canada, 1996a; Gould, Giannini, Krane, & Hodge, 1990; Salmela, 1996).

The purpose of the proposed study is to examine how amateur youth team sport coaches construct coaching knowledge through direct practical experience. The research questions correspond to the four themes identified in Schön's (1983) theory of professional knowledge construction: 1) How do amateur team sport coaches frame their roles? [role framing] 2) How do they frame or set problems? [problem setting] 3) What role do previous experiences play in resolving problems? [repertoires], and 4) How do they solve problems? [creation of virtual worlds]

A multiple case study design will be used (Yin, 1994). The sample will comprise nine amateur youth team sport coaches from basketball, ice hockey, and soccer. Methods of data collection will include: focus groups, semi-structured interviews, videotaping, stimulated recall interviews and reflective journals (see Table 1). Data will be collected with each coach over the course of an entire playing season. An inductive analysis of the interview transcripts will be guided by explanation building logic (Yin, 1994). Several measures will be taken to increase the validity of the study, including: peer reviews, member checks, data triangulation, selection of multiple cases, and a case study protocol (Miles & Huberman, 1994; Maxwell, 1996; Yin).

Field Procedures

Gaining access: To gain access to coaches, I will have to contact the local sport associations and ask to speak with the president or director. Explain who I am and what I want to do, and perhaps arrange for a meeting if they want to discuss it face to face. Otherwise, just ask for a fax of coach names and numbers, or dates and times of upcoming Level 1 or 2 clinics and the instructor's name and phone number. I can call the instructor and ask if it is okay to attend the clinic one day and talk about the study and try to solicit coaches.

Field materials:Interview Sessions

- Backpack
- Memo pad and pens (2)
- Audio recorder
- Audio cassettes (2)
- Batteries
- Phone number list

Videotaping Sessions

- Backpack
- Memo pad and pens (2)
- Video equipment and wireless microphone
- Video tapes (2)
- Batteries (2)
- Phone number list

Data Collection Schedule:

Data Collection	Soccer (1997)	Ice Hockey (1997-98)	Basketball (1997-98)
Contact associations/coaches	First week of April	First week of September	First week of October
Focus Groups	Last week of April or first week of May	Third week of September	First week of November
Background Interviews	First week of May	First or second week of October	Second week of November
Videotaping and Stimulated recall interviews	Start second week of May - end middle of August	Start second week of October - end middle of March	Start middle of November - end middle of March
Structured interviews	Middle of June to middle of August	January to March	Start middle of November - end middle of March
Documents	Throughout entire season	Throughout entire season	Throughout entire season
Transcribing	Within one week of interview	Within one week of interview	Within one week of interview

Backup plans: If the coach has too many activities during the selected week of observations, I can schedule one or two stimulated recall interviews in which we can discuss more than one event (game or practice). I may do this regardless to make it more convenient for the coach.

Case Study Questions

Q: What are the responsibilities of a coach at this level in this association?

Sources of data:

documents

background interview

Q: What are typical problems that a coach at this level encounters?

Sources of data:

focus group interviews

review of literature

documents

Q: How does a coach at this level define or set a problem?

semi-structured interviews

structured interviews

reflective journals

Q: What strategies are used to solve or address problems, and where and when are they learned?

semi-structured interviews

structured interviews

reflective journals

documents

Case Report Format

The final report will basically follow a linear-analytic structure, considered the best way of presenting case study data for dissertation committees. The components will be: (a) Acknowledgments, (b) Table of Contents, (c) Introduction, (d) Relevant Literature, (e) Research Questions and Purpose, (f) Research Design, (g) Results - Case Reports, (h) Discussion (cross case comparisons and comparison to literature), and (i) Conclusions.

Results: The results section will briefly summarize the amount of data that was collected (e.g. x interviews, y observations), and the timelines for the data collection. Also, any unique circumstances that arose will be stated, for instance if a coach was ill or absent for a period therefore reducing the number of observations that were obtained with that coach. The first subsection of the results will be related to the focus groups.

Focus groups: A table will be used to illustrate the demographics for each focus group, including: sport, number of participants, average age and years of coaching, level of certification, intended years of coaching, and main reason(s) for coaching. The most often discussed problems, why they are considered problems, and how they are solved, will be presented for the three phases of the season: (a) beginning, (b) middle, and (c) end.

Case reports: A table illustrating the demographics for each coach will also be included to give a general overview of the participants. Possible information that will be included in this table will be: sport, age and level of athletes, level of certification, age, gender, years coaching, years and level of participation as an athlete, and son or daughter on team. The findings for each case will be illustrated under separate headings (e.g. Case 1, Case 2). Each case will resemble a separate study and will follow the same organizational format. First, the participant and the setting will be described in more detail. Second, each research question will be answered, with

examples and quotations to support findings. The problems encountered by each coach will be compared to those revealed in the focus groups.

Comparison across cases and to literature: The discussion will be organized around the research questions, which in turn correspond to components in the larger theory of knowledge construction. For instance, the first sub-heading will be Role Framing. Patterns that emerge across cases, or the lack of noticeable patterns, for each of the research questions will be discussed with examples from the cases and then compared to existing literature on that topic.

Conclusions: The conclusions will be divided into two sections: (a) Relevance to Schön's theory of knowledge development and (b) Implications for coach education programs.