Video self-reflection and coach development in New Zealand: A qualitative descriptive study

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Abstract

This study directs attention to Sport New Zealand's vision of having world leading coach development. In their quest Sport New Zealand has moved away from the structured accreditation system embraced by other leading sporting nations and adopted 'on-going learning' and 'professional development' framework. As part of this framework there is a key emphasis on self-reflection. The systematic and structured process of self-reflection is vital for coaches to become self-aware and develop their coaching. The use of video has been suggested as a tool that could enhance the reflective process. However, while there is considerable research on the benefits of video self-reflection (VSR) in both the education and coach development sectors, there remains limited research in understanding it's use by coaches in New Zealand and to date there are no published studies that have used a qualitative research approach to understand how performance coaches in New Zealand engage in VSR.

Drawing on data from interviews with New Zealand performance coaches this qualitative descriptive study looks to understand their perception of VSR as a tool for learning within their 'on-going' development. This study also looks to examine what are the potential barriers experienced by coaches to engaging in VSR. The six participants (one male and five female) were from four different sports (basketball, rugby, netball and football). Each participant was classified as a Performance coach, had coached for over 5 years in their particular sport and had recently (in the previous 12 months) participated in a coach development programme that aligned with the Sport NZ's Coach Development Framework. The study data was gathered through semi-structured interviews.

Four main themes emerged from the data: A positive perception of the benefits of engaging in VSR, a desire to engage in VSR which is not realised, perceived barriers to VSR (prioritization of time, logistics and self confrontation), and 'modern' vs. 'old school' coaches.

The main finding of the study was that Sport New Zealand's coach development philosophy has had an influential role on coach's perceptions and awareness of the benefits of video self-reflection as a tool for learning. However while coach's valued VSR the lack of exposure and experience in the process meant coaches did not value the practise enough to dedicate specific time towards it. The results of this study provide an evidence-base that can be used to support Sport New Zealand's Coach Development Framework (CDF), and the modification of content to encourage the use of VSR and the goal of creating a world leading coach development programme.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Simon Mead

Date: 3rd February 2015

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Ethical Approval

The application for ethical approval to AUTEC – AUT University's ethics committee was completed in March 2014. The ethics application was referred to the AUT University Ethics Committee.

Ethical approval was granted on 26th March 2014 by AUTEC. Reference: 14/39 (Appendix 1)

Chapter 1: Introduction

For New Zealand to continue to be successful on the world stage, Sport New Zealand had identified that coach development must be one of their top priorities. When Sport New Zealand (Sport NZ) created the New Zealand Coaching Strategy in 2004 they observed that:

> Comparing New Zealand with other countries, clearly we cannot compete on two levels – investment and numbers. The quality of coaching therefore, must be a significant point of difference when compared to the rest of the world
>
> (Sport NZ, 2004, p.2)

It is Sport NZ's vision to "have world leading sport coaching development as the heart of the sporting environment" (Sport NZ, 2012, p.5). This study targets the community of 'performance coaches' to determine the role of video self-reflection as a learning tool in enhancing coach development in New Zealand. Performance coaches were defined by Sport NZ (2012) as "coaches who support a range of athletes who have shown extra ability and have moved into district or regional representative sport at either a youth, high school or adult level" (p.7).

Video self-reflection (VSR) refers to the use of video recordings of a playing, teaching or coaching episode, for post session reflection (Carson, 2008; Tripp & Rich, 2014). This technique is widely utilised within the education sector to enhance teacher training (Marsh & Mitchell, 2014; Rich & Hannafin 2009; Tripp & Rich, 2014). It is also an accepted and valuable tool used for player development. The success in other fields implies that VSR should therefore be an equally beneficially tool for coach development (Carson, 2008; O'Conner, 2012).

The systematic and structured process of self-reflection is essential for coaches to become self-aware and improve their coaching (Gilbert & Trudel, 2001; Martens, 2004; Nelson & Cushion, 2006). However, there is little evidence to show how New Zealand coaches engage with self-reflective practice. In this study, a sample of six performance coaches who participated in a Sport NZ coaching programme, were interviewed to find out their perception of VSR as a tool for learning and if there were any barriers to its use in on-going coach development.

Aims of this study

The aims of my study were:

1. To investigate whether New Zealand Performance coaches are engaged in meaningful reflective strategies.
2. To identify how New Zealand performance coaches perceive VSR as a tool for learning.
3. To determine the potential barriers experienced by coaches to engaging in VSR.
4. To recommend ways to improve the use and effectiveness of VSR in the New Zealand performance coaching environment.

Research questions and purpose

Thus, the research questions for my study are:

(a) How do performance coaches within New Zealand perceive video self-reflection as a tool for learning?

(b) What are the key barriers that stop coaches engaging in meaningful video self-reflection?

The purpose of this study was to capture the perspectives of performance coaches in New Zealand and how this information could be used to enhance future coach development strategies.

Significance of research

Comparison of New Zealand's sporting environment with other developed nations, by Sport NZ, concluded that the country cannot compete on two levels:

1. The financial investment towards the developmental stage of high performance programmes.
2. The performance athlete talent pool.

In an attempt to have a world leading coach development plan, Sport NZ has adopted 'on-going learning' within a reflective environment as part of their professional development framework, and moved away from the structured accreditation system embraced by other leading sporting nations (Cassidy & Kidman, 2010). The strategy is to allow coaches to 'be the best they can be' (Sport NZ, 2012). A key element to the framework is an emphasis on the importance of self-reflection, as it underpins on-going self-learning. However, there has been minimal investigation on how much and how frequently New Zealand coaches engage in the practice of self-reflection, specifically VSR.

Since the early 2000's there have been significant technological advances that have influenced the environment and culture of coaching, development and learning. Tablets, smartphones, wireless recording devices and social media have all emerged as habitual coaching tools (Sport UK, 2014). A recent study looking at coaches in the United Kingdom (Sport UK, 2014) found one in three coaches own a tablet, and six in ten coaches own a smartphone. Information technology is now one of the fastest growing areas and the increased use of these tools has meant performance video game/player analysis is now widely accepted as an integral part of the coaching process (O'Conner, 2012; Mackenzie & Cushion, 2013).

With the inclusion of self-reflection as a component of Sports NZ's coaching framework, and the increased use of information technology, the focus of this study is to qualitatively determine whether NZ coaches currently incorporate VSR as part of their development process, how they perceive its effectiveness, and what are the key barriers to its further implementation.

By exploring how coaches perceive VSR as a tool for learning, coach developers can better understand how to apply self-reflection and VSR into coach development. The findings of this study will contribute to a more effective implementation of Sport NZ's Coach Development Framework (CDF), and the goal of creating a world leading coach development programme.

Background and research context

The nature of coach learning has become increasingly the subject of debate (Cassidy, Jones, & Potrac, 2009; Cushion, Armor & Jones, 2003; Lyle, 2002; Cushion et al., 2010). Formal coach education has traditionally been the primary vehicle for raising the standard of coaching practice with a subsequent increase in the level of investment and delivery of coach development programmes in Western nations such as Australia, UK and Canada (Cassidy, Potrac, & McKenzie 2006a; Cushion et al., 2003; Nelson, Cushion & Potrac, 2013; Trudel & Gilbert, 2006). These programmes have been characterised by the use of an instructional focus that interestingly runs contrary to the results of recent research on learning. Learning can happen through a number of means, for example, through experience, reflection, study or instruction (Nelson Cushion & Potrac, 2006). Literature highlights that the primary source of coaching knowledge and learning evolves through informal environments, self-reflection of practical experience, observation and discussion with 'others' (Cushion et al., 2003; Irwin, Hanton & Kerwin, 2004; Nelson & Cushion, 2006; Nelson et al., 2013). Therefore it may be pertinent to question whether the coaching education approach taken by national bodies responsible for coach education, in the absence of self-reflection and informal learning provides the best approach to coach improvement and long-term development (Cushion et al., 2010; Lyle, 2007; Nelson et al., 2013).

In attempts to better prepare coaches, coach education programmes have started to embrace the value of informal approaches to learning and development (Werthner & Trudel 2006). Informal learning is a learning experience without a prescribed curriculum; this can include self-learning, interactions with other coaches, on the job learning, seminars and conferences (Sport NZ, 2012). Informal learning environments have led to alternative, theoretically informed, pedagogical approaches in the design of coach education curricula, learning and on-going development (Cassidy et al., 2006a; Lyle, 2007). Such approaches have included the utilisation of reflective practice (Schön, 1983; 1987), competency-based programmes (Demers, Woodburn & Savard, 2006), issue based learning (Trudel & Gilbert, 2006), problem based learning (Jones & Turner, 2006), mentoring schemes (Cushion et al., 2003), and Communities of Practice (Culver & Trudel 2006; Kidman & Penny, 2014).

Over the past decade the focus on reflection, or coaches becoming reflective practitioners has gained popularity (Cassidy et al., 2009, Dixon, Lee & Ghaye, 2014). Literature highlights that reflection is a proven and valuable tool in understanding coaches' long-term learning (Cassidy et al., 2009; Cushion, 2006; Cushion et. al., 2003; Gilbert & Trudel, 2001). Reflective practice

is particularly relevant for coach education as it empowers coaches to take ownership of their learning (Kidman, 2001), and enables the linkage between practical and theoretical knowledge gained from various sources (e.g. coach professional experience, coaching observations, coaching theory and coach education) (Nelson & Cushion, 2006). For these reasons the New Zealand's CDF (Sport NZ, 2012) has adopted the integration of reflective practice with its 'on-going learning' and 'professional development' structure. However, while reflective practice is becoming widely recognised as a key element to coach learning, reflection is often undertaken in a superficial way, and there is limited understanding of how to best implement and fully evaluate the impact of reflective practice on coach learning and development (Cropley et al., 2012; Cushion, 2011; Cushion et al., 2010, Dixon et al., 2013).

The use of video has been suggested as a tool that could enhance the reflective process as it allows coaches to repeatedly review their coaching, without the reliance on memory for in-depth analysis (Carson, 2008). Within the education sector VSR has become an integral part of professional development to student teachers, and has been shown to significantly increase their level of reflective thought and self-awareness (Freese, 1999; Sherin & Van Es, 2005; Tripp & Rich, 2014). Video analysis coupled with the 'scaffolding of reflection', could enable the complexity of coaching behaviours to be captured and assist in taking significant steps towards guiding coaches to useful pedagogical practices (Cushion et al., 2012). However, research identifies that prior experience and habitual behaviour strongly influence the ability of coaches to acquire new knowledge and techniques. In comparison to teaching, coaching is often more dynamic, undertaken in challenging and sometimes variable environments (e.g. on the field, in a gym, on the water) and coaches are not exposed to VSR early in their coaching careers. Further research is therefore required to determine how VSR could be practically incorporated into large-scale coach development programmes to promote its regular use as a tool for learning (Carson, 2008). This study directly addresses that call.

Choice of research methodology

Within research there are multiple ways of finding out what is known and multiple ways of representing that knowledge. This study was based on a certain set of assumptions that guide a particular way of thinking about knowledge and reality. The post-positivist paradigm was used as a basic conceptual structure of framework in which to guide this study. This framework understands that reality is socially and culturally constructed and researcher objectivity is impossible (Giddings & Grant, 2007). Based on this framework previous research on self-reflection was review to select an appropriate methodology. Written self-reflection was frequently studied in education (Hanton & Smith, 1995; McIntyre, 1993; Williams & Grundnoff, 2011; Zeichner & Liston, 1996) and to a lesser degree in coach education and development (Burt & Morgan, 2014; Cropley, Miles & Peel, 2012). In contrast, VSR has predominantly been studied in the education sector (Harlin, 2013; Rich & Hannafin, 2009;

Tripp & Rich 2014) with very little research in coach development (Carson, 2008). Previous qualitative research into written reflective practice in coaching and VSR in education, have incorporated the method of semi-structured interviews. However, the few studies that have explored VSR within coach development have predominately used case studies (Kidman, 1994) and qualitative surveys and/or open-ended questionnaires (Carson, 2008).

This study therefore used a qualitative descriptive approach based on semi-structured interviews guided by a post-positivist paradigm (Giddings & Grant, 2007) to assess coaches' perception of VSR (see Figure 1 – further discussion on this Figure will occur in chapter 3 - methodology). This particular methodology "looks to hear the voices of people, analyse the themes and produce a thoughtful overview of results" (Smythe, 2012, p.5). This study will not look to contract a theory, nor over interpret the data, but rather identify common themes as they emerge to answer the research question (Giddings & Grant, 2007).
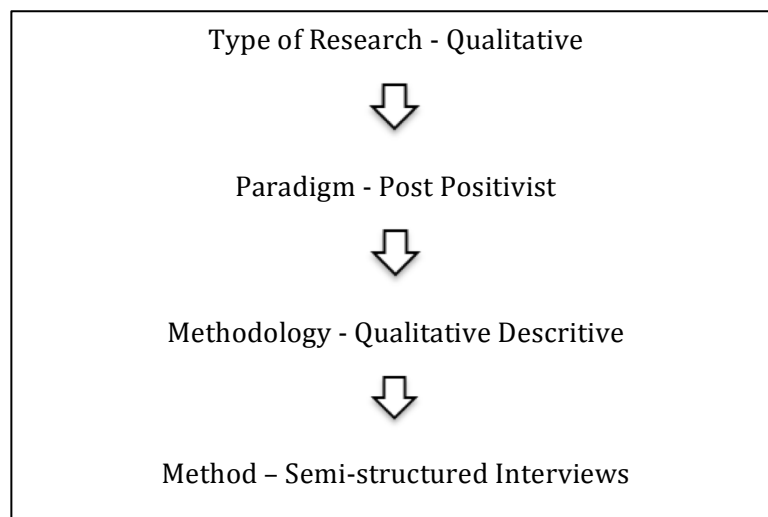
Figure 1: Methodological overview

Assumption of the research

Qualitative descriptive research is the methodology used when straight descriptions of a phenomenon are desired (Sandelowski, 2000). Although no description is free of interpretation, basic or fundamental qualitative description, as opposed to other qualitative methodologies (e.g. grounded theory), entails a kind of interpretation that is low-inference (Sandelowski, 2000). In other words this study will look to present the data in its natural state. However, in qualitative research it is readily acknowledged that the assumptions of the researcher may influence the research. Van Manen (1997) suggests, "It is better to make explicit our understandings, beliefs, biases, assumptions, presuppositions and theories" (p. 47). By exposing these presumptions, it is hoped to limit the effect of any bias.

The assumptions about VSR that I bring to this study are:

- Coaches do not engage in regular written meaningful self-reflection despite knowing the benefits.
- Coaches will see VSR as a beneficial tool to coach development
- Coaches do not engage in VSR as part of their own development as it is considered as too difficult and too time consuming process.

Further, as a coach and coach educator I am aware that coaches lead busy lifestyles and often dedicate a lot of time to their athletes. I believe that coaches are aware that self-reflection is a beneficial tool to their coach development. However, I also think coaches believe self-reflection is considered something 'extra to do' over and above their current coaching commitments and is therefore rarely used.

As part of my coach educator role for Waikato Bay of Plenty Football, prior to undertaking this Master's study, I attempted to engage three performance coaches in video feedback reflection. After facilitating coaching course, I offered to video record each of their sessions and provided them with the video footage to review in their own time. While I offered no support or structure on what or how to reflect using video, all participants still found the process extremely beneficial. The three coaches commented about how good it was to see themselves, as after reviewing the footage all noticed aspects they had not realised they were doing. Two out of the three coaches asked me to come back and film them again, but unfortunately none were motivated to do it themselves or asked someone else to film them.

I have also recorded my own coaching sessions for self-reflection, and found it very beneficial but encountered a number of challenges with getting the footage. Organising the camera gear and finding time after training to watch the video were two reasons I seldom used VSR. This has lead me to believe that coaches do gain a huge coaching benefit by watching themselves but the VSR process is perceived as too hard and too time consuming to use unless someone assists them.

Technology is constantly evolving and handheld devices such as smart phones, tablets, and digital cameras have become increasingly common as coaching tools. I believe the majority of coaches now own a smart phone with access to the internet and a digital camera in their back pocket. I also believe that harnessing the advancement in hand held video recording devices and information technology can make VSR easier to administer.

The advances in information technology and my experiences as a coach and a coach educator have led me to explore how VSR can be better implemented as part of coach development. While I was aware of my assumptions, I was confident in letting the participants tell their story. I believe I was able to put my assumptions to one side and allow participants to be open and expressive in how they perceive VSR as a tool for learning.

Overview of thesis

Chapter two is a comprehensive literature review, which draws together relevant information in coach learning, coach development and self-reflection. In addition to critiquing and synthesising previous coaching literature, the review draws on research from the education sector to find similarities or parallels between VSR in teacher education and coach development.

Chapter three presents the research design that was used in this study. This chapter outlines the methodology, participant information, sampling strategy, recruitment process, data collection, analysis and ethical considerations.

Chapter four presents the results from the interviews, identifying common themes using participants' own words to answer the study's research questions. Key findings of this study are discussed and related back to previous research.

Chapter five summarises the key findings, evaluating their significance in regards to limitations and implications for coach development and makes recommendations for further research and future practice.

Chapter 2: Literature Review

Introduction

In review of Sport NZ's coach development philosophy Sport NZ appeared to have acknowledged that learning is a complex non-linear process, taking place in varied situations, often in informal settings and outside traditional coach education schemes (Cassidy & Kidman, 2010; Cushion, Armour & Jones, 2003; Nelson, Cushion & Potrac, 2006). Because of this view Sport NZ has embedded within the majority of its coach development opportunities the component of self-reflection as a tool for learning. Examples of this can be seen in the specific development resources Sport NZ provides to National Sporting Organisations (NSO's) to prepare general principal modules for their particular sports (Sport NZ, 2012). Although Sport NZ encourage self-reflection as part of on-going coach development, Andrew Eade, director of Coach Development for Sport NZ, believed there had been minimal investigation into the extent to which self-reflection and VSR has been adopted as a tool for learning by coaches in New Zealand (A. Eade, personal communication, December 1, 2014).

This literature review firstly discusses how Sport NZ perceives coach learning and development, including their justification for the New Zealand's Coach Development Framework. The review then explores the theory of learning and how it relates to coach development. This is followed by a discussion on the varied development opportunities coaches are exposed to, including formal, non-formal and informal learning environments and an explanation of the perceived strengths and weaknesses of each (Mallett, Trudel, Lyle & Rynne, 2009). The review then analyses written reflection and the impact it has had on coach learning. Finally, video self-reflection (VSR) and its potential role to enhance coach development in New Zealand is reviewed.

Coach development in New Zealand

It is important to understand how Sport NZ perceives coach development as this philosophy influences the context in which performance coaches learn. In the middle of 2000, a ministerial Taskforce on Sport, Fitness and Leisure Sport NZ recognised that coaching in New Zealand was in urgent need of support and development (Ministerial Taskforce, 2001, cited in Cassidy and Kidman 2010). This led to Sport NZ releasing *The New Zealand Coaching Strategy* (SPARC, 2004) and *Coach Development Framework* (CDF) (SPARC, 2006) that was recently updated in 2013 (see figure 2) (Sport NZ, 2013). These documents have provided national and regional sporting organisations with an aligned coordinated philosophy to designing coach development in New Zealand. The philosophy behind the CDF was to have "coach development based on continuous improvement through the increasingly effective integration of coaching skills, knowledge and understandings in coaching practice" (SPARC, 2004, p.4). It appeared that

within the CDF was an emphasis on coach learning and development rather than coaches gaining formal qualifications.
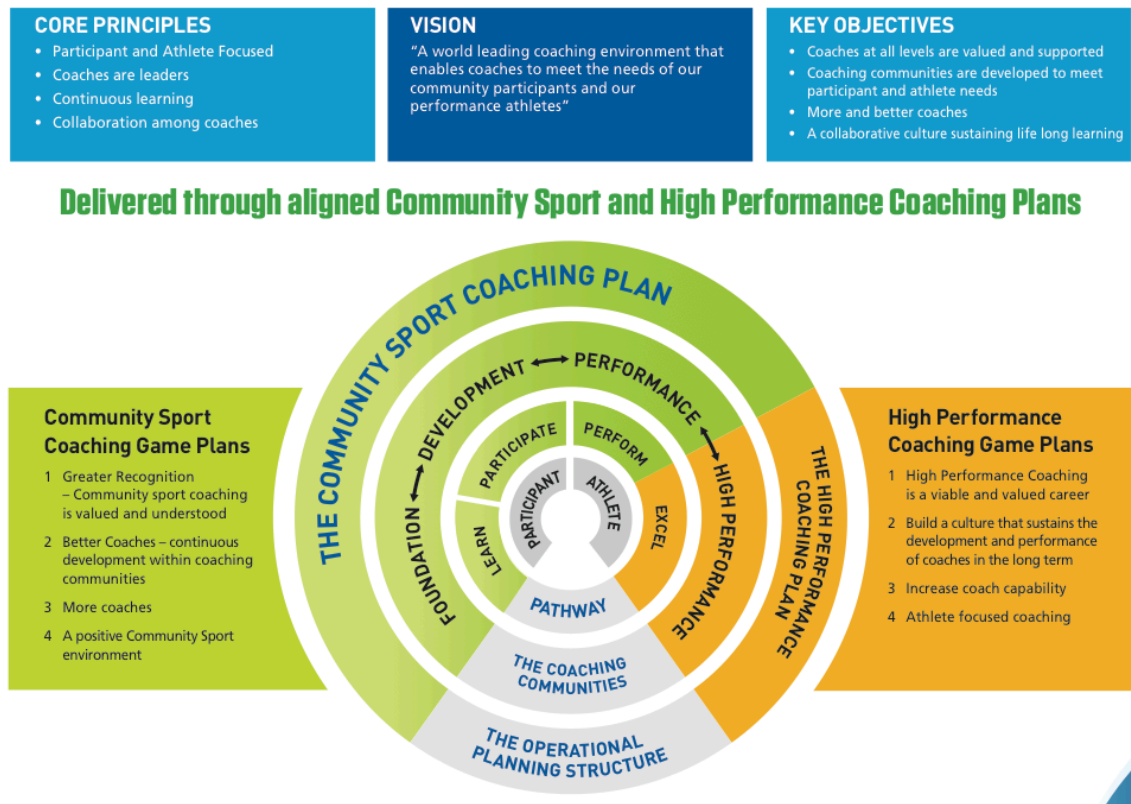
Figure 2: The New Zealand Coaching Strategy

Cassidy and Kidman (2010) analysed the language used in the CDF and confirmed that New Zealand had made a significant paradigm shift away from 'accredited' and 'certified', standardised programmes, to an emphasis on an 'on-going professional development process' informed by applied 'athlete-centred philosophy'. This shift to informal coach development has led to coaching resources being available for on-going, self-directed learning (www.sportnz.org.nz) rather than compulsory attendance of a formal course to access information and become 'qualified'. This informal approach has provided coaches with access to specific development resources that focus on skill development, effective coaching strategies, athlete learning and decision making. Sport NZ's framework would suggest they perceive that coach development takes place in a variety of contexts, the majority of which occur in informal settings beyond dedicated formal learning environments (Cushion et. al., 2010). It is therefore very pertinent that this research question examines the informal approach of VSR within a New Zealand Coaching context.

Coach learning

Coaches, including performance coaches, learn and develop their craft in many ways, utilising a variety of techniques e.g., experience, study, reflection, observation (Cushion, 2011; Nelson et

al., 2006; Nelson and Cushion, 2013). This learning process occurs beyond formal accreditation training and embraces many 'informal' processes such as reading books, watching another coach and discussions with others (Côté, 2006). Cushion and colleagues (2010) Review of Literature of Coach Learning and Development, has had an influential role in shaping this review. Their research identifies that analyse of adult learning theory allows for a better understanding of how coach development occurs.

Learning

Learning is a non-linear and complex process and within the literature there are several different theories and perspectives that describe how coaches learn (Cushion et. al., 2010). Merriam and Cafferella (1999) typified the variety of learning theories as behaviourist, cognitive, humanist and social, while Brockbank and Magill (2007) combined humanist and social theories seeing them simply as constructivist theories. In addition, Anderson, Reder and Simon (1996) and Greeno (1997) classify learning theories as cognitive or situational. In the broader learning literature there remains considerable debate about the contrasting ways to understand learning (Hodkinson, Biesta & James, 2008). Theories of learning however are based on the assumptions about the individual and the world, and the relationship between the two (Cushion et al., 2010).

Trudel and Gilbert (2006) highlighted Sfard's (1998) two root metaphors of 'acquisition' and 'participation' as a framework to describe the learning process. The acquisition metaphor views learning as a process of acquiring basic units of knowledge and can be loosely aligned to a behavioural view of learning. The behaviourist approach reduces learning to a simple linear process and assumes all learning can be measured (Cushion et al., 2010). The participation metaphor views learning as occurring in context, involving interactions with others, and can be associated with the cognitivist view of learning. The cognitivist approach takes an impersonal view of learning as knowledge acquisition. The discourse of behavioural and cognitive approaches towards learning can be seen to dominate current coach education (Cassidy, et al., 2009; Cushion et al., 2010). However, recent research (e.g. Armour, 2010; Light & Dixon, 2007) suggested constructivist theories to be more appropriate for studying coaching and coach development. Learning is a process of becoming, therefore the elements of time and space and the complexities of the context must be considered, especially as globalisation and technology are influencing learning opportunities (Trudel, Culver & Werthner, 2013).

Constructivism is not strictly a theory but a description that encompasses a range of approaches to learning (Cushion et al., 2010). Within this range, the theories have much in common. They see learning as an on-going process of adaptation and a complex, multi-faceted and continuous process of change that takes place within an evolving landscape of activity (Light & Dixon, 2007). Cushion et al. (2010) determined that the constructivist approach is how learners build their own mental structures through interaction with the environment. Moon (2004) explains that in the constructivist view of learning:

> The learner constructs their own knowledge and the knowledge is conceived to be organised more as a network… What is already known is employed in guiding the new learning in organising the process of assimilation (taking in the material of learning). In meaningful learning, where the learner intends to understand the material of learning instead of just memorizing it, the learner accommodates or adapts an area of the network in response of the new learning (p.106).

In other words, a group of coaches attending a workshop are exposed to the same material of teaching, but the material of learning will be specific to each coach (Trudel et al., 2013). Likewise, even if information contained in books is available to all coaches, what each coach assimilates will vary depending on their unique previous experiences, their social construction and the environment of the learning situation. It would appear that Sport NZ has recognised that learning is an on-going process of change, what is taught (the material of teaching) is not always learned (the material of learning) in the same way by each coach.

Coaching and learning from experience

Learning from experience as a tool for informal learning (e.g. coaching work) is cited consistently as a key process in understanding coach learning (Cushion and Nelson, 2012; Gilbert & Trudel 2001; Jones, Armor & Potrac, 2004; Lyle, 2002; Mallett et al., 2009). For example Gould and colleagues (1990) 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" (Gould, Giannini, Krane, & Hodge, 1990 p. 34). However, within the wider learning literature learning through experience or experiential learning is considered in many different ways. Often the concept is used interchangeable and without definition (Jarvis 2004; Moon, 2004). Indeed, learning from experience is a complex, constructed process (Culver & Trudel, 2006; Cushion & Nelson, 2012; Trudel & Gilbert, 2006). Learning from experience is more than just practice and includes the notion of reflection. The process of reflection in and on such experience has been identified as central to experience-based learning theories (Cassidy et al., 2009; Cushion 2006; Gilbert & Trudel 2001).

Much of what a coach learns is through on-going interactions in the practical coaching context, observation of other coaches as well as a variety of other sources (Cushion, 2001; Gilbert & Trudel 2001). Consequently, through participation and observation in many contexts, different methods of coaching are experienced and witnessed (Cushion et al., 2003). These methods are steeped in a personal culture, which in turn, are internalized and embodied. Coaches therefore, interpret future coaching events and observations on the basis of this early experiential foundation (Cushion, 2001; Cushion et al., 2003; Jones et al., 2004). These experiences carry far into a coach's career and provide a continuing influence over perspectives, beliefs, and behaviours (Cushion et al., 2003).

Bourdieu (1977) suggested that the body is a site of social memory involving the individual culturally learning and evoking dispositions to act (Jarvie & Maguire, 1994). Bourdieu

characterised this as 'habitus' (Brubaker, 1995; Wacquant, 1998), which can be further defined as a series of internalised schemes through which people perceive, produce, and evaluate their practices (Ritzer, 1996). These unconscious schemata are acquired through lasting exposures to particular conditions via the initialisation of external constraints and possibilities (Wacquant, 1995). This social construction is important because the unconscious operation of habitus means that what coaches do, i.e., their practice, signifies a great deal about their personal history and occupancy of a specific social position. A coaches' habitus is acquired as a result of past experience as players and coaches and through adjustment and readjustment following interactions with certain coaching contexts (Cushion et al., 2003). In other words how coaches choose to learn about coaching is steeped in their personal history and can be viewed as both the product and manifestation of a personal experience with the coaching process (Cushion et al., 2003). In relation to this studies research question this is important because how coaches perceive VSR as a tool for learning will be influenced by their previous learning experiences, their personal history and their involvement of programmes aligning to New Zealand's Coach Development Framework.

In summary, it is clear that there is not one specific approach to coach learning, rather there are various concepts of learning and theories that support them. Developing an understanding of coach learning means understanding these different concepts, the theories supporting them and the assumptions that underpin them. While it is impossible to advocate a single approach to learning, the theories and approaches described, demonstrate the complexity of learning (Tusting & Barton, 2006). Governing bodies in charge of coach development need to understand their role in accelerating the learning process (Trudel, Gilbert & Werthner, 2010). This implies that any coach development programme should try to offer (design and nurture) the best learning context for coaches (Trudel et al., 2013). Knowles et al. (2005) reflect a consensus among those interested in coach development by quoting "it appears that coach expertise cannot be created within formal education courses alone but requires coaches to engage mentally with their own practice to learn and develop" (p.1713). This is highlighted in Sport NZ's move away from formal 'structured' and 'accredited' coach education to more informal, coach centred coach development. Sport NZ has recognised that learning is a multi-faceted, complex process and therefore encourages coaches to view their learning and development as on-going, self directed and continuous (Cassidy & Kidman, 2010; Kidman & Penney, 2014). Finally, it is important to be aware that when exploring new methods of learning such as VSR, research clearly identifies the influence of prior experience and habits on the ability to acquire new knowledge and techniques (Cushion et al., 2003) for performance coaches.

Coaching and learning at the performance level
There is very little research specifically targeting how performance coaches learn to coach as the majority of literature refers to coaching at the high performance level. 'High Performance'

has traditionally been given a reasonably wide definition with New Zealand Sport. Previous to the Sport NZ's implementation of the CDF many performance coaches were classified as 'High Performance' (Sport NZ, 2012). This highlights how performance coaches and high performance coaches share similar characteristics in how they learn and how they coach. Researchers such as Mallett and colleagues (2009) have suggested that learning to be a high performance coach includes a mix of sport participation experience, coaching experience and education. Excellence in coaching is gained through years of deliberate practice (Erickson et al., 2008) and study (Schempp, McCullick & Manson, 2006).

The bulk of high performance coaches engage in some form of formal coach education to become certified or accredited (Nash & Sproule, 2009). The majority of studies however, show significantly lower amounts of time invested in formal education compared with coaching itself (e.g. Erickson, et al., 2008; Rynne, 2008). Some studies suggest formal coach development courses are of little benefit to their knowledge development (e.g. Nash & Sproule, 2009). Irwin et al's. (2004) research showed that only 36% of elite coaches considered coach education courses beneficial to their development. Mallett et al. (2009) commented that "Formal educational situations cannot encompass all experiential learning required to 'embed' learning" (p.332). Saury and Durand (1998) reported that effective elite coaching practice, in their sample of sailing coaches, was based on appropriate use of tacit experiential knowledge and not just formal theoretical knowledge about coaching pedagogy, physiology or other bodies of knowledge.

What is clearly highlighted in the literature is that elite coaches are devoted to their learning, show strong self-reflection skills closely monitoring the things they do well, and are always searching for new ways to improve their coaching knowledge (Bloom & Salmela, 2000; DeMarco & McCullick, 1997; Nash & Sproule, 2009; Schempp et al., 2007). Research into the development of expert coaching emphasises the constructivist approach to learning and provides further support for Sport NZ's 'on-going learning' and 'professional development' framework. If New Zealand's coaches are going to be the point of difference compared to the rest of the world then Sport NZ must continue to promote on-going learning and provide optimal learning environments to allow coaches to be the best they can be.

Sources of learning for coach development

Coombs and Ahmed's (1974) conceptual framework of formal, non-formal and informal learning has been used in this literature review to examine the avenue (other than experience) through which coaches learn to coach. Understanding sources of learning for coaches has been studied for a number of years, although the momentum for this research has increased recently with the bulk of the coach research being published post 2000. There are considerable debates and complexities around the use of the terms formal and informal learning, however, the framework has broad acceptance and use in adult learning literature (e.g. Jarvis, 2004; Jarvis,

2006; Merriam & Caffarella 1999; Tuijnman & Bostrom, 2002). It is important to note that Jarvis (2006) commented on the situational aspects of learning, "the terms formal, non-formal and informal learning have crept into the educational vocabulary when we have actually meant learning in formal, non-formal and informal situations" (p.195). Moon (2001) further suggests a distinction between learning context and learning situations. The learning context is the "setting in which learning occurs – the course, the instructor, relevant organisations, and so on – and the learning situation, is the learners' perception of the context and is unique to the learner" (p.48). The terms formal, non-formal and informal learning provide a framework and structure to explain these different situations for coaches.

Formal learning

The number of coach development programmes available has increased exponentially in recent years, and most provide and promote formal learning situations (Cassidy et al., 2006a; Cushion et al., 2003; Trudel & Gilbert, 2006). With the intent to improve the quality and exposure of coaching at all levels around the world the International Council for Coach Education (ICCE) was formed in 1997. Participating nations of the ICCE typically have their own national governing body for coach development and certification. These governing bodies establish large-scale coach development programmes that certify or accredit coaches (e.g., Australia's National Coaching Accreditation Scheme; Canada's National Coaching Certificate Programme; United Kingdom Coaching Certificate) (Nelson et al., 2013).

A formal learning situation is defined as an episodic learning experience where the learner does not select the material to be taught. In other words, other individuals control the learning context. An expert or group of experts choose the material of teaching, the delivery format, and when and where the learning activity will take place (Nelson et al., 2006). Large-scale coach education programmes such as Canada's National Coaching Certificate Programme or the United Kingdom Coaching Certificate are often delivered over the course of a few weekends with additional shorter workshops and seminars. Coaches either participate in these learning opportunities because of their own interest or because they are obligated to attend for certification (Trudel, et al., 2010). In these learning situations participants learn about coaching topics in a time efficient manner without, as the expert(s) did, spending a lot of time searching out and reflecting on the appropriate information. Unfortunately, even a great workshop/course could have minimal impact if coaches do not find the coaching topic pertinent to them (Trudel et al., 2010). There is a growing body of research that suggests formal education programmes have a limited impact on the learning and development of coaching practitioners (Cushion et al., 2010; Lyle, 2007; Nelson et al., 2013).

Gilbert and Trudel (1999) were one of the first researchers to outline a comprehensive strategy that could evaluate large-scale coach education programmes. They still remain one of the few researchers to have evaluated whether course attendance impacted upon both the knowledge and

practice of an attendee. Their study used participant observations, interviews and systematic observations in the evaluation of the Canadian National Coaching Certification Programme (NCCP). Their study demonstrated that the level two theory course had negligible impact upon youth ice hockey coaches' knowledge, decision making and instructional behaviours. The authors suggested the programme's impact was limited by the coaches' previous learning endeavours and only reinforced what the coach already knew.

In studies where coaches have been asked for comments on their experiences of formal coach education programmes they have suggested that organised courses often give little more than basic understanding (Abraham, Collins & Martindale, 2006; Jones, et al., 2004); little knowledge is gained as coaches are already putting in to practice much of what is covered (Gilbert & Trudel, 1999); some theoretical material covered is considered too abstract from everyday practice to be considered worthwhile; and courses try to cram too much information in a relatively short period of time (Lemyre et al., 2007). A recent study by Chesterfield, Potrac and Jones (2010) determined UK soccer coaches' perceptions of course content and assessment methods experienced on an advanced, certified level coach education programme. Overall they found that coaches' experiences were generally negative and that they did not value the 'one size fits all' approach to coaching provided on the course. Côte´ (2006) suggested one explanation for the limited impact of such formal coach education lies in it having been designed using a 'top-down approach'. Literature suggests that coaching practitioners often have limited, if any, input into the design and delivery of the courses that they attend (Chesterfield et al., 2010). It has also been suggested that completing a formal coach education programme, often offered over a short period of time, is not sufficient to adequately develop coaches, even though completing such programmes is generally the only way to become certified (Côté & Gilbert, 2009; Nelson & Cushion, 2006; Rynne et al., 2006). As a result there remains no evidence to link coach education certification with coaching competency.

While existing formal coach education delivery has been viewed somewhat negatively, it should be noted that researchers have also reported that:

- Courses have provided some practitioners with an initial source of interest and enthusiasm (Irwin, et al., 2004).
- Those with limited athletic or coach experience found them useful to attend (Irwin, et al., 2004; Wright et al., 2007).
- Coaches are highly appreciative of the practical components of formal courses (Lemyre et al., 2007).
- Practitioners view the attendance of coach education as an ideal opportunity to meet and engage with other coaches (Irwin et al., 2004; Lemyre et al., 2007).

While the literature suggests that there are some positive outcomes, formal coach courses have tended to be far from optimal with regards to both coach learning and long-term development (Abraham et al., 2006; Irwin et al., 2004; Jones et al., 2004; Lemyre et al., 2007; Wright et al., 2004). Interestingly, Sport NZ has moved away from 'formal accreditation' as part of their 'professional development framework'.

Non-formal learning

Learning that has occurred in non–formal situations has been conceptualised as "any organised, systematic, educational activity carried on outside the framework of the formal system, to provide select types of learning to particular sub groups in the population" (Coombs & Ahmed, 1974, p.8). Examples of non-formal learning include coaches' workshops, seminars, conferences and clinics (Nelson et al., 2006). Formal and non-formal learning share many similar characteristics (e.g. the learner does not select the material to be taught). Research suggests that coaches do engage in non-formal learning, however there has been a tendency in the literature to consolidate all forms of formal and non-formal provision under headings such as 'coaching courses' (Irwin et al., 2004; Mallett, et al., 2009). While non-formal learning does occur, the level of impact it has on the development of coaches is largely unclear. Research in this area is essentially absent (Cushion el al., 2010).

Informal learning

Learning through informal techniques such as practical coaching, observation and discussion with 'others', is a recurring theme that has been reported consistently in the literature (Cushion et al., 2003; Irwin et al., 2004; Nelson et. al., 2013). Researchers such as Mallett and colleagues (2009) have shown that learning in an informal sense is far more powerful as a tool to gain knowledge compared to undertaking / attending formal courses. Kidman and Penny (2013) suggested that learning can occur informally, but any learning that is developed is dependent on the individual's mental model. Coaches' learning therefore is dependent on their motivation to learn and see relevance in relation to their own coaching. It is clear that learning in informal situations is a well-established personal pathway for coaches, with its implications for knowledge development and professional socialisation being recognised in the coaching literature (e.g. Cassidy et al., 2009; Cushion et al., 2003). It is the informal situation of learning through VSR that this study will directly investigate.

Self-directed learning is a term used interchangeably with informal learning (Merriam & Caffarella, 1999). Self-directed learning is not easily defined but in essence is learning on one's own (Merriam & Caffarella, 1999). Self-directed and informal learning often occur without a prescribed curriculum, facilitated by an 'other' (e.g. senior coach, programme coordinator, sport administrator). These informal forms of learning ignore the power relations where the 'other' dominates the learning process and where particular ideological interpretations of high-status knowledge are enforced (Cushion et al., 2010). Coaching literature suggested that coaches

actually learn and prefer to learn from a range of sources and may desire greater informal opportunities for a balanced approach towards their development (Cushion et al., 2010; Erickson, Burner, Macdonald & Côté, 2008).

There are several informal sources of coach learning that have been identified in coaching literature including:

- Communities of Practice (Culver & Trudel, 2006; Kidman & Penney, 2014).
- Social media/online tools (e.g. coaching websites, Twitter, Facebook) (Sports UK, 2014).
- Informal mentoring (Bloom, Durand-Bush, Schinke & Salmela, 1998; Cushion et al., 2010; Lyle, 2002).
- Observing other coaches (Cushion el al., 2003; More & Franks, 2004; Spencer, 2010).
- Self-reflection (Cassidy et al., 2009; Cushion, 2006; Cushion et. al., 2003; Gilbert & Trudel, 2001)
- Learning through experience (Gilbert & Trudel 2001; Jones et al., 2003; Lyle, 2002; Mallett et al., 2009)

Communities of Practice (CoP) has been proposed as a practically fruitful informal approach to coach learning. CoP is a concept presented by Lave and Wenger (1991) to engage with learning as a social phenomenon and bring to the fore the notion of a group of people coming together for mutual learning in and through processes of negotiation of meanings. More recently CoP has been redefined as "a group of people (coaches) who share a common concern, set problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an on-going basis" (Wenger, McDermott & Snyder, 2002, p.4). Several studies have highlighted how CoP's are influential in shaping coaches learning with others (e.g. Culver, 2004; Culver & Trudel, 2005; Kidman & Penny, 2014). An example of Sport NZ adopting CoP is with its use in the High Performance Coach Advance Programme (CAP) (Kidman & Penny, 2014). Through this sustained interaction, coaches can collectively negotiate meaning in order to learn from one another (Culver & Trudel, 2006).

Recently the internet, coaching websites, and social media have all become a popular source of coach information. A recent study in the UK (Sports Coach UK, 2014) found that around 70% of coaches use the internet for coach related reasons, and a third of coaches use social media to learn about coaching. Sport NZ has also embraced the internet as part of its coach development framework with a large number of its coaching resources being available online, for on-going, self-directed learning (see www.sportnz.org.nz).

Informal mentoring has also been suggested as a key source of learning (Bloom et al., 2008; Cushion et al., 2003; Cushion et al., 2010). Informal mentoring is described where a mentor is sought out by a mentee, from within his or her own community (Bloom et al., 2008; Cushion et

al., 2003). This process is entirely unplanned but intentional, with the mentee controlling the interactions, with social structure offering the formality (Cushion et al., 2010).

While informal learning approaches such as CoP and informal mentoring contribute to coaching knowledge, the literature predominantly suggests that learning through experience is the key component to informal coach development and learning (Abraham et al., 2006; Erickson et al., 2008; Irwin et al., 2004; Jones et al., 2004; Lemyre et al., 2007).

In summary, coaches learn in a variety of ways from a number of formal, non-formal and informal sources. However, the current literature suggests that informal learning through coaching experience and engaging with other coaches remains the most impactful on coach learning (Abraham et al., 2006; Erickson et al., 2008; Irwin et al., 2004; Jones et al., 2004; Lemyre et al., 2007; Trudel, et al., 2013). **Reflection and self-reflection**

Research has shown several theoretical and conceptual publications that argue reflection is a valuable tool in understanding a coach's learning as experience (Cassidy et al., 2009; Cushion, 2006; Cushion et. al., 2003; Gilbert & Trudel, 2001). Cassidy et al. (2009) outlined that based on Dewey's (1966) original work on learning Schön's (1983; 1987) theory of reflective practice provides an effective framework for analysing and explaining how coaches develop their knowledge and learn from practical coaching experience. Many coach development programmes and teachings come from Schön's concepts of reflection, primarily *reflection-in-action* and *reflection-on-action. Reflection-in-action* refers to 'during present action', whereby coaches reflect on the sport and make changes in the moment. These changes depend much on intangibles that are often emotions and interpretations that occur in the moment (Dixon, et al., 2014)*. Reflection-on-action* refers to 'reflection after the action has occurred'. It is the ability for the coach to consider the event retrospectively. Often *reflection-on-action* occurs as a result of data collection through video recordings (i.e. VSR), or discussions with critical friends (Kidman & Lombardo, 2010).

Russell (2005) stated that reflective practice can and should be taught. He concluded "the results of explicit instruction seem far more productive than merely advocating reflective practice and assuming that individuals understand how reflective practice differs profoundly from our everyday sense of reflection" (p.199). There are a number of methods related to the process of how individuals can reflect retrospectively. Such a reflective process requires the practitioner to question his / her practice while examining each component in detail (Anderson, Knowles & Gilbourne (2004).

An example of *reflection-on-action* comes from Gibbs (1988) who developed a six stage cyclical model, which enables a coach to: (1) describe the situation; (2) become aware of his or her feelings during practice; (3) evaluate the strengths and areas for improvement; (4) analyse these evaluations; (5) identify alternative behaviours or practices; and (6) formulate an action

plan for future use. A systemic and structured process for evaluating coaching practice (i.e. Gibbs, 1988) is essential for coaches to become self-aware and engage in meaningful reflection to improve their coaching (Martens, 2004). The aim of all such strategies is to facilitate self-development (Carson, 2008, Dixon et al., 2014). Other strategies that are used to assist coaches in questioning their practice include journal writing (Knowles et al., 2001), supervisor / mentor support (Cushion et al., 2003), and sharing learning experiences (CoP) (Scanlon & Chernomas, 1997).

Reflective practice is also seen as a vital component within teacher education (Sherin & Van Es, 2005). Teaching and coaching are in essence distantly different although there is some truth to the slogan that 'teaching is coaching and coaching is teaching' (Chelladurai and Kuga, 1996). Two of the key difference between coaching and teaching is 1) group characteristics or the size of the group and 2) task characteristics (Chelladurai and Kuga, 1996). However, both teachers and coaches are engaged in shaping the lives of the students/athletes and both use similar on-going personal development strategies such as reflective practice. Literature on reflective practice in education suggests that reflexivity leads to professional growth and expertise, and some researchers even argue that the attainment of expertise is not possible without reflection (Allen & Casbergue, 2000). Williams and Grudnoff's (2011) study on the benefits of reflection in teacher education suggested that after being introduced to a sound reflection process, both novice and experienced teachers moved from being somewhat sceptical about reflection, to embracing reflection as a tool to analyse and modify their practice. They concluded that older, more experienced teachers are more readily able to reflect because they can draw on their experiential or tacit knowledge.

There are numerous benefits to a coach reflecting on their practice including:

- Becoming more aware of the needs and interests of the athletes (Tinning, Macdonald, Wright and Hickey, 2001).
- More inclusive coaching that can lead to enhanced athlete learning and performance (Cassidy et al., 2009).
- Becoming more aware of the values and beliefs that shape a coach's practice (Tinning, et al., 2001).

Through Sport NZ's role in promoting the best learning context for coaches, the resources produced from the CDF have been embedded with a number of reflection tasks within many of its informal learning opportunities. Within the CDF a great deal of emphasis has been placed on the importance of self-reflection as it underpins 'on-going' self-learning.

Nelson and Cushion's (2006) study on UK National Governing Bodies about coach learning suggested that while the use of reflection was promoted to underpin the connection between theory and practice, it was largely practised in a decontextualized formal learning environment.

In developing this idea further, Dixon, et al., (2013) term such decontextualisation as *a pedagogy of scarcity*; "characterised by an anaemic and skeletal conception of reflection and its practices" (p.585). It is typified by a restrictive implementation of reflective practice, with an over-emphasis on fixing problems and an over-reliance on mechanistic paper and pencil exercises. Dixon *et al*. (2013) call for a shift to a *pedagogy of abundance* "characterised by a more expansive and embracing view of reflective practices through a greater focus on coaches' strengths, talents and attributes, and more effective use of shared learning via modern information and communication technologies" (p.597).

Reflection can be undertaken in a superficial way, which may in fact be little different from recounting events in a form of descriptive writing (*a pedagogy of scarcity*) (Cushion et al., 2010). This form of reflection differs very little from the concept of performance evaluation (Dixon et al., 2013). Related to this *pedagogy of scarcity* is what Moon (2004) described as an increasing awareness of a 'depth dimension' to reflection, and recognition that superficial reflection may not be an effective means of learning (Cushion, 2011). Several authors have commented on the inadequacy of much activity performed as reflection, because it is non critical and non-reflective (e.g. Dixion et al., 2013; Kim 1999; Moon, 2004). It is often difficult to get learners and coaches to engage with reflection and actually reflect (Cushion et al., 2010).

Barriers to reflection

Werthner and Trudel's (2009) study on elite Canadian coaches highlight that, while coaches at the elite level said that they were thinking about coaching all the time, very few of them seem to use a learning journal in the act of reflection. Brut and Morgan (2014) found in their study of British UK rugby coaches time was an issue for written reflective practice. He stated that demands such as work, family, and coaching too much or too little were key barriers. Cropley, Miles and Peel (2012) also found that time, motivation to reflect, and understanding the benefits to reflect were all seen as major hurdles to performing written reflective practice. Knowles and colleagues found similar results in their studies (2001; 2005; 2006). Knowles et al. (2001) suggested that the "development of reflective skills is not a simplistic process even with structured support. Coach educators cannot therefore assume that the development of reflective skills will be a naturally occurring phenomena that runs parallel to increasing coaching experience" (p.204). Although coaches "acknowledged that written reflection was an important component in the reflective process" (Knowles et al., 2006, p.174), few coaches are willing to commit to this exercise, most claiming lack of time. Knowles concluded that coach education programmes rarely "provide clear structures for the development of reflective skills alongside the delivery of sport specific technical knowledge" (Knowles et al., 2006, p. 174). As discussed earlier the influence of prior experience and previous habits play a significant role in how coaches acquire new knowledge (Cushion et al., 2003). Approaches to meaningful self-reflection require time, commitment and programmatic effort along with commitment from

coaches for their development (Cropley et al., 2012; Cushion et al., 2010; Gilbert & Trudel 2006).

Cropley et al., (2012) recommended that national coaching bodies in charge of coach development need to provide greater education and support, encourage coaches to reflect more regularly, and provide a structured approach to reflection. In Sport NZ's quest for world leading coach development it is clear that they have attempted to achieve this through their CDF, encouraging and promoting the use of self-reflection.

However, if Sport NZ wishes to move towards a *pedagogy of abundance*, where the use of reflection becomes part of everyday coaching practice whereby coaches take into consideration the complexity and multifaceted nature of coaching and the intangibles that cannot be measured objectively (for example the interplay between emotions, interpretations of messages and actions (Macdonald & Tinning 1995). It must evaluate whether coaches are actually engaged in reflective practice, as their has been very little research on how much, the quality and how often New Zealand coaches engage in self-reflection (A. Eade, personal communication December 1, 2014). Furthermore, Sport NZ must continue to seek and encourage opportunities for coaches to participate in self-reflection in their own coaching environment, not have an over emphasis on just fixing problems using mechanical paper and pencil exercises, and utilise modern information and communication technologies so reflection becomes part of everyday practice.

Video as a tool for reflection

There is nothing more powerful in assisting self-reflection than the ability to retrospectively observe one's interaction, technique and impact (Cushion et al., 2012). Video recordings are used extensively for training in many sectors including education (Tripp & Rich, 2014), nursing (Yoo, Son, Kim & Park, 2009), and player development (Cushion et al., 2012; Spencer, 2010). Recent education and coaching literature suggests digital video may provide a tool for overcoming a number of perceived hurdles to the self-reflection process (Carson, 2008; Tripp & Rich, 2014).

Performance analysis

Video has been a successful performance analysis tool across a range of subjects including technical analysis, tactical analysis, energy expenditure (physiological), movement analysis and coach development. Video performance analysis is defined as the systematic analysis of video data to help in the acceleration of athlete/coach performance through a more objective approach (Hughes & Franks, 2004). Video performance analysis is used across a range of sports. For example in rugby union video has been used to explore specific aspects of the game, e.g., patterns of play of teams (tactical) or physiological estimates of positional rates of individual players (energy expenditure) (e.g. Hughes and Williams, 1988; Hughes and White, 1996; Deutsch, Kearney & Rehrer, 2002). In squash, video has been used as an analysis tool

for movement of players and shot selection (e.g. Vuckovic et al., 2007). Video performance analysis is used for both players and coach development. For example, in player development video has been used to increase skill development and knowledge and understanding of the game (Cassidy, Stanley & Bartlett 2006b). In coach development video has been used to aid the coaching process by monitoring the training environment and coach behaviours (More & Franks, 1996). Within sports video performance analysis "is now widely accepted among coaches, athletes and sport scientists as a valuable input into the feedback process" (Durst, 2010, p.921).

Systematic observation in coaching

There is significantly less research on VSR in coaching literature compared to education. However, using video in systematic observation is a well-established and widely used research method within both education and coaching literature (Cushion, 2010). Systematic observation in coaching is defined as a process that determines the key coaching behaviours and verbal strategies that are most effective in the sports coaching environment (Cushion, Harvey, Mur & Nelson, 2012). Specific intervention studies using systematic video analysis demonstrate that it is a very effective method for inducing change in coaching behaviour (More & Franks, 2004). Initial observation used hand notation as a tool for recording behaviours. However, given the rapid development in computer technology, modern video coding systems (e.g. Focus, Sportscode) are used specifically to analysis coaching behaviour (Cushion et al., 2012; Spencer, 2010). The coding systems helped develop understanding of coach behaviour from both a quantitative and qualitative methodology (e.g. Coach Analysis Intervention System$^©$, Cushion et al., 2013). Such systems offered improved opportunities for interventions, with the ability to present meaningful analysis and feedback in video format (Cushion et al., 2012). The development of these more sophisticated analysis tools, coupled with computer technology, enables the complexity of coaching behaviours to be captured and describes the subtlety and nuances of coaching practice more readily (Cushion et al., 2012).

Observing and analysing actual recordings of coaches' interactions, allows for richer descriptions of coach behaviour so that interventions focused on improving interaction can be targeted to specific area of practice (Cushion et al., 2012). While, video can be used to change coaching behaviour and enhance coach development the trade-off for detailed video analysis such as systematic observation systems is complexity. Historically, using this observation technique requires a highly skilled camera operator to film the coach in action. These video instruments require high levels of familiarisation with the behaviour categories, along with rigorous training for potential users who are unfamiliar with systematic observation (Brewer & Jones, 2002). These systematic observation tools are unrealistic to implement as part of everyday reflective practice. However, the application of technological video innovations provides the opportunity to breathe new life into systematic observation methodology, as "video

analysis software offers a number of exciting opportunities for providing feedback in innovative and creative ways" (Stratton, Reilly, Williams & Richardson, 2004, p.132). It is this advancement in video analysis software and technology that could assist the implementation of VSR into everyday coaching practice.

Advancements in video technology

Since the early 2000's, the world has seen significant technological advances with the potential to impact on the culture and environment of coaching, education and learning (Sport UK, 2013). Sport UK (2014) stated that more coaches are now using wireless technology, mobile recording devices, and tablets in their everyday coaching. With the internet and continued development of computer and camera technology, live coding using a handheld or tablet device is more feasible, giving the coach instant feedback and allowing the live coding to be linked with recorded video footage to be used for further analysis (Cushion et al., 2012).

Web based video reflection systems are now being seen in a couple of advanced coach development programmes. For example in the postgraduate coaching degree at the University of Sydney a web-based video analysis system (EVA) is employed (O'Conner, 2012). Using this system, coaches can upload video of their own coaching or team meetings. Coaches access the EVA system from anywhere in the world and insert their observations and self-analysis into the comment box. Coaches can also respond to time-coded annotations made by other coaches or observe, analyse, and annotate videos of national coaches conducting practice sessions that they often wouldn't otherwise get access to (O'Conner, 2012). This system enables coaches to observe these sessions where they can critically focus on areas such as communication (use of questions, cues and feedback), and the scheduling and type of practice activities compared to what they may do (O'Conner, 2012). This sort of programme can assist coaches to bridge the theory-practice gap in their development (Cushion, 2010; O'Connor & Cotton, 2009).

The EVA system employed by the University of Sydney is one example of how advances in modern technology can enhance the use of video in the reflection process. Currently these EVA systems are only used by elite coaches who have access to them. Coaches who are not at the elite level and do not have access to these system therefore need to aspire to use VSR using the technology currently available to them (e.g. ipad, smart phones). Coach development programmes may not all have access to similar EVA systems, however, utilising current technology to further promote the use of VSR and providing strategies on how coaches can maximise learning can still be employed.

Video reflection in education

Much of the video reflection research has been completed through a teaching context (Marsh & Mitchell, 2014). Video contains a rich source of information that has been effectively exploited by researchers and teachers for a number of years (Carson, 2008; Fuller & Manning, 1973;

Sherin & Van Es, 2005). Videos taken during lessons in teaching practice allowed student teachers to make post lesson self-reflection that is grounded in the actual recordings rather than their uncertain recollections (Freese, 1999; Sherin & Van Es, 2005). This poor recollection ability has been also highlighted in sports coaching research (More & Franks, 1996).

Education literature suggested the use of video minimizes the effects of poor teacher recall and allows teachers to experience classroom interactions multiple times and so gave the teacher the opportunity to analyse and possible change their behaviour based upon accurate feedback (Freese, 1999; Sherin & Van Es, 2005). These studies highlighted that participants showed a significant growth in the level of self-awareness about their teaching through video self-analysis. One advantage of video is that it provides a visual and audio record and does not rely on the memory or interpretation of notes from an external observer (Sherin & Van Es, 2005). Sherin (2003) suggested that the use of video supports three premises of developing expert classroom practice in novice teachers:

1. It helps novice teachers develop the ability to identify what is important in the teaching situation,
2. It allows novice teachers to make connections between classroom decisions and their actions within the broader concepts of teaching and learning,
3. It allows teachers to use their knowledge of the context of the classroom to make observations that would not otherwise be possible by the casual observer.

Marsh and Mitchell (2014) suggested video has the potential to build 'noticing' skills and develop self-awareness of classroom interactions so that teachers can move from paying attention to surface-level cues and behaviours, to being able to discern more substantive and significant interaction's over time.

Another direct impact that has been observed in education literature was the benefit to teacher-student relationships. Harlin (2013) found that teachers who used video feedback interventions were more self-aware of their interaction with students, and of the individual student's level of understanding and their previous knowledge that was very beneficial to building mutual relationships. This awareness would be helpful for coaches as the coach-athlete relationship has huge psychological significance for individuals and plays an important role in providing happiness and welfare (Jowett 2005; Jowett & Clark-Carter, 2006).

In a recent review of video feedback in education literature, Tripp and Rich (2014) discussed a number of key points:

- Teachers prefer to engage in video analysis for reflection in collaboration with colleagues verses reflecting alone.
- Teachers report the use of a guiding framework or reflective model helps focus their reflection.

- Teachers report a number of benefits to using video reflection, future research is required to examine the direct impact it has on teaching practice.

The effects of VSR have been studied at length in education literature. Research provides important points that need to be considered when looking at how VSR can be implemented within a coach development framework. By understanding how VSR fits with education to enhance the reflective process, national coaching bodies can have a greater insight into the advantages and challenges associated with its implementation into coach development.

VSR in Coaching

There has been very little research on the use of VSR in a coach development context. A recent study by Carson (2008) analysed the use of video to facilitate reflective practice in coaches. In this study, participants were selected by their involvement within an applied sport coaching module and video reflection contributed to the assignment for that module. Each coach was required to video record a full coaching session and then reflect upon their practice. Coaches were asked to identify the strengths of their coaching practice and to highlight areas for improvement. Carson's research (2008) established that coaches found video reflection valuable, as it allowed for more detailed analysis of performance to take place compared to traditional pen and paper written reflection. The major benefit coaches highlighted was that VSR reduced the reliance on memory and allowed for a greater range of coaches behaviours to be analysed. Coaches suggested that video self-reflection "identifies more incidents that occur during the session; shows more stuff than you can remember; and highlights errors that hadn't been picked up before" (Carson, 2008, p.386). It was also the first opportunity that coaches had to critically analyse their personal performance. All coaches in Carson's study recommended in their written reports that the utilisation of VSR should be used within coach education programmes. Carson (2008) recommended that further research is required to establish the extent to which video reflection benefits performance development, compared to the added time associated with its set up.

Implications of Video Self-Reflection

There are practical implications that need to be considered when using VSR in coaching. Utilising coaching and education literature (Anderson et al., 2004; Byra, 1996; Carson, 2008; Tripp & Rich 2014) a number of difficulties in the execution of VSR in coaching have been identified:

- Coaches not knowing how to use a video camera.
- Batteries on the camera running flat.
- Difficulty finding a place to put the camera.
- Making sure camera is not too far away while still ensuring the coach can be seen and making sure the camera does not get knocked down.

- Perspective of videographer.
- Feelings of vulnerability when self-reflecting.
- Time required to conduct VSR.

The primary concern identified in literature (Carson, 2008) related to the quality of recording equipment available, particularly with a lack of sound quality when coaching outdoors. Wind interference can make reflection on "the coaches' verbal communication almost impossible'' (Carson, 2008 p. 387). The performers within the coaching session also raised some concern, as players often had a tendency to 'play up' to the camera (Carson, 2008). These issues can dramatically reduce the quality of video in order to reflect effectively. If coaches cannot hear themselves or have players being disruptive/distracted in front of the camera, VSR will be perceived as ineffective and not a worthwhile exercise.

Video also suffers from the problem of perspective (Byra, 1996). Byra explained that the visual record captured on video is from the perspective of the videographer. In education the classroom's interactions of interest to the videographer become the focus of the camera, and the peripheral view of other classroom interactions can get lost. However, if the camera is stationary and positioned to view a wide sweep of the classroom, it preserves student interactions, but at the expense of capturing interaction details among sub-groups within the scene. Recent studies in teacher education have explored the use of web-enabled systems. One such study by Kong (2010) consisted of two wall mounted cameras at each end of the classroom, digital microphones and a one-stop interface installed on a laptop. This allowed teacher to make post lesson reflections at a more convenient time utilising two cameras. While this can dramatically increase the level of detail by viewing both the teacher and students at the same time, it is unrealistic for coaching development, due to the dynamic nature of coaching outside in the majority of coaching situations.

Another issue that needs to be considered with reflective practice is that it can lead to feelings of discomfort and vulnerability as reflection directs us to challenge habitual knowledge, body image and practice (Anderson et al., 2004). Using video, coaches/teachers may feel uncomfortable viewing episodes of their own teaching or find it challenging to critique others (e.g. Cherrington & Loveridge 2014). Furthermore coaches/teachers may have feelings of powerlessness, vulnerability and exposure. VSR can also produce self-conscious feelings around body image, especially in females (Tiggemann, 2011; Thompson et al. 1999). VSR can increase the self-awareness of one's body image, and if viewed negatively can lead to poorer social self-esteem and greater social anxiety (Cash & Fleming, 2002). By reflecting upon ones self you open up to negative self-conscious emotions such as shame, guilt, and embarrassment. People tend to experience self-conscious emotions, such as pride and shame, only when they become aware that they have lived up to, or failed to live up to, some actual or ideal self-representation (Tracy & Robins 2004). This is an important issue because if coaches do not like

seeing themselves on camera through fear of self-conscious emotions this will naturally reduce their motivation to engage in the process.

Similar to written reflection, time is also a key issue with VSR (Carson, 2008). The extended time it takes to review the footage and conduct reflection using video may lead to it being seldom used. The problem with both written reflection and VSR is that the product of the process is rarely tangible and therefore people may not physically see the benefits of their reflective practice straight away (Otienoh, 2010). If an extended amount of time is required to undergo VSR and yet the coaches are unable to see the immediate benefits this would reduce the likelihood of them undertaking it. While VSR has some well documented benefits these less positive implications need to be considered with future research.

In summary, literature in education, systematic observation and coaching have highlighted the numerous benefits of using video as part of the reflection process (Carson 2008; Cushion et al., 2012; Sherin, 2003). These benefits include: Reduced reliance on memory; a greater range of behaviours that can be analysed; increased levels of reflective thought; enhanced ability to change coaching behaviour; and an increased ability to build coach/athlete relationships. However, there are also a number of challenges with VSR in a coaching context (Carson, 2008). These challenges include obtaining high quality video footage, capturing both coaching behaviours and athlete reactions at the same time, feelings of vulnerability when undergoing VSR and the time required to perform VSR effectively. It are these issues that previous research has identified that have guided this studies research question to examine the barriers New Zealand coaches perceive within a New Zealand coaching context.

It is evident in the literature that VSR can enhance the reflective process promoting change in coaching behaviour and thus increasing coach effectiveness and performance, as shown by the embedding of VSR within teacher education. However, if VSR is going to be an effective tool for learning within Sport NZ's 'on-going' and 'professional development' framework the issues raised above need to be considered. Even with advances in modern technology and a large number of coaches now having access to smart phones and digital recording devices, we still only see VSR and EVA systems being used at the elite level. Carson's (2008) study provides strong support for the introduction of VSR on a more regular basis, within coach development programmes designed to increase coaching efficacy. It is important to gain an in-depth understanding of how VSR is perceived as part of coach development, especially to encourage the on-going learning that has been found to be impactful for coaches. This understanding can assist Sport NZ in creating effective strategies to further integrate VSR into its on-going coach development programmes and to create *a pedagogy of abundance* in coach reflection.

Summary

In Sport NZ's attempt to create a world leading coach development environment they have placed an emphasis within their CDF on coach learning and on-going self-development. They appear to have recognised that learning takes place in a variety of contexts the majority of which occur in informal settings beyond dedicated formal learning environment. Sport NZ's framework has been implicitly aligned with coach development literature that best meets the needs of New Zealand coaches. Within Sport NZ's Framework there is a strong emphasis on self-reflection which is considered to be one of the key processes coaches use to develop and grow their own coaching and is identified consistently in the literature as a means to support experiential learning (Cushion et al., 2010; Irwin et al., 2004).

Using video to assist the retrospective reflective process is seen as an effective tool for improving coaching. It is evident in the literature that VSR can enhance on going coach development by enhancing reflective thought, reducing the reliance on memory, increasing the ability to change coach behaviour and enriching coach/athlete relationships.

However if VSR is to become part of everyday coaching a number of challenges need to be considered including obtaining high quality video footage, capturing both coach and players behaviours, overcoming vulnerability and managing the time required to perform VSR effectively.

Based on a review of literature, VSR can enhance coach development by allowing coaches to self reflect more effectively. Nevertheless, further research is required to see how coaches can incorporate VSR in their on-going coach development.

The aim of my study is to gain a better understanding of how performance coaches in New Zealand influenced by Sport NZ's coach development philosophy perceive VSR as a potential learning source within their on-going coach development. This will be achieved through answering the following research questions:

 (1) how do performance coaches within New Zealand perceive video self-reflection as a tool for learning.

(2) What are the key barriers are that stop coaches engaging in meaningful self-reflection

Chapter 3: Methodology

The aim of this chapter is to explain the rationale for the qualitative methodology of my study and its philosophical underpinning. To begin the nature of qualitative research is explored. Participant recruitment, and detailed description of each of the six participants of this study is discussed. Following this the chapter highlights the processes of data gathering and data analysis. Finally, ethical consent and strategies to ensure rigour and trustworthiness are presented.

Qualitative methodology

Qualitative research is an inquiry completed in the natural setting, an exploratory study of experience-as-lived and everyday life in the world (Magilvy & Thomas, 2009). Qualitative research refers to a number of theoretical perspectives which all share certain characteristics. These include: exploring people's everyday lives and how they make sense of their experiences; conducting research in real-life settings; presenting data in a narrative form in the words of the individual; and the researcher being part of the research process (Carpenter, 1997). This study conformed to these characteristics to understand how performance coaches in New Zealand perceive VSR.

The goal of this qualitative study was to produce a rich description and in-depth understanding of the performance coach's perception and experiences of video self-reflection (VSR) as it related to their own coaching environment (Magilvy, 2003). This qualitative study was guided by a post-positivist paradigm. This paradigm holds a deterministic philosophy, in which causes probably determine effects or outcomes. However, unlike the positivist standpoint that assumes a linear process of cause and effect, post-positivism perceives outcomes as the result of a complex array of causative factors that are in interaction with their outcomes (Giddings & Grant, 2007). Post positivists also maintain the positivist assumption of reductionism, the belief that the experiences of coaches can be reduced to a discrete set of ideas or concepts that can be described and tested. Post positivists factor in the unpredictable and contradictory nature of human experience (Creswell, 2013). The choice of methodology is built upon the belief that reality is socially and culturally constructed and researcher objectivity is impossible (Giddings & Grant, 2007).

With this qualitative study, I was the instrument of research and data was generated through in in-depth, semi-structured interviews, where I listened to the stories of the participants (Magilvy & Thomas, 2009). Meanings and insights into their experience were explored while allowing for individual perceptions, interpretations and contexts to be expressed (Crpenter, 1997). An outline of my research methodology is re-represented in figure 3 below
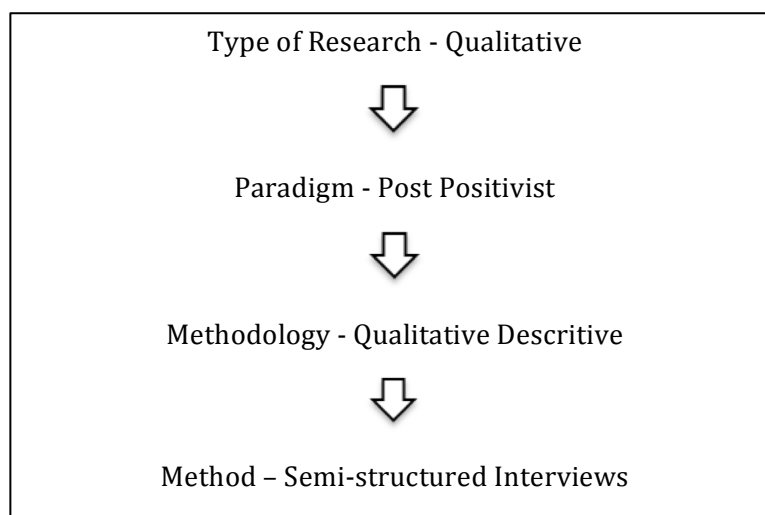
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┌─────────────────────────────────────────────┐
│        Type of Research - Qualitative         │
│                    ⇩                          │
│          Paradigm - Post Positivist           │
│                    ⇩                          │
│       Methodology - Qualitative Descritive    │
│                    ⇩                          │
│        Method – Semi-structured Interviews     │
└─────────────────────────────────────────────┘
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Figure 3: Re representation of Methodological overview

My research methodology

The methodology used for my study was qualitative descriptive. This particular methodology "looks to hear the voices of people, analyse the themes and produce a thoughtful overview of results" (Smythe, 2012, p.5). A qualitative descriptive methodology is suitable for my research purpose as it focuses on asking the coaches open ended questions such as 'how', 'what', 'who' 'where' and 'why', to gain insight into their experiences, perceptions and understanding of VSR as a tool for learning (Sandelowski, 2000).

Qualitative descriptive methodology is situated within the post-positivist paradigm (Grant & Giddings, 2002), based on the notion that we cannot be 'absolutely positive' about our claims of knowledge when studying the behaviour and actions of coaches (Creswell, 2013). Though qualitative descriptive is liked for its straightforwardness, some researchers may be critical of its analysis as it is considered limited in its ability to move beyond what is being said (Smyth, 2012). However, qualitative descriptive research allows the researcher to hear the voices of the coaches, analyse themes and present an overview of the data (Smyth, 2012). This study will seek to develop relevant and applicable statements, ones that can explain how VSR is perceived by performance coach in New Zealand (Creswell, 2013).

Qualitative descriptive methodology allowed common themes to emerge that relate to 'how' coaches' perceive and 'what' are the barriers to using video self-reflection as a learning tool. Qualitative descriptive studies tend to draw from the general tenets of naturalistic inquiry. Such studies imply a commitment to studying something in its natural state, or as it is, to the extent that this is possible in a research enterprise (Lincoln & Guba, 1985). This study will not look to contract a theory, nor over interpret the data, but rather identify common themes as they emerge to answer the research question and interpret those themes in the context of the researcher's understanding. The intention is to describe the participants' experience in their own language as it relates to their everyday situation (Spencer, Krefting & Mattingly, 1993).

Research design

This qualitative descriptive study utilised the method of semi-structured interviews, and thematic analysis was used to analyse the data. I chose semi-structured interviews, as they were considered advantageous to the area being explored. This method is also inline with previous coach education and development studies researching self-refection (Burt and Morgan 2014; Cropley, Miles & Peel 2012). This method allowed for a deeper understanding of coach's perceptions compared to other qualitative methods such as survey and questionnaires. Thematic analysis was used because it is an independent and reliable qualitative approach to analysis (Vaismoradi, Turunen & Bondas, 2013). Furthermore, thematic analysis was chosen as it permits the researcher to combine analysis of their meaning within their particular context (Loffe & Yardley, 2004).

Myself as a researcher

In research, particularly in studies employing qualitative methodologies, the researcher is an integral part of the process. It is therefore important that I provide an introduction to myself in relation to the research, since my experiences, both professionally and personally, have influenced the manner in which this research has been approached and analysed.

I am a coach, with involvment in coach development, and have an interest in coach education. I worked as a coach educator for seven years with New Zealand Football where my role was to help develop coaches at various levels i.e. from first time coaches to performance coaches who work with representative players. In particular, my roles were to provide support, leadership and development opportunities for coaches, which focused on continuous coach development. I always enjoyed working with coaches of all communities, however I have a special interest in working with performance coaches.

I have a passion for coaching and have coached football at club youth level in England, Brazil and USA, and at a domestic senior level in New Zealand. I have also coached Futsal at a senior men's international level. I have attended coach development courses in New Zealand, Canada and Brazil. Performance analysis has been an interest within my coaching career where I used video feedback with players and coaches, to assist in their learning and development. I was recently a performance analyst for my region's senior men's premiership team and the New Zealand men's futsal team. Because, as the researcher, I was the instrument of research, these experiences allowed me to appreciate and make sense of the participants' perceptions and coaching at the performance level.

Performance analysis has seen a real surge in the last decade (Dust, 2010). Advancements in wireless technology, smart phones and tablets, have enabled video analysis to become more affordable and easy to use. My experience has enabled me to be competent in the use of video analysis software such as Focus and Sportscode. I've searched the internet regularly looking at

the latest technology and how it can be applied to player and coach development. This allowed me to have a clear understanding of what products and devices are available to coaches, allowing me to understand any products or terminology used by the participants.

Throughout my studies and as a coach educator I had become very aware of the benefits of self-reflection. I value and continually advocated the benefits of reflective practice for coaches, whether it be for their own personal development or for their players. I regularly seek out new coaching strategies online using coaching websites such as EUFA training ground (www.uefa.com/trainingground) and social media sites such as Twitter (www.twitter.com)

I first got to watch myself coach when I attended New Zealand Football's senior level 3 coaching course in 2009. We were filmed during one of our practical sessions and although it was not officially part of the course one of the educators thought it was helpful and provided all candidates with a copy of their coaching for personal reflection. It was not until I reviewed the video three years later that I was impressed with my improved coaching behaviour, particularly my ability to notice coaching moments and provide information to players without disrupting the play. This sparked my interest in the importance of using VSR as part of coach development. Yet, since watching myself that first time, I have only repeated this VSR process a couple of times due to the challenges of the process. The two biggest challenges I found were getting high quality footage without the assistance of someone else and finding time to watch the video. As I was filming myself I had to record the whole session on a homemade tripod using my ipad. This required 2-3 hours of planning and time to set and go through all the footage. For that reason I have seldom used it. I found however, that I used video reflection more as part of my coach educator role. Two development coaches that I worked with both found it very beneficial when I helped them collect video footage of themselves. One example was both coaches had not realised how long they spoke for. One coach spent almost eight minutes explaining one drill. Seeing this on video made him realise that he needed to plan in his sessions how best to explain each exercise to maximise playing time. However, both coaches commented that if it was not for me taking the time filming, editing and emailing them their video, they would not have been motivated to do it themselves.

The focus throughout my postgraduate studies was on developing my interests in coaching, coach development and performance analysis. I am an advocate of New Zealand's on-going coach development philosophy and am inspired to implement world's best practice and help develop future coaches working with New Zealand top youth athletes. My experiences, along with my coaching philosophy of creating the 'most fun' and 'best learning' environment I can, has shaped the way in which I go about my coaching and teaching and how I came to select the question for this research.

Finding participants

Sampling

According to Marshall and Rossman (1995), research rigour is increased when employing a sampling strategy that is congruent with the methodology. Therefore in keeping with a qualitative descriptive approach, purposive sampling was used to select the research participants. The benefit of using purposive sampling is the selection of individuals or groups who are deemed "information-rich" for the purposes of the study" (Sandelowski, 2000, p. 338). The criteria for selecting participants was:

1. All participants were coaching at the performance level and from a range of different sports.
2. Participants had recently (within the last 12 months) been involved in a coach development programme that aligns to Sport NZ Coach Development Framework.
3. Participants were exposed to self-reflection as part of their learning.
4. Coaches had some knowledge about use of using video in the self-reflection process and the benefits associated with it.

As recommended by Berg (2009), the participants selected needed to show particular characteristics of a population that were of interest in which to answer the research question. Participants were purposefully sampled from three coach development programmes, one generic program and two sport specific programs. All programmes aligned to the New Zealand Coach Development Framework.

Recruitment

To recruit the participants, the purpose of the study was first discussed with the coordinator for each of the selected programmes. Programme coordinators were asked to email any potential participants that met the study criteria with a participant information sheet (see appendix 2). Initially six coaches in total were sent information from the three coach development programmes. The information sheet outlined the criteria for the research and invited eligible coaches to contact me by phone or email to discuss the study further. Coaches who contacted me received a consent form, which informed them of the requirements of involvement in the study (see appendix 2). All six coaches that were sent information were included in this study. All six fulfilled the inclusion criteria and consented to being part of my research study. I approached all six coaches via email, answered any further questions they had and arranged an interview time.

Participants

A total of six amateur coaches from New Zealand coaching at the performance level took part in the study. Coaches were aged between 24-44 years and were sampled from four sports (rugby, basketball, football and netball). All had coached for over five years and had recently (in the

previous 12 months) participated in a coach development programme that aligned with the Sport NZ's Coach Development Framework. Pseudonyms were used throughout the course of the study.

Anna - Basketball

Anna coached basketball and she played many sports at high school and represented New Zealand in both basketball and touch at a senior level. She has been coaching for over eight years. She attended a Basketball NZ level 1 and level 2 course early in her coaching career, since then has had no formal coach education until she attended her most recent course in early 2013. This course was a 12-month development programme run by her Regional Sports Trust. She stated that she had a fantastic experience on this programme.

Tom – Rugby

Tom coached rugby and has played high school and local club rugby. Tom has been coaching for over ten years and started coaching an Under11 year old team and worked his way up through the age groups, where he now coaches at a senior club level. Tom has progressed through the entire NZ Rugby coaching course system and recently attended the IRB level 3 course (highest qualification available in NZ). Tom also attended an international rugby coaching conference held in New Zealand three years ago. Tom had not played at elite level so he placed great value in coach development, qualification and gaining experience. Tom also attended a 12-month development programme run by his Regional Sports Trust.

Teresa – Netball

Teresa coached netball and was originally from the UK where she played professional netball for a number of years before injuries forced her to retire. She is a teacher and has been coaching for over ten years both in New Zealand and the UK. When she moved to NZ she began coaching her high school team and she has progressed to coaching at representative level. She has completed her Community Coach Award with Netball NZ. She is currently participating in the Netball NZ's Performance Coach Award. This is a formal coach development qualification run by Netball NZ targeting coaches working at the performance level. Teresa also attended a 12-month development programme run by her Regional Sports Trust.

Fiona – Netball

Fiona coached netball and she played at Under 17 years old representative level for her region. A major injury and the birth of her first child provided the opportunity for her to progress into coaching. She has been coaching for less than five years, and is involved in the development of netball as part of her job for her local netball federation. Fiona had recently completed her Netball NZ Community Coach Award and is about to start her Performance Coach Award. She has a keen interest in coaching and coach education.

Vivian – Netball

Vivian coached Netball and played representative netball when she was at high school, then stepped away from the game and has recently returned to play local club netball. She started coaching Under 12 year olds' Netball and has worked her way up through the grades to now coach at a senior level. Vivian has been coaching for over ten years. Her coaching led to her involvement with the local Netball federation where she began to focus on junior player development and coach development. Vivian is now a supporting coaches within the NZ Secondary Schools and is involved in developing/facilitating coach education for Netball NZ. Vivian is currently participating in her Netball NZ Performance Coach Award.

Sally - Football

Sally coached football and is originally from the UK where she played Under 17 year olds' representative football for her region. Sally coached Football and began coaching at a very early age while she was still at school and has been coaching for over 15 years. She stopped playing football at 18 years old due to an injury, and began to focus on coaching. Most of her coach development was completed in the UK through their formal accreditation pathway. She started with the junior courses and progressed through the youth system into senior coaching. She is currently coaching senior club football, and recently started the NZ Football coach development pathway. Sally also works for her local Regional Sports Trust where she is involved in sport development.

Semi-structured interviews

Data was collected using semi-structured interviews (Patton, 1990) that involved the implementation of a number of predetermined questions that are typically asked in a systematic and consistent order (Berg, 2009). These were conducted using an interview guide (see Appendix 2) of specific topics.

The interviews were all audio-recorded and transcribed. During the interviews, introductory statements, definitions, and the purpose of the study were explained, along with the participants' rights and declaration of confidentiality. In some instances the order of the questions varied, in accordance with the answers and flow of the interview, this allowed participants to express themselves in their preferred manner while still retaining the systematic nature of data collection (Patton, 1997). Each participant was different in the way they interacted, however as the interviews progressed every participant was keen to share their experiences and perceptions. Interviews were used as a primary source of data collection, allowing for a greater depth of meaning and understanding compared to alternate data collection methods such as survey and written questionnaires (Bryman, 2012). The interviews lasted between 40-50 minutes. Once the interviews were complete, they were transcribed by a third party, then were checked by myself and the participants to confirm they were a accurate and true.

Piloting the interview

Prior to the first interview, an Interview Guide was created (see appendix 2). The first draft of the Interview Guide was tested using two participants who also met the selection criteria, but whose data was not included in the final study. The format of the Interview Guide settled on an approximately 40–50 minute long interview that comprised a 5-stage structure

Stage 1: An introduction, in which the interviewee relaxed, spoke about their situation and set the scene.

Stage 2: Coach Development. Questions related to their coach education pathway and their formal and informal coach development.

Stage 3: Self-reflection. The interviewee was asked to explain their self-reflection strategies they currently use.

Stage 4: Video self-reflection. Interviewee was asked how they perceive using video self-reflection as a tool for on-going development and whether they have had any experience of using video as a source of feedback.

Stage 5: Barriers to self-reflection. Interviewee was asked if there were any barriers that would stop them undergoing meaningful video self-reflection.

Data analysis

Inductive thematic analysis was utilised to examine the transcribed interview data, using Braun and Clarke's (2006) six phases of thematic analysis (Table 1). Initially, interview transcripts were repeatedly read and listened to, in order to ensure a familiarity with the material in question. Secondly, coding began by working systematically through the entire data set giving full and equal attention to each data item. All coding was done on paper, and no software was used in this study. Common words and phrases were identified in each transcript by highlighter and then transferred to a separate table. Quotes of varying length were then identified and these quotes became the raw data for the thematic analysis. The next stage involved sorting the different codes into potential themes and collating all the relevant coded data extracts. This process involved removing relevnt quotes from each transcript and grouping then together. Once all relevant codes were collated each section was read separately (for example all quotes with the category of 'barriers') to determine if the quotes were correctly categorised.

This 'researcher immersion' in the data through constant reading and re-reading allowed deeper understanding and appreciation of each participant's perceptions. As each section was read, ideas began to formulate and the categorising of codes and themes began to emerge. Once completed, current themes were reviewed that emerged from the data. This involved checking that the themes 'word' related to both the coded extracts and the full data set. An independent academic then checked that the coded extracts and identified themes matched the data. This was

to ensure the credibility of the themes identified and to check that no relevant codes and been discounted. Finally, themes were defined and named which allowed the production of a 'thematic map'. Themes and sub themes were all listed down in the style of a mind map. This process allowed meaningful themes and categories to be defined until all common links were identified.

Table 1: Phases of thematic analysis (Braun and Clarke, 2006 p.87)

Phase	Description of the process
1.Familiarisation with the data:	Become intimately familiar with the data, reading and re-reading the data (and listening to audio-recorded data at least once) and noting any initial analytic observations.
2.Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3.Search for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4.Reveiwing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	On-going analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Ethical considerations

The Auckland University of Technology Ethics Committee granted ethical approval for this study on May 20th 2014 (see appendix 1). Highlighted below are specific ethical considerations for this study.

Informed and voluntary consent

Participants were first made aware of the study through an information sheet emailed to them from the their coach education programme coordinator. Potential participants were asked to email their expression of interest back to the researcher. Following their expression of interest in the study all participants were emailed a consent form (see appendix 2) outlining their involvement. Participation was entirely voluntary and participants could withdraw at any time. Participants were not involved in conducting any research.

Confidentiality and anonymity

The primary researcher knew the identity of the consenting participants, yet all names of participants and identifiable features were removed from the data transcripts, reports and publications. The coach development programmes were not be named and referred to only as an informal coach development programme run by a New Zealand Regional Sporting Organisation. Pseudonyms were used for the participants for records and reporting of data. Confidentiality was ensured, and I met participants for the interview in a place of their choosing. The programme coordinator for each of the programmes was not informed as to who was participating. Participants had an opportunity to read any data that was to be used in the final report before being published. If participants were unhappy with the data being used they had the right to withdraw from the study and the data would be removed.

Avoidance of conflict of interest

Participants were made aware, via the participant information sheet, that their involvement in this study would not affect their involvement in any future coach development programmes and that they could withdraw from the study at any time. No information from the study was passed to the programme coordinator. The primary supervisor monitored my work and ensured a robust, ethically sound, valid and trustworthy project was implemented. Both supervisors also acted as 'critical friends' in the supervision of the delivery and completion of the project. In doing so, they ensured no power imbalance arises during the course of the study.

Treaty of Waitangi

Whilst researching in New Zealand, it is necessary to take into consideration the Treaty of Waitangi. Durie (1989) refers to the principles of the Treaty of Waitangi as: partnership, participation and protection. These were considered and the Ethics committee accepted the ethical rigour of the study.

Rigor and trustworthiness

Hastie and Hay (2012) stated that reliability and validity are critical for qualitative research. It has been argue that qualitative research should be judged based on its trustworthiness, which is assessed on four criteria: credibility, dependability, transferability, and conformability (Lincoln and Guba, 1985). In attempts to account for these criteria, a number of measures were taken throughout the data collection and analysis procedures in this study.

Credibility

Credibilit relates to the extent to which the data are an accurate representation of the context (Hastie and Hay, 2012). Peer-debriefing and triangulation were used to enhance credibility. All transcripts in the present study were emailed out to the participants for member checking. The data analysis process allowed for verification from the researcher's supervisory team through regular meetings and discussion around the transcript analysis. This peer examination ensured

the research process and findings could be examined with impartial colleagues.

Dependability

Dependability refers to the stability of qualitative data over time and conditions. It takes into consideration the ever-changing context within which research occurs (Hastie and Hay, 2012). In order to maintain dependability (consistency), a semi-structured interview guide (see Appendix 2) was utilised and all interviews conducted by the same researcher, thus reducing inter-interview bias. Each interview question was asked of each participant. The data and relevant supporting documents are made transparent in this research report. The reasons for undertaking the study therefore have been explained, the research question identified, the reason for the choice of methodology identified, and data collection and analysis explained.

Transferability

For transferability a qualitative reseach paper requires a thorough description of the context as well as asumptions that were centralto the research (Hastie and Hay, 2012). The transferability of the findings was enhanced through the provision of thick description of the participants and through the use of raw quotes to support the main themes in the results section. While the current study was conducted with New Zealand Performance Coaches, it is expected that National and Regional Sport Organizations and coaches of all abilities would benefits from these findings.

Conformability

Conformability (otherwise known as trustworthiness) refers to the degree to which research results and interpretations can be corroborated by others (Hastie and Hay, 2013). Conformability was established through a process of member checking where the final transcripts and results were sent to the participants for comment regarding whether they provided a true representation of the participants experiences. All participants confirmed that they were satisfied with the documents.

Summary

The methodology chapter highlighted the use of qualitative descriptive approach and the theoretical considerations underpinning this approach. The specific method for participant recruitment, semi-structured interviews, and data analysis were described. Ethical considerations and the ability to maintain rigor have also been outlined in this chapter.

Chapter 4: Results and Discussion

Sport NZ had the vision of creating a world leading coaching environment for New Zealand coaches. The purpose of this study was to gain a better understanding of how performance coaches in New Zealand, perceive video self-reflection (VSR) as a potential learning source within their on-going coach development. Furthermore, I wanted to determine if there were perceived barriers that would stop coaches engaging in meaningful VSR. The findings of this study have reinforced previous research that highlighted the benefits of VSR as a tool for learning. However, there remains a number of significant hurdles associated with its implementation. The results showed that if Sport NZ addressed these challenges within the requirements of the coach development framework, VSR could become a regular tool of New Zealand performance coaches with the associated benefits to their learning. The implementation of VSR could positively contribute to Sport NZ's vision of becoming world leaders in coach development. In this chapter, I provide the results from the interviews along with a discussion of the issues and findings.

Of the six participants interviewed (pseudonyms are used for each participant) throughout this study, none currently use VSR as part of their 'on-going' development. However, all expressed a positive perception about the implementation of VSR. In analysing the data, four common themes were found. The first theme was their 'positive perception' towards VSR. The second theme was that participants had a 'desire to engage in VSR but don't'. Thirdly, was the theme of 'barriers'. The final theme was 'modern day vs old school coaches'.

The first theme 'positive perception' described the participants views and feelings towards VSR. The participants discussed their awareness of the associated benefits and explained how New Zealand coach development, advances in technology and the fact VSR is used as part of player development and in other areas of their lives, has shaped their perception. In the second theme participants discussed a 'want and desire' to engage in VSR but lacked application. The theme emerged and described how participants appeared to value VSR, but not enough to overcome some of the barriers and dedicate specific time towards it. The theme 'barriers' outlines three key hurdles (time, logistics, self confidence) as to why VSR is not implemented, even though the participants did implement written reflection. The barriers are explored in detail, and solutions of how they can be addressed, are provided. Finally, the final theme 'modern day vs old school coaches' looked at coaches who utilise conventional coaching techniques in absence of familiarity with technological devices. The theme explored the difference in these two types of coaches and how 'modern day' coaches, appeared to be more able to implement and/or identify with the benefits of VSR compared to old school coaches. Each of these themes is discussed in more detail through this chapter, relating previous research to findings for the purpose of enhancing 'on-going' coach development in New Zealand.

Positive perception

In this section, I first discuss how their awareness of the benefits of VSR underpins the participants positive perception. Second, I discuss the role that New Zealand's Coach Development Framework has played on creating such a positive perception. Finally, I explore how advances in technology and VSR's use in player development and other domains, contributed to their positive perception.

All participants highlighted that they felt VSR is an effective tool for self-learning, increasing self-awareness and creating the opportunity for self-modification of their coaching behaviour. Despite this positive verbal enthusiasm, it is interesting to note that while all participants use written reflection strategies, only three out of six coaches had seen themselves coach, and none of them currently include VSR as part of their active coaching strategy.

Awareness of the benefits

This sub theme explores how participants described that VSR could increase their self-awareness, reduce their reliance on memory, provide them with a greater understanding of an athlete's technical and tactical knowledge and enhance their athlete-coach relationship. It is this 'awareness' of the benefits that underpinned their positive perception.

Sport NZ's coach development framework advocates and encourages sport development programmes to use VSR, describing it as a beneficial tool for learning that can assist the individual development of performance coaches. This 'encouragement to use VSR' was confirmed by one of the participants:

> ...[VSR] was suggested through our player centred coaching course, we talked about the different types of reflection, having a critical friend or having someone video you ...recording yourself on your phone and things like that. (Fiona)

All participants stated they were aware of the benefits associated with VSR and its ability to assist in their on-going coach development. One of the key benefits highlighted was its ability to increase self-awareness.

Increased self-awareness

The participants described video as a tool that could allow them to 'observe' and 'hear' themselves from an external perspective i.e., more akin to how the players observe and hear them, and to better understand both non-verbal and the variation in frequency and tone of verbal communication with their players. Anna suggested VSR was:

> Beneficial because I think if anything it helps you, like I've seen myself coaching one game, I didn't listen to it I just looked at it first which was good because it helped me look at the subtleties, which were the way I stood, what kind of message I was presenting, the way my eye contact was, if I was looking at my players or just, you know, talking to them as I was walking past, all those sorts of things...the non-verbal stuff because you can pick a lot up in that, just watching. (Anna)

Her observations emphasised the detail that is available when using video to observe non-verbal coaching behaviours. Research has identified that between 65% and 93% of the meaning of a message is conveyed through tone of voice and nonverbal behaviours (Johnson, 2003). For example, reinforcement can occur through non-verbal behaviours, such as smiles, nods, eye contact, and posture (Gable, 1997). If a coach displayed tension in the jaw, pursing of the lips, lowering of the eyebrows and folding of the arms, this will exhibit a very negative message compared to a smile and hand behind their back. It is therefore beneficial for coaches to become self-aware of the messages they are sending to their athletes and how these subtle, non-verbal messages can go a long way towards improving athletes coaching experience (Nyitray, 2012). As further emphasised by Fiona below, participants are aware of the benefits to using VSR in increasing their self-awareness of non-verbal communication:

> *Looking at body language, especially when I'm outside, 'cause like I said I don't like the cold, so I quite often stand sort of cuddled up and I guess that can come across as stand offish or unsure, so there would be a lot of benefit in looking at my body language and how my presence is around my players. (Fiona)*

In Fiona's example she recognised the importance of body language and how her players can interpret it. VSR could allow her to become more self-aware of this behaviour so she can improve it in the presence of her team. The participants' comments supported previous research that using video in the self-reflective process enabled coaches to be more self-aware of their non-verbal behaviour and the impact it has on their athletes (Carson, 2008; Cushion et al., 2012).

Participants also emphasised how video would allow coaches to become more self aware of their tone and verbal communication. Tom highlighted:

> *I think you'd pick up little things like you know, um's and ah's and all that kind of stuff that puts a bit of doubt potentially into the boys' mind…How you address the guys, your tone, even just how outwardly emotional you are. (Tom)*

Research has identified verbal instruction is the dominant act engaged in by coaches at all levels (Potrac et al., 2000). Effective use of verbal instruction by coaches is essential to athlete learning and consequent success (More & Franks, 1996). Unfortunately research has also suggested that coaches have little understanding of how their verbal behaviour influences their athletes (Millar, Oldham & Donovan, 2011). Coaches' limited understanding is potentially due to lack of opportunities and tools that allow development of self-awareness or self-reflection (Cassidy et al., 2009). Interestingly, in Tom's example above, he recognised that certain communication cues such as 'ums and ahs' can impact on how his players receive the information he provides. In Tom becoming self aware of these specific cues through VSR and understand how they affect his players, could lead to increased knowledge about self and gives Tom the opportunity to make accurate changes to his behaviour. Cushion et al. (2012)

highlighted that video enabled coaching behaviours to be captured, and display the subtleties and nuances of coaching practice more readily.

By VSR increasing coaches' self-awareness of verbal and non-verbal communication there is a greater opportunity to change coach behaviour. For change to take place, the coaches must first be aware of the issue or behaviour, before a new behaviour patterns are adopted (Cassidy et al., 2009). Vivian highlighted in her comment below how VSR enabled her self-awareness to change her side-line feedback during games:

> *…they recorded us during games and played back some stuff it was really cool to see how much we talk on the side-line and what affect that could have on our players, since then I have been working with more key words and things like that. So I really took that on board and have noticed that I have reduced the chatter from the side-line to just key stuff now. So that was really beneficial, getting that sort of observation, which I didn't realise that was happening. (Vivian)*

Pedagogic and coach development literature of specific intervention studies provided evidence that behaviour can be modified/changed through systematic video analysis (Carson, 2008; More & Franks, 2004; O'Conner, 2012). In education literature, several studies reported that teachers made changes or improved their teaching practices after using video to reflect on their teaching (Tripp & Rich, 2014). Furthermore, teachers improved their verbal communication strategies to a greater degree when using VSR compared to written reflections (Hougham, 1992, cited in Tripp & Rich, 2014).

The participants' comments are examples of how VSR allows coaches to have reflective conversations by becoming self aware of verbal on non-verbal behaviour in their coaching environment, thus highlighting 'problems of practice' (Gilbert & Côté, 2013). This awareness of practice is a trigger for reflective conversations (Gilbert & Côté, 2013). Referring to Schön's (1983; 1987) work, such reflective conversations are example of *reflection-on-action*. Returning to Vivian's example above, using VSR allowed her to become self aware of her constant chatter on the side-line (problem of practice), enabling her to have a reflective conversation (reflection-on-action). This analysis then allowed her to adjust her side-line feedback to just key comments (change in behaviour). Vivian's example emphasises how reflection is a key process in how coaches learn (Cassidy et al., 2009; Cushion, 2006; Cushion et. al., 2003; Gilbert & Trudel, 2001). This reflective conversation may not have been possible without her first becoming self aware of her behaviour through VSR.

In another example of positive perception, VSR was also percieved as a self-awareness tool to assess reoccurring behaviour after observing themselves several times. By understanding their repeated responses to specific stimuli, coaches are able to modify their behaviour as desired to achieve a long-term change in behaviour (Cushion et al., 2012). Anna further highlighted this point:

> *...it can only better me because if I can see the patterns and then probably map in why I'm like that, then maybe I can put some strategies in place to better cope with those situations. (Anna)*

As Anna suggests the use of VSR regularly, could allow her to become self-aware of a problem of practice that may not have been obvious in her first observations of her coaching. VSR's ability demonstrate problems, could allow Anna to identify the behaviour and have a reflective conversation about how to create a long-term change in behaviour that she otherwise may not have had.

Participants also discussed the ability of self-awareness from VSR could enable them to consider a reference point to determine changes in behaviour over time. As Sally commented below, coaches are often unaware of their developmental progressions. The ability to look at changes in behaviour over time and the resultant change in player response/behaviour/performance shows how becoming aware of these behaviours can help their on-going learning:

> *…we use video to look at ourselves now, but you forget what we were like a year ago, two years ago and we can look back at our session plans. I delivered that session plan, but even to go watch yourself, you know, in regards to self-confidence, self-advocacy, to see that improvement could be helpful. (Sally)*

The quote above also may suggest that such awareness may lead to an increased self-confidence and coaching-efficacy. Coaching efficacy is defined as "the extent to which coaches believe they have the capacity to affect the learning and performance of their athletes" (Feltz et al., 1999, p.765). Research highlighted four key sources of coaching-efficacy: extent of coaching experience/preparation; prior success or win/loss record; perceived skill of athletes; and social support (Chase & Martin, 2013; Feltz et al., 1999). Chase and Martin suggested that several sources of coaching efficacy have emerged recently including: Coaching education programmes, certification programmes, previous playing experience, imagery and player/coach development. The findings of my study suggested that the relationship between using VSR and coaching efficacy also warrants further research. In Sally's comment above, she recognised that if she could go back and watch herself coach a year ago compared to her present coaching, she could become more self aware of her improvement, which could lead to an increase in coaching efficacy. Research highlighted that high levels of coaching efficacy can lead to improved coaching behaviours, and an increase in player/team satisfaction, player/team performance and player/team efficacy (Chase & Martin, 2013; Feltz et al., 1999).

Less reliance on memory

In Sally's comment above she also showed that video can provide an accurate, permanent record for coaches to become self-aware of progressive increments in the change/improvement of their coaching without resorting to their 'less accurate' memory. The participants' comments support previous education literature that VSR has the potential to build 'noticing' skills, and to

develop self-awareness of classroom interactions over time (Marsh & Mitchell, 2014). Marsh and Mitchell's findings demonstrated that using video provided teachers/coaches with the opportunity to move beyond 'surface-level' features, to actually being able to discern more substantive and significant interactions (Tripp & Rich, 2014). As Vivian commented:

> *Looking at player's understanding of their directions, 'cause I always try and establish at the start of the year, our team is mainly made up of visual and kinaesthetic learners so I always make sure I've got whiteboard markers or paper there so that we can do both and just walk through things. So I think (using VSR) to see who's not getting stuff because you may miss that while you're coaching...so to really look at how is my coaching affecting the players. (Vivian)*

By using VSR and not having to rely on memory, Vivian is able to analyse each of her players individually, she can look closely examine their body language, their engagement, and their movement pattern within an exercise to gain a more in-depth understanding of how they respond to her coaching.

VSR also has the ability to reduce the discrepancy between perceived and actual behaviour when compared to written reflection. Anna commented on how she felt video captures everything and could reduce the reliance on her memory:

> *I could tie it in with what I was writing, then you see it, you know because I mean you learn by seeing, watching, we learn every day by using our eyes alone...if what I was thinking and noting and then what I'm seeing are too different things we've got a problem you know...It would be beneficial because you're capturing everything and like I said before video doesn't hide anything. (Anna)*

By using video to support her written reflections she felt she would have the ability to accurately include greater detail and more depth to her journal writing that she might otherwise not remember if solely relying on her memory. Education literature highlighted videos taken during lessons in teaching practice, allowed teachers to make post lesson self-reflection that was grounded in the actual recordings, rather than uncertain recollections (Freese, 1999; Sherin & Van Es, 2005; Tripp & Rich, 2014). By only relying on memory written reflection may actually be detrimental by fictionalising events that did not happen and therefore weakening coach's emotional awareness (Dixon et al., 2013). Russell (2005) reported stories of individuals who invented experiences simply in order to complete a reflective task quickly. VSR allows coaches to reflect in more details on actual events, allowing for more emotional engagement (Dixon et al., 2013).

Furthermore, the participants also mentioned the ability to review verbal and non-verbal communication, without having to recall it from memory:

> *I think it would highlight the things that I don't realise I'm doing or saying...like the amount I might converse, that's been something that I've been working on the whole less is more... getting the questioning out there and letting them think for it a bit more. (Fiona)*

By not having to rely on memory these comments are all examples of how VSR can potentially increase the reflective capacity of coaches (*reflection-on-action*) and move them towards a more critical analysis of their coaching (Carson 2008; Marsh & Mitchell, 2014).

Review coach-player interactions

One of the complexities in coaching is becoming aware of the impact of coaches' actions on athletes. There are so many situations and contexts that change and influence such a relationship (Lorimer & Jowett, 2013). As highlighted earlier in Vivian's comment coaches constantly want to know why their athletes did not understand them or their instructions. Indeed, participants in my study explained that they often questioned themselves about whether or not players understood them. This is also important during the stressful environment of a game, where participants acknowledged that it is useful to observe their behaviours. They were curious to become aware of when there are regular verbal and non-verbal interactions with the players and the varying durations and frequencies in game situations:

> *...how you act on the side-line, expressions and the way you talk to the players, you could actually see whether the players are engaged into what you're saying and what you're talking about so that would be good. (Teresa)*

Such a comment highlighted how the coaches appreciated that if VSR is used, it could help them understand how their coaching behaviour influences the behaviour of their players, which reinforeces the findings of Harlin (2013) in her research on teachers. In her study, through VSR, teachers moved towards a more student-oriented form of teaching. The teachers reported that in order to be able to enhance the students' learning they first have to establish the relationships. Becoming aware of students' reactions and previous experiences they noted using VSR assisted them in building mutual relationships.

An essential quality for effective interaction between coaches and athletes is the coach's ability to understand each athlete in their team or squad (Jones et al., 2004). Participants recognised that by reviewing interactions with their players through VSR they could better gauge their players' knowledge and understanding of the coaching points:

> *The way I speak to my players, just to get that feedback of actually how I sound to myself, cause you kind of listen to yourself in your own head and think, oh yeah that sounded all right. But sometimes you do get the odd vacant stare from your players so it would be quite good to see exactly what point in what you were saying when those players became confused. (Fiona)*

If VSR can enhance the coach's awareness of each athlete's response to coach behaviour, it would assist in a greater understanding of each athlete. Gaining a greater understanding of players could help lead to better coaching practices, increased satisfaction of both athlete and coach and better athlete coach relationships (Galipeau & Trudel, 2006). Jowett (2005) highlighted how the coach-athlete relationship plays an important role in providing happiness and welfare. Like any other type of relationship it has great psychological significance for

individuals involved (Jowett, 2005; Jowett & Clark-Carter 2006). Becoming self-aware from the VSR, could help coaches and athletes to 'be on the same page' and take 'the other perspective' (Lorimer & Jowett, 2013).

In summary, the literature highlighted that VSR can be a valuable learning tool to gain self-awareness for teachers and coaches. The findings suggested participants were aware that VSR could increase their self-awareness by providing a permanent record of their coaching allowing them to make/review changes over time. They were also aware that video allows them to review the subtleties of their coaching without the reliance on memory leading to more accurate personal reflections. Participants highlighted that VSR can help them understand the impact their coaching has on their athletes. Finally, VSR can increase shared understanding and help tailor their coaching to individual needs of athletes. When applied, the benefits of VSR can enhance the self-reflection process through reflective conversations, leading to improved coach development and increasing coach performance. Participants' awareness of these benefits underpins their positive perception towards it as a tool for learning.

Effect of New Zealand's coach development

The participants indicated that New Zealand coach development has played an important role in shaping participants effective use of written self-reflection and perception of VSR. As stated earlier, in 2004, Sport NZ released the *New Zealand Coaching Strategy Framework* (SPARC, 2004) with the intended outcome, to enable increased awareness of the benefits that are gained from experiential learning while providing opportunities for a structured framework to support a balanced approach to coach development. This framework implemented a change from the previous 'structured accreditation system' to an 'on-going professional development' process (Cassidy & Kidman, 2010). Sport NZ and NSO coaching development opportunities shifted their philosophical vision from an instructional approach, to one extolling the virtues of on-going, self-directed learning and highlighted the importance of the self-reflection process (Sport NZ, 2013). In Tom's comment he discussed his recent experience on a coach development programme that aligns with Sport NZ's CDF:

> *… in terms of reviewing myself I never thought about it until we kind of got to the coaching programme…I think we did four videos and just sitting down and actually getting in front of a camera and then watching them over yourself and just seeing your different thoughts and your process. It's more getting into the whole, not so much video, but more the written resource…going hey how was my training today? Is there a part the boys didn't get? How are my assistant coaches? Then on the game day prep what did I do right? (Tom)*

Through a 'compulsory' visual and verbal self-analysis during the programme, Tom highlighted how it guided his understanding of the benefits of the self-reflection process. Understanding the self-reflection process and experiencing the benefits, have contributed towards Tom's positive perception of VSR. Tom's comment is one example of how recent coach development

programmes the participants attended had aided their understanding of the effectiveness of self-reflection as promoted in the CDF

Incorporating self-reflection models:
Coach development in New Zealand advocates self-reflection. Coaches are sometimes introduced to structured self-reflection models to help support on-going effective reflection. Reflective strategies such as Gibbs (1988) were felt by participants to provide a simple, effective framework to encourage meaningful reflective practice. Vivian made reference to learning about the Gibbs' cycle in one of their most recent courses:

> *So we use that (Gibbs cycle) in a module called player centered coaching and we go into reflection on that and it helps us coaches start looking at ourselves and reflecting on our plans. (Vivian)*

A systematic and structured process for evaluating coaching practice is essential for coaches to become self-aware and improve their coaching (Martians (2004). The importance of using a reflective model to enhance the effectiveness of reflection has previously been validated in educational research as a valuable learning tool (Williams & Grudnoff, 2011). In their research, teachers were introduced to Smyth's (1989) model of critical reflection. After conducting in-depth interviews they found that both novice and experienced teachers moved from being somewhat sceptical about reflection, to embracing reflection as a tool to analyse and modify their practice to improve teacher performance, just as it seems to have happened with the performance coaches in this research. Reflective models, which depict the characteristics and process of reflection, enable practitioners to 'know' what it means to reflect (Knowles et al., 2005).

While reflective models are beneficial, they still do not allow for critical reflection. Dixon et al. (2013) suggested that there is an over-reliance on paper and pencil reflective practice. They highlighted that one of the problems of reflective writing can be that individuals may only focus on negative aspects and 'search for problems'. The consequence when problems are the focus of sport coaching is: 1) coaches see improving performance as problem-fixing and therefore construct a world in which problems are central, and 2) coaches grow in the direction in which they ask questions and therefore grow in a deficit-reduction direction (Dixon et al., 2013). Participants highlighted that the courses they attended provided them with a 'framework of how to reflect effectively' and how to incorporate a self-reflection process into their coaching behaviours. However, coaches and those responsible for coaching programmes need to be aware that reflective models can still produce little in the way of critical reflection.

Active engagement in written self-reflection:
Sport NZ explicitly provides guidelines and a resource to NSO's to encourage coaches to self-reflect (see www.sportnz.co.nz). Tom's previous comment highlighted how his experience at his recent coach development programme positively impacted on his coaching behaviour

through increased engagement, learning and understanding of meaningful self-reflection. As Tom further highlighted below this has lead to active engagement in the written reflection process.

> *In term of self-reflection it's about writing down what do I need to achieve and what are our work-ons from previous weeks…I'll sit down and go over my training plan that I've put together, what did I manage to get through, what didn't I, what parts of it do I think went well, what parts didn't go so well you know, Johnny was stuffing around but I think it was because he wasn't engaged because I focussed more on Steve's crap technique. (Tom)*

Understanding and engaging in in-depth and meaningful reflection can allow coaches to be more aware of the needs of the athletes and the values and beliefs that shape their coaches practice (Tinning et al., 2001). Furthermore, it can lead to more inclusive coaching resulting in enhanced athlete learning and performance (Cassidy et al., 2009). However, the coaches in my study only appeared to be engaged in written self-reflection it is unclear to the level and depth of critical reflection they go through.

> *I definitely use the GIBB cycle, both for my year five team and for my under 17's and I used it last year for my premier team as well I find it quite useful…I write it all down in my team books I have lots of scribbles everywhere, they probably make no sense to anyone else, but I generally understand what I was trying to note down. I probably don't sit down fully and do the whole cycle, 'cause I do a lot of it on the go…I probably need to do a little bit more just to be more effective for my players yeah. (Fiona)*

Fiona's example could be an instance of a *pedagogy of scarcity* (Dixon et al., 2013). Her reflection may lack critical analysis and be little different from descriptive writing (Cushion et al., 2010). It is unclear to the degree the participants in my study use written self-reflection to critically analysis their coaching. Nevertheless, what is evident is the participant's habitual use of the written self-reflection process as Anna highlighted in her comment below:

> *I journal all the time (laugh) I keep notes um on my phone, like my notes is full of things like I might come away from you tonight and you've said something and I'll keep that…after I reflect and more so with journaling because they're my own thoughts and my own words I then try and take what I've learnt out of that and find some resource about what I'm struggling with and that just puts it into perspective for me…that's basically how I reflect at the moment. (Anna)*

It is this engagement in written reflection and habitual use that provided the foundation for their positive perception towards VSR as a tool to reflect on their coaching practice. It showed that participants perceived to have used written reflection and experienced the benefits towards their self-development, and therefore, they had a positive perception towards VSR as a tool for learning.

In summary, the findings of my study highlighted that programmes within Sport NZ's coach development framework have contributed to the implementation of written reflection strategies. While it is unclear to the level and depth participants undergo with their reflection, It is this

understanding and utilisation of the process that create a positive perception towards VSR and the ability to also see it as beneficial tool for learning.

Technology and VSR's use in player development and other domains

As has been suggested earlier, mobile devices such as tablets and smart phones have enabled video technology to be used regularly as a tool for learning (Sport UK, 2014). Video analysis is used as a common coaching tool for player development and appears to be common practice in other areas of many of the participants' lives (e.g. as a teacher, fitness instructor). It is this advancement in technology and experience in using video that they suggested also contributed to the participants' positive perception of VSR as a tool for on-going coach development.

There has been strong evidence that suggests video feedback can aid the reflective process (Cushion et al., 2012; O'Conner 2013) for both coaches and athletes. The advancement in technology has further enabled this valuable process to be available. In player development substantially more coaches are now using electronic 'tablets' in their everyday coaching as a visual learning tool for their athletes (Sport Coach UK, 2014). Over a quarter of coaches in the UK were reported to have used a tablet to help their feedback to athletes (Sport Coach UK, 2014). The use of video in performance analysis is now widely accepted among coaches, athletes and sport scientists as an integral part of the feedback process (Dust, 2010; Mackenzie & Cushion, 2013). In systematic observation Stratton et al. (2004) stated "video analysis offers a number of exciting opportunities for providing feedback in innovative and creative ways" (p.132). All the participants discussed ways in which they frequently used tablets and smart phone cameras to provide video feedback to their players. Sally provides one example:

> *I just take the iPad which is brilliant because I can show them straight away after the game and go this is what was happening. Pinpoint particular points of when maybe a player was beating them, when their jump was, you know, why they were getting penalised because they were jumping in instead of jumping straight up and they can see it and then they're able to correct themselves for the next game. So I definitely know my players find that beneficial. (Sally)*

Participants stated passionately about the joy their players expressed when analysing their own performance using the current technology available. They suggested that using video feedback benefits a player's learning and helps them view performance from their own perspective. They highlighted how all players learn differently and video helps players gain a greater understanding through self-analysis.

> *Yeah they love it [the iPad], they love seeing themselves….they come round and they have a look and they really enjoy it cause they all learn differently, learn by doing and for some of them it actually reinforces that something, it actually highlights and makes them look at it and go, oh wow, I do, I do that and now I see where you're coming from... it opens up the player's understanding and knowledge and it's actually having a common thing in the relationship between the coach and the player so they can see the same thing. (Teresa)*

Teresa's comment supported the literature to suggest that video analysis sessions can be a very powerful tool used with players to increase skill development and increase their knowledge and understanding of the game (Cassidy et al., 2006b; Groom & Cushion, 2005; Wilson 2008). It is this regular use of video feedback and participants' familiarity of using these video recording devices that provides another avenue for coaches to view VSR positively.

Video feedback was also used in a number of different areas within the participants' lives. It appeared that the majority of participants have had experience using video as a tool for either their own learning or to assist players learning and development. Fiona used it in in her role as a gym instructor: "*I have done it as a fitness instructor, videoed myself for that*". Teresa used it at school in her teaching and coaching role: "*I got filmed teaching, God that was a long time ago. We got filmed as trainer teachers and got made to watch it*". Tom used it as part of his work as a sales rep: "*I do a lot of camera stuff for work… I get all cameras and stuff through work, so part of my job for work is doing camera stuff and doing video presentations*". These comments are all examples of how VSR is used in a number of different contexts to enhance the learning process and further contributes to participant's positive perception towards it. This study has highlighted the popularity of video recording devices and video feedback in player development and other areas, but as I discuss in the next theme this does not appear to be the case for coach development.

Summary

The findings suggested that participants have a positive perception of VSR as a tool for learning. This positive perception is formed by the participants having a clear understanding of the benefits of incorporating VSR into their coach development, their habitual use of written reflection, video feedback used in player development and in other areas of participants' lives. These findings are highlighted in table 2 with the impact they have on their own coach development.

Table 2. Contributing factors towards the positive perception of VSR

Contributing factors towards the positive perception of VSR	Impact for Coach Development
Awareness that video reflection can: - increase self-awareness - reduce the reliance on memory - enhance coach-athlete interactions	• VSR can enhance the self-reflection process and lead to a greater change in behaviour • VSR can enhance coach effectiveness
Successful implementation of written reflection strategies	• Understand the reflection process • Habitual use of self-reflection
Video feedback used in player development	• Availability of video recording devices • Advances in performance analysis technology can be related back to coach development.
Familiarity of video recording devices such as ipads	• Technology is not new and can be easily be implement as a coach development learning tool
VSR used as a tool for learning in other areas of participants lives	• Increased chance of familiarity of VSR and its process.

Studies have highlighted that players (Groom & Cushion, 2005), teachers (Tripp & Rich 2014) and coaches (Carson, 2008), who are exposed to video feedback, show a significant growth in the levels of reflective thought, which leads to enhanced performance. If coaches were to include VSR as part of their coach development, this would lead to improved coach behaviour and enhanced coach development in New Zealand. Although none of the participants use VSR when they were interviewed, the findings suggest there is a great deal of value of including it in coach development learning opportunities, as there was a strong a desire to engage in it.

The desire to engage in VSR (but don't)

VSR is used in many disciplines but does not appear to be common practice within on-going coach development outside of expectations in learning environments in professional development opportunities. VSR is promoted within New Zealand coach development programmes however it is not a compulsory element. Nevertheless, participants did express a great deal of interest in wanting to engage in it. This desire was driven by the increased use of learning through experience promoted by the Sport NZ coaching framework and from the aspirational need to achieve their goals of being a high performance coach:

I um, keep everything 'cause I think there's a lot of learning in history…or in the past there's a lot more learning in the past than there is going forward. We can only reflect back to see anything. (Anna)

Anna's comment highlighted that learning happens beyond formal accreditation training and that a large part of coaches' learning comes through reflecting on their experiences. As Trudel and Gilbert (2006) explained, learning from experience is a complex, constructed process. Coaches learn in a variety of different ways and current literature suggests that informal learning through coaching experience is a dominant source of coach learning. Vivian's comment is one example of how the participants frequently discussed their willingness to engage in VSR as part of their continuous development: "*I'm really open to looking at myself… That's what coaching's about for me and so to do my job properly I need to look at myself.*" Self-reflection allows coaches to learn from experience and take ownership of their on-going development. Kidman (2001) suggested that self-reflection is a significant contributor to the process of taking ownership of learning and decision-making. It is this that underpins the participants' desire and motivation to engage in VSR.

Participants also expressed a strong desire to engage in VSR because of their desire to become a High Performance coach:

…my goal at the moment is probably…14 years from now I wanna be coaching at the World Cup, not for New Zealand but for Georgia, Russia, Spain, that kind of thing. That's kind of the plan at the moment…if someone started a business that was filming people coaching I'd be all over it. I'd pay to see myself coach (Tom).

All study participants were classified as performance coaches and five out of six of them had an ambition to coach at a High Performance level:

I *would love to be a professional coach full-time and be like in that environment or short-term goals, New Zealand secondary schools coach…just trying to take every opportunity to further myself so when the opportunity does come up I'm fully prepared (Teresa)*

Both Tom and Teresa's comments highlighted how participants were motivated to continuously develop and learn so that they can reach their goal of coaching high performance athletes. The desire to learn and become a high performance coach, further underpinned the participants' motivation to engage in video reflection as part of their on-going development. This is emphasised by Fiona who also perceived that VSR is used at the highest coaching level:

It doesn't matter how many years of experience you have or knowledge you have you can never have enough, that you're always learning as a coach. So remembering that, and even probably at ANZ level, Julie and Co (national coaches), they probably video reflect and all that sort of stuff as well. It's really important for everybody to do it. (Fiona)

While there is little research examining the use of VSR for coach development at the elite level, what is suggested from some research is that elite coaches strive to continually learn and

develop (O'Conner, 2012). Literature into the development of elite coaches confirms that coaches were fervently devoted to searching for new ideas and wanting to always improve their coaching knowledge (Bloom & Salmela, 2000; Nash & Sproule, 2009; Werthner & Trudel, 2009). Also, it has been shown that they have strong self-reflection skills and closely monitor the things they do well and they identify specific things that can be improved (DeMarco & McCullick, 1997; Schempp et al., 2007).

My findings showed that participants perceive VSR as a beneficial tool to advance their career into high performance coaching and expressed many of the attributes mentioned above. Yet despite all this 'drive' and 'desire to improve', participants are not currently engaged in using VSR in their coach development. The interviews indicated that none of the participants had purposefully videoed themselves coaching for self-development. Most of their VSR came as a result of a requirement from a coaching professional development opportunity. Furthermore, only three out of six had watched themselves in a coaching context:

> *I've never thought about it actually 'cause I use it for the girls, I video the girls because they love the iPad, we look at skill based stuff... they love it, but I've never used it as a benefit for me if you know what I mean, I've never thought about it that way. (Vivian)*

> *No (laughter) I haven't [seen myself coach]. It is something I have thought of doing...But no, not in a coaching a team sense I haven't done that. (Fiona)*

> *that's the thing I haven't seen any footage of me coaching. So I've like stood in front of the camera and just kind of rattled off the answers to the questions but in terms of me coaching I've never seen any footage of me coaching. (Tom)*

Participants perceived that there are a number of benefits associated with VSR. Though they say they are motivated to become a better a coach, they have not engaged in using VSR in their own practice. Motivation in itself is a complex subject and an in-depth discussion is beyond the scope of this project. However, it could be argued that the reason why coaches are not motivated to video reflect compared to written reflection is because VSR has less of a 'value proposition'. Value proposition in the context of sport, is defined as the benefits a coach will 'receive' (accuracy, non-verbal feedback,) compared to the 'costs' (time, organisation, quality of output). The concept of 'value proposition' has previously occurred in studies when 'written self-reflection' was first introduced to the coaching environment and was not undertaken (Brut & Morgan, 2014; Cropley et al., 2012). Cropley et al. claimed in his study "those reporting low motivation to reflect may have done so because they were not able to elicit the benefits" (p.21). Burt and Morgan argued, "the reason why coaches are not motivated to reflect is because they do not understand the benefits of it. Incentive Theory would suggest that coaches have not seen the benefits to be gained from reflection" (p.9). The problem with reflection is that the product of the process is rarely tangible and therefore people may not physically see the benefits of their reflective practice straight away (Otienoh, 2010). It is interesting that in these studies coaches

claimed they had not seen the benefits, the coaches in my study have also not seen the benefits, yet have such a positive perception towards it. If the participants perceived an increased effort is required for VSR compared to that required for written reflection, yet do not see the immediate increased benefits of VSR, then this would reduce the likelihood of them undertaking it. The findings have already highlighted how Sport NZ encourages written and VSR reflection through reflective tasks suggested in the framework and coaches are exposed to the benefits regularly within their development. This regular exposure to written reflection has led to coaches valuing the process. VSR is an element in all Sport NZ's coach development modules. However, it appears that National Sporting Organisation's (NSO's) are not requiring coaches to undertake VSR but rather using written reflection more readily.

> *No we only did a little bit of with some iPad software, some smartphone software, where you could stand and take photos, take video footage of people doing line out sessions and then you could overlap them, you could get your hooker and he could be throwing the ball and you could overlap it with Keven Mealamu throwing the ball and compare the two. So there was a bit of stuff but that's probably the first course I've been to that's actually, shown software and stuff that's out there, but no there was no filming of ourselves. (Tom)*

Teacher education in contrast, exposes novice teachers to actively engage in VSR very early in their training. VSR has been used as a compulsory tool in teacher training domain for a number of years (Fuller & Manning, 1973; Tripp & Rich, 2014). Analysis has revealed that teachers showed significant growth in their levels of reflective thought and became more self-aware about their teaching work through its use (Freese, 1999; Sherin & Van Es, 2005; Tripp & Rich, 2014). Teachers are not only exposed to using VSR, but are engaged in meaningful discussions around it, early in their teaching careers (Tripp & Rich, 2014) in their formal training opportunities. There is clear evidence that suggested video technology provided a framework for teachers to engage in in-depth reflective discussions with teacher educators, mentors and fellow teachers as part of their education (Freese, 1999; Marsh & Mitchell, 2014; Sherin &Van Es 2005; Tripp & Rich, 2014). Video provides powerful prompts to this process and allows opportunities for dialogue and shared learning, where teachers can make changes or refinements to their practice. Studies have also found the use of video in collaboration between a trainee teacher and mentor has been critical in the development of teachers changing their practice through video reflection (Marsh & Mitchell, 2014; Tripp & Rich, 2014).

It is these meaningful discussions and the absence of video feedback in mediated and structured environments that appear to be lacking in the New Zealand coach development. This lack of exposure and experience in using VSR is a key-contributing factor to why they do not value the process enough to dedicate specific time towards it. Cropley et al., (2012) concluded in their study that coaches would "have benefited from specific education, guidance and support (in written reflection) and therefore such a process should be considered by those responsible for the training and development of sports coaches" (p.23). They also suggested that structured

support, for example through a mentor, was likely to help practitioners achieve the benefits of reflective practice. They stated, "In line with self-efficacy theory (Bandura, 1977), achieving these benefits is likely to enhance the self-confidence of the practitioner and in turn increase the practitioner's propensity to reflect" (p.22). Coach development programmes have had an influential role in the implementation of written reflection that have now become an integral part of the participants' everyday coaching. These same coach development programmes can also play an instrumental role in supporting and enhancing coach's perceived value of incorporating video in the reflection process. By providing coaches with practical experience using VSR in a mediated setting, and creating the opportunities for dialogue and shared learning to take place, coaches may begin to increase the value they give to VSR. While this increase in exposure and experience can address the value coach's place on VSR, it still may not be enough to overcome the barriers faced. The next theme explores a number of issues that participants raised as key barriers to VSR.

Barriers

The theme '*barriers'* explores the impression that using VSR is difficult to implement. There were a number of key barriers raised by the participants to their use of VSR. The first barrier *prioritization of time* considers the issue of 'time available'. Family, work and generally busy lifestyles were all reasons as to why VSR was placed as a low priority. The second barrier *logistics* explored the key resources required to implement VSR. Finding individuals to film and acquiring high quality footage appeared to be the main obstacles. The last barrier, *confrontation/low self-confidence,* explored how the participants associated a sense of 'fear and foreboding' and vulnerability with the thought of watching a video of themselves coaching.

Prioritization of time

It has been established that participants had a willingness to engage in VSR and are currently engaged in some form of written reflection. The findings suggested however, that participants did not value VSR enough to prioritize time towards it:

> *Probably time would be a big factor because obviously you've just had an hour and a half training and so then to sit down and re-watch that hour and a half, trying to fit that into your busy week already would be quite hard. (Fiona)*

When time constraints were investigated in more depth, it was revealed that 'time' itself is not the barrier to self-reflection, instead it was the prioritizing of specific time dedicated to VSR. Kuit, Reay and Freeman (2001) argued that all an individual needs is time. But time itself is not enough, there is no magic number of hours in the week that would lead to coaches undertaking a systematic reflective process (Burt & Morgan, 2014). It comes down to a question of personal motivation. This is highlighted in Tom's comment:

I mean time but you make time I think that's the thing. I mean if you want to be a decent coach and progress then you find time. It's not just me but all the guys that are trying to progress are spending the hours and hours. I mean it's all Tuesday all Thursday all Saturday then it's like Monday night planning and review then it goes on so yeh another hour is no big deal. (Tom)

Participant awareness and positive perception of the benefits of VSR did not translate to prioritization of time. Carson (2008) proposed that the greatest influence to performing VSR is the time needed to conduct the reflection. Interestingly, coaches already dedicate specific time towards written reflection suggesting that time did not appear as an issue.

journaling's my main one, like I ask a lot of other coaches who I trust, so I communicate with them a lot videoing was probably coming in to it…I'm not really into videoing myself at the moment. (Anna)

It appears that coaches value the benefits of written reflection compared to the time required to undergo it. However, time for using VSR still does appear as an issue. Busy lives and managing the balance between work, family and coaching commitments were suggested as primary reasons for why coaches do not prioritize time to undergo VSR:

yeah I think probably time…given the sort of work, the home life, the coaching life sort of three way balance, it's getting the time to actually see how I could implement that. I would say that's the biggest sort of stumbling block for me. (Sally)

Family commitments were considered one of the biggest barriers to not prioritising time to VSR:

Definitely time, yeah and having two children, so a nine year old and an eight month old so whenever I do get a bit of down time I'm trying to spend it with them or my husband or I'm busy planning for the next session. (Teresa)

Family commitment was followed by the idea that coaching involves long working hours and travel commitments:

…if you've had a hard day at work, for me sometimes I don't even get to sit down. Like by the time I get out at the end of the day which really kills me and then I'll, if I know I can't get home for my gear but you know I've spent sometimes an hour on the road and I get in and I'm just like, I just want to lie down you know…and then to think I've got to be thinking about video reflection, you'd be like, are you joking? (Anna)

Participants comments supported previous studies that found similar demands such as work, family and coaching too much were primary reasons why the required time to undergo written reflection was seen as a key barrier (Brut & Morgan, 2014; Cropley et al., 2012). Driscoll and Teh (2001) suggested that when life gets busy, reflective practice is the first think to be dropped and tossed aside. Practitioners need to justify the prioritization of time required for reflection before fully engaging in the process (Cropley & Hanton, 2001). This appeared to be the case for written refection i.e. participants prioritize time for it, but not time for VSR. Carson (2008) stated that coaches who value VSR and allocate time in their schedule realise that it is extremely beneficial to their performance development. As indicated prior, the participants stated that they

value VSR and were actively engaged in written reflective activity. Therefore the reason they were not allocating the time to incorporate VSR suggested that the performance benefits might not currently be truly recognised/acknowledged by them or that the motivation is lower than even they believe.

For coaches to prioritize specific time to VSR they must see it as a worthwhile exercise. The implementation recommendations from Cropley et al. (2012) of enhancing written reflection can provide a platform for Sport NZ to assist performance coaches in prioritising time towards VSR. Cropley and colleagues recommended that coaches must be given the opportunity to develop their understanding of reflective practice. This includes: definitions of reflection, the purpose of reflection and the process of reflective practice. They give three key approaches to how this could be achieved:

1. Educational Workshops – deliver core workshops as part of continuing professional development programmes
2. Mentoring – learning from other professionals and having guided support
3. Developing support networks – if a culture of trust and collaboration is established within formal learning environments communities of practice can be created.

All of these approaches can be adapted to VSR and need to be considered by Sport NZ to assess how New Zealand performance coaches can be supported to engage in VSR on a regular basis. However, while these approaches address the barrier of time, coaching is not practiced in a classroom and so there are a number of logistical challenges that also need to be considered.

Logistics

The sub-theme 'logistics' relates to the logistical process of acquiring video footage to conduct VSR. Due to the dynamic nature of coaching there are many challenges associated with acquiring quality video footage (Carson, 2008). The participants referred to this as a major hurdle, which reduced their motivation to engage. Second to this the participants indicated a need for a reliable camera operator and accessibility to an adequate vantage point (More & Franks 1996):

> *Its more than just having a tripod set up…the thing is that you're moving around on court so much that it's getting it in the right position where you can hear myself and you can see what you're doing because you're moving up and down court all the time. So that would be really hard, you definitely would need someone to actually video. (Fiona)*

Fiona discussed the need to be able to both 'see' and 'hear' herself in order to use VSR effectively. Having both video and audio are essential elements to VSR (Cushion et al., 2012). Having one without the other would limit the quality of the coach reflection. Carson (2008) stated that the primary concern to using VSR was related to the quality of recording equipment available, particularly with the lack of sound quality (unclear, too quiet, too much interference).

Finding the best place to film, making sure the coach can always be seen, having the camera not to close but not too far away, and making sure it does not get knocked down were all issues raised within his study.

The participants described how the camera needed to be close enough to record the coach's instructions and hear what is being said, while still being positioned far enough away to capture the coach's nonverbal communication. Sally highlights the challenges of getting high quality footage:

> *So it's not just a case of somebody standing with an iPad on a balcony because yeah you can get set up, which is great, but can you hear the information? So if you can't hear the information then you can't really look at that sort of thing so you need the resource to sort of be up close and personal (Sally)*

It appeared that acquiring video of a high enough quality to undergo VSR effectively cannot currently be achieved through placing a stationary camera on a tripod alone. While camera technology is rapidly advancing and devices such as drones, robotic cameras and wireless microphones are currently available on the market, the majority of these devices are expensive and out of most coaches resource ability. Cushion et al. (2012) stated that given the continued development of computer and camera technology, video reflection lends itself to live coding with a handheld or tablet device, giving the coach instant feedback, and allowing the live coding to be linked with recorded video footage to be used for further analysis. For example, in education, web-enabled video systems which consist of two wall mounted camera at each end of the classroom, digital microphones and a one-stop interface installed on a laptop, are now being used to support student teachers' self-reflection in teaching practice (Kong, 2010). Teresa described a similar system used in her teacher training in the UK:

> *I used to work at a school in the UK and it had cameras in the ceiling, it had six cameras and you could zoom right in and see what you were doing and it would relay it back to classrooms so you could watch the whole thing straight away (Teresa)*

Currently there does not appear to be this technology available and readily accessible for performance coaches. Therefore, coaches need to rely on a human resource.

> *…it's just about having somebody there available all the time and able to film really, because we only got this iPad because of netball for the stats, for the girls, things like that because it's such a great tool. So I've got it there so I might as well use it (Vivian)*

Using a human resource will solve a number of the logistical problems when trying to collect high quality footage. However the concept of 'needing a camera operator' draws attention to the challenges associated with finding individuals to record coaching sessions. This is effectively captured in Tom's comment:

> *I think resource is gonna be the issue, not only the cost of the equipment but just someone to actually stand there and film you. I think that's gonna be the biggest issue. (Tom)*

Finding an appropriate person appeared to be problematic for half of the participants. They explained how it would be challenging to find someone prepared to shadow them around the pitch filming:

> *I mean we've got a camera at home so getting a camera to get the footage wouldn't be difficult but it's getting it set up so and finding someone that's happy to sit there for the hour and a half and solely video (Fiona)*

Tom further explained that fellow coaches would be an ideal resource, but they are often all coaching at the same time: *"everyone I know who is a coach, is coaching the same night I am so that would be a big issue"*. Tom also discussed the importance of the camera operator having a certain level of expertise, to effectively assist coaches in VSR:

> *I would need to find someone who had an understanding, and potentially more at a coaching level, otherwise I think a kid or a player is just going to be you know, where if it's a rugby coach or anyone sort of coach they are going to have an idea of coaching and the receiving of information, so it might be focused on me talking then focused on the boys for a little bit. Where I think if you said to someone who wasn't a coach the would just focus on you the whole time, but not get the feedback from the players, (Tom)*

In contrast, three of the participants said finding an appropriate person would not be that challenging:

> *...there's always a place to video in the gyms ...there's always a parent or an assistant coach or someone that if I needed to take 20 minutes of myself coaching they, they would. So there are no barriers there (Anna)*

> *I think that would be an easy one for me, um I could have done it Tuesday night with regards to me delivering and head coach videoing. We have the resource, we've also got team manager that could potentially pick that up as well. (Sally)*

Both Anna and Sally highlighted that they would have the human resources readily available to acquire good quality video footage for them to self-reflect effectively. But as Tom and Fiona highlighted in their comments earlier this might not always be the case for all performance coaches. While Sally mentioned she could have asked her head coach to film her, most teams only have one coach. Her comment below summarises the challenges of finding someone to support the video reflection process:

> *I'm not entirely sure that there is enough resource to do that because a lot of the time when you look at clubs there is only one coach. There's nobody really there that they could potentially lean on to say could you video this? I think in terms of the technology is there because the majority of people have iPads or their phone, I think it's the human resource and I also think it's how to capture what is needed to be captured. (Sally)*

The findings suggested that logistically, VSR is more challenging to administer in a coaching environment compared to a classroom teaching environment. The tools to perform VSR are accessible to most performance coaches i.e. access to smart phone and tablets, but the technology is not readily available for coaches to record themselves effectively without the need for a human resource. Written self-reflection is completed because it is simple and can be

achieved on your own with little pre-planning or support required (Cushion et al., 2010). Seeking out technological solutions or trying and find an appropriate support person means VSR is considered too difficult to administer. Again, Cropley and colleagues (2012) suggested that once coaches have gained an understanding of reflective practice and how it might be applied then it is important for coaches to be supported in developing their own approach to reflection. This same concept can be applied VSR. Coaches work in a variety of environments (e.g. in gym, on the water, by themselves) and each environment will have its own demands. Sport NZ, NSOs and Regional Sporting Organisations need to consider strategies that once coaches have gained an understanding of VSR they need to be supported in developing an individual approach that works for their coaching environment.

One strategy is to look at teacher education, where specific classrooms are set up for VSR (Kong, 2010). Environments such as school gym or sports stadium could be established regionally with camera and microphones in which coaches are able to use as part of their on-going development. Another strategy is to promote a peer buddy system (support network) within clubs or regions. As Cropley et al., (2012) suggested if a culture of trust and collaboration is established within coach development programmes, Communities of Practice could be created. Sport NZ, NSO's, RSO's and Clubs could play an influential role in providing a support platform for coaches that will encourage them to collect video and help increase there self-reflection capability.

Confrontation/Low self-confidence

Participants indicated a psychological constraint to the their lack of engagement with VSR. The participants emphasised a 'feeling of vulnerability' or 'just being uncomfortable' when using VSR. This sub-theme explores this confrontation and considers why it is a barrier to coaches' engagement with VSR.

Participants did not like seeing or hearing themselves on camera. Anna commented: "I don't like watching it (laugh) personally I don't like seeing myself", whereas Teresa commented: "Just don't like the way you sound, you start getting all picky, oh do I really sound like that". Fiona effectively summed up this hesitation of not wanting to see herself on camera:

> *I probably would be hesitant just 'cause it's one of those things you never really wanna watch yourself and hear yourself being recorded…. think a lot of people would be hesitant, cause a lot of people don't like to hear themselves on recording which is, you know, would probably put people off. (Fiona)*

What is interesting is that the one male participant (Tom) in my study did not have the same issue "I think if I could be videoed for every single training and every single game, especially my trainings, then it would be awesome".

It is important to note that this study only had one male participant compared to five female participants. It is therefore very difficult to make a fair comparison between the two comments

further research between male and female coaches is recommended. However, several authors have commented that reflective practice is likely to lead to feelings of discomfort and vulnerability, as reflection directs us to challenge habitual knowledge, physical appearance and practice (Anderson et al., 2004; Cash, Theriault & Annis; 2004). This notion of not wanting to see or hear yourself may be due to a feeling of susceptibility to negative self-conscious emotions (Tracy & Robins, 2004). In the participants' comments above, they suggest that by reflecting on their coaching they open themselves up to these negative self-conscious emotions such as shame guilt and embarrassment. Self-conscious emotions differ from basic emotions because they require self-awareness and self-representations (Beer & Keltner, 2004). These self-processes make it possible for self-evaluations, and therefore self-conscious emotions to occur. The participants could experience self-conscious emotions, such as pride and shame, only when they become aware that they have lived up to, or failed to live up to, some actual or ideal self-representation (Tracy & Robins, 2004). If coaches have a positive perception of themselves they are unlikely to want to put that at risk by becoming aware that they may not have lived up to what they expected. VSR brings one's self-representation to the forefront. As mentioned earlier, video does not hide anything. As Sally's comment highlighted below, if coaches think they are good at what they do then they are not going to put that at risk:

> *…I also think there's a bit of confidence there as well you know, as human beings perception is massive across all walks of life and I think your perception of you is generally positive and everything's good and there's nothing wrong. I think it's the confidence to actually watch that and to have the ability to constructively criticise what's going on and to reflect on what you're seeing. I think it's the confidence to identify that rather than say, oh, you know this is not what I thought. So I think as individuals we have a perception of ourselves and we don't want to ruin that perception if it's rosy and all good. (Sally)*

Coaches are happy to let athletes watch themselves and use video reflection in other areas of their lives. Yet, when it comes to coaching, the female coaches in my study seemed to lack the confidence to see themselves on camera. Low self-confidence related to watching yourself was a common theme through many of the female participants' comments:

> *…no I think for me personally that would probably be my only, yeah, that and just probably just doing it (laugh) Probably just self-confidence of how you look and how you sound, um, yeah I think that's probably it you know just having that confidence to go right, I'm gonna do it. I'm actually going to sit down and watch it because it's easy enough to do it but it's probably sitting down and watching yourself is gonna be the hard part, watching the playback (Fiona)*

Anna talks about the feeling of insecurity when thinking about watching herself on video:

> *…when I think video reflection I'm like insecurity, the word insecurity comes straight to mind you know and that, so, because you can't hide anything at all…I don't know if it's a girl thing, it's an image thing, like I kind of mentioned before I don't know like I wanna look good, but even judged on what you, the way you walk or you know the way you talk to your players and that's, so it's just judgement isn't it? You know, it's just*

*another form of it because you're getting scrutinised and now you're seeing yourself
and worse credit rate…whereas you see yourself and you just, you lose the whole point,
I'm thinking I would lose the whole point of why I'm doing it. You know, that insecurity
is a real self-centred position. (Anna)*

In Anna's comment she highlighted the concept of 'image' and 'wanting to look good'. Body
image, a multifaceted concept, refers to the internal perception of one's own physical
appearance (Thompson et al. 1999). Body image is subjectively based on self-observation (Cash
et al., 2004). VSR can increase one's body image self-awareness and if viewed negatively can
lead to poorer social self-esteem and greater social anxiety (Cash & Fleming, 2002). There is a
large body of literature that suggested body image is experienced negatively by the majority of
woman and girls (Tiggemann, 2011). The findings of my study could support this claim as Tom
the one male participant in the study it not mention any of thee issues. In contrast, Anna
discussed how seeing herself on video might lead to feelings of insecurity and put her in a
negative frame of mind. She further discussed how she could become fixated on these negative
feelings and would detract from her ability to self-reflect on her coaching. As mentioned earlier
these comments should be taken with caution as this study only had one male compared to five
female participants.

Participants emphasised that they had this perception or expectation of themselves and by
seeing themselves on camera they may discover that this perception is different to what they
originally thought:

*yeah I think it's just that expectation I probably put on myself that I wouldn't wanna
then look back and go, oh I'm really not reaching where I wanna be, you know. In my
head I think I'm here but I'm really down here, you know, would be that sort of thing.
(Fiona)*

These expectations can lead to coaches being over critical and exposing themselves to self-
conscious emotions:

*I think you've always got perceptions of how you coach and how you come across…I
think I sometimes am over-critical in how I coach or what I coach and that's just me in
a day-to-day sense (Sally)*

Raelin (2001) warned that reflection could make practitioners feel insecure anxious and doubt
their practice. The female participants' comments shown here are examples of feelings of
vulnerability. Vulnerability is described as uncertainty, risk and emotional exposure (Brown,
2012). Participants had the perception that vulnerability is a weakness especially when they are
totally exposed on camera. Brown (2012) discussed that there is huge emotional risk when
allowing oneself to be vulnerable and that this emotional exposure equals weakness, "it's like
taking off the mask and hoping the real me isn't too disappointing…vulnerability is like being
naked on stage when everyone else is fully clothed" (p.30). My findings suggested this is how
the female participants feel when they think of watching themselves of video. However, in order
to engage in the reflective process fully, practitioners must be open with themselves and

questioning, challenging their emotions and thoughts, which will enable them to learn from their experiences adapt and improve practice (Anderson et al., 2004).

VSR has the potential to expose coaches to self-conscious emotions and as recommended by Vivian would initially need to be supported:

> *I think video analysis would need to be supported, yeah, if you're looking at it I'd be going, oh I did that wrong, but it would probably be really good to have your mentor there to support it, yeah, because it could be quite harmful if you're a negative framed kind of, more a pessimistic person that they would only see the negative, they might not see the good in it…you could put the coach off the whole thing because they might look at it and go, oh my God, yeah I think the support would be good (Vivian)*

These psychological issues can be addressed by methods already discussed. By exposing and allowing coaches to gain practical experience in the VSR process in a mediated, supported setting, coaches can begin to look at all the positives and learn to not always focus on the negatives. As Brown (2012) explains "vulnerability is the birth place of love belonging, joy, courage, empathy and creativity" (p.28). The more confident coaches are in undergoing VSR the less these psychological issues will be barriers that stop them engaging in it.

Summary

Coach development programmes can play a fundamental role in increasing the exposure and practical experience coaches have to VSR (O'Conner, 2012). As education literature suggested, video allows opportunities for dialogue and shared learning to take place, where changes or refinements can be made to practice. It is within coach development programmes that coaches can begin to have these discussions and witness directly the benefits of using video in the reflection process. Even during my study (talking about VSR) Anna commented: *"the more I'm talking about it yes and the more I think I'm answering these questions I'm like I need to you know, I need to do it"*. By exposing and using VSR regularly within coach development programmes we may begin to see coaches allocate more specific time towards VSR. Sally comprehensively acknowledged this:

> *I think it's one of those things that we're in the modern day, we have all this technology as you've mentioned, your iPhones or iPads and the high tech video cameras and all the rest of it. It's certainly something I would be interested in and I'm all for continuing to learn and if that's through the video self-reflection then that's the way I go. (Sally)*

Sally goes on to emphasise that VSR just needs to become a 'habit' in order for it to be implemented:

> *I think it's habit, as coaches we evolve all the time, there's gonna be one time or one occasion that a switch is just gonna flick to say this is essential, do this at least once a week sort of thing…but because it's not habit and it's not become automatic yet it's very hard to initiate that. There is gonna come one time I think in the next six months anyway where it's gonna be let's have a look at this and see how we can actually implement it…So it's more a habit thing and because it's not been instilled yet it's not become automatic for me. (Sally)*

Carson (2008) suggested further research is required to ascertain the most effective method to integrate VSR within a large-scale coach education programme. The findings highlighted the role Sport NZ has played in the successful implementation of written reflection among performance coaches. It's therefore beholden upon Sport NZ and NSO's to investigate how VSR can be better integrated into New Zealand coach development programmes. If like written reflection, coaches are exposed and encouraged to use video within the reflective process, we may begin to see coaches dedicate specific time towards it.

Modern day vs. old school coaches

The participants interviewed in this study perceived that there are two types of coaches, 'modern day' and 'old school' who express a contradicting mind-set towards VSR. The participants suggested that there were many coaches within their current coaching environment who held what they described as an 'old school' view towards the practice of coaching, self-reflection and on-going coach development. The participants defined old school coaches as having an, 'I know what's best attitude', preferring a coach–centred approach, and appearing to dismiss the value of self-reflection. They explained that this is a contrasting perception to that of themselves who they defined as 'modern day coaches'. Modern day coaches were characterised as younger, more progressive and more open to innovative ways of learning. It is vitally important to understand that that my study has come from a modern day perspective due to the Sport NZ's CDF and its application to continued modernisation of coach development. The participants highlighted that there are many coaches that do not share their views with regards to their positive perception of VSR. This has a big impact on the implementation of for both old school and modern day coaches, as both do and will likely continue to coexist in the coaching community.

This section starts by considering, how these two contrasting perceptions have been shaped through their experience of coach development and exposure to/use of information technology. Next, I explore how the participants perceive that 'old school' coaches place a different value on 'on-going' coach development compared to themselves. Finally, these two contrasting perceptions of self-reflection are explored and how modern day coaches appear to be open to VSR whereas old school coaches are not.

Influence of coach development and information technology

Coach development has played an important role in the way modern day and old school coaches perceive VSR. As discussed earlier, in the mid 2000's Sport NZ made a significant strategic shift away from promoting a formal structured coaching accreditation system, to the more on-going professional development coaching process (Cassidy & Kidman, 2010). Literature suggested that coaches that did the majority of their early coach development prior to the new CDF philosophy being implemented would have been very little emphasis placed on the

importance of self-reflection as a tool for learning (Knowles et al., 2005). Knowles et al. (2006) commented that historically, coach education programmes rarely provided clear structures for the development of reflective skills alongside the delivery of sport specific technical knowledge. While these views are only the perception of the participants and the previous state of New Zealand coach development was not the purpose of this study, Knowles's comments do suggest that these 'old school coaches' have most likely never been introduced to the benefits of self-reflection, therefore, do not see the relevance to it in relation to their own coaching. This is in contrast to the coach development the participants, who I consider modern day coaches, have been exposed to, as was discussed in the previous section.

Modern day coaches have not only been exposed to self-reflection within current coach development, but information technology and social media have also had a major influence on them.

> *As I've mentioned, the modern day coaches and those that are sort of the younger ones, the up and coming and coming through the coach ed system at the moment, purely because you've got the Twitters, the Facebooks and all the social media that are suggesting these sort of new modern technology ways of not just assessing your coaching but reflecting on how you do it. (Sally)*

Modern day coaches are seeking and acquiring knowledge in very different ways compared to the previous generation. On-going coach development, video play-back and video self-reflection, are all progressing from advances in contemporary coach education, information technology and televised sport:

> *I think with the national league TV stuff it's all changing, 'cause you've got to, it's on the screen all the time and you can rewind and stuff, so these (old school) coaches need to actually change how they coach to keep up to speed with the game 'cause the game's changing. (Teresa)*

The comment '*cause the game's changing*' introduces the idea of this 'progression' towards modern day coach development (Sports Coach UK, 2013) Sports Coach UK suggested that throughout the past couple of decades the world has seen significant advances in information technologies, which has bought about equally significant changes in the culture and environment of coaching, coach development and learning. Social media is one example of how information technology is changing how coaches engage in coach development. Sports Coach UK (2014) highlighted about a third of all coaches in the UK use social media to acquire coaching knowledge, with the most popular age group being 25-34 years (52%) and 35-44 years (44%). All coaches learn differently and social media and the internet allows coaches to find information that is personally relevant to them (Cassidy et al., 2009; Cushion et al., 2003). It also allows learning to be an on-going practice and a continuous process of change within an evolving landscape (Light & Dixon, 2007). For the participants and modern day coaches, social media can be an effective means of promoting and supporting VSR. However, this may not be the case for old school coaches who have not grown up with it.

Modern day coaches appear to be emerging into a new era of coaching, with advanced forms of learning and on-going coach development opportunities. Access to coaching resources via social media, smart phone apps, coaching blogs and videos via the web were inconceivable two decades ago. My findings suggested that the participants perceived old school coaches as having not been exposed to these modern forms of learning, and therefore do not value on-going coach development in the same way they do..

Different perceptions of on-going coach development

A large part of coaching knowledge is based on experiences and personal interpretations of those experiences (Cushion, 2001). Modern coaches in New Zealand are being developed in a 'modern era' of coaching where there appears to be an emphasis on on-going coach learning. Because modern day coaches are aware of the benefits of on-going learning, they see it as an essential part of development. In contrast, participants perceived that old school coaches do not see on-going development opportunities in the same way. It is possible that they often believe they already have all the required knowledge from their intuition and have 'seen' the situation before, therefore will have a 'ready-made' solution that does not require new thinking/alternative solutions.

Bourdieu (1977) argued that the body is a site of social memory and characterized this as habitus (Brubaker, 1995; Wacquant, 1998). Coaches thus come to see and interpret future coaching events and observations on the basis of their early experiential foundation (Cushion, 2001; Jones et al., 2004). Such formative experiences carry far into a coach's career and provide a continuing influence over perspectives, beliefs and behaviours. In other words due to old school coaches habitus through their experiences, they may not value on going coach development opportunities in the same way modern day coaches do. It was indicated by some of the participants that these old school coaches appeared to have this 'I know what's best' attitude in their coaching. They suggested that they saw coaches with this attitude as having a reluctance to critically reflect and seek out new coaching strategies as part of their on-going development:

> *I think because they (old school coaches) think they know it all, and there is a big train of them and they think they know what's best…this is how you do it, this is the right way and a lot of them have been around a long time and so they think that this is the only way to do it so they are quite guarded. Whereas actually they could do with having some time out and reflecting on their coaching and actually know there are other ways. It's not that their way is the wrong way there's just other ways of doing things. (Teresa)*

Participants perceived that old school coaches have the experience and have gained the knowledge over time and therefore, often do not see on-going development opportunities as part of their knowledge development. Tom comments *"I think its just old school mentality to coaching there is a lot of stand and deliver…there is not a lot of formal development"*. In contrast, participants suggested that modern day coaches are very open to on-going coach development and are always seeking new ideas:

...I think modern day, there's a lot of modern day coaches that will (search for new ideas and self-reflect), I think those older style coaches won't purely because they have the experience, they have the knowledge and they know what should be delivered. (Sally)

This 'modern' group of coaches were suggested to favour self-directed on-going learning and therefore engage in activities to match:

[On-going coach development] is happening out there and it's exciting to see, but unfortunately some of our more experienced coaches are the ones that we need a bit more of a change from… the starting up coaches they are open to it…but there is a gap in the middle from up there (national league) down to here (community)… there is some lovely experienced coaches sitting in there…they are not quite open to coming in to new things or maybe reflecting on their things. (Vivian).

This again suggested how the participants perceive that more experienced coaches appear to be reluctant to be further educated and did not desire to engage in on-going coach development. Modern coach education has played an important role in many New Zealand sports clubs, but not all coaches have chosen to engage in it:

...down at our centre, I think a lot of our coaches need to head into more education…, we've got a bit of a group going through but there's still a lot of coaches that think they know it all and aren't adjusting to the new style of being more player centred instead of coach centred…I think the ones that have got their Community Coaching Award they are reflecting because it's been drilled in to them through the education, I definitely believe that those coaches would be reflecting in some way. We do unfortunately have a few coaches that haven't gone on the new coaching pathway…They could be doing some form (of reflection) but whether it's the most effective form of reflection it's hard to say when they haven't attended their education side of things. (Fiona)

Much of the research available on coach learning is limited by a tendency to focus on expert or elite coaching positions (Cushion et al., 2010). In line with this, Irwin et al's. (2004) research showed that only 36% of elite coaches considered coach education courses beneficial to their development. Furthermore, Nash and Sproule's (2009) study of expert coaches found that none of their participants perceived formal coach development courses beneficial to their knowledge development. They inferred that coaches' experiences of formal coach education courses had not delivered what they viewed as important. Thus perceived attendance to future courses appeared irrelevant to their development as a coach. Old school coaches most likely experienced a formal accreditation system to coach education where there was little emphasis on on-going coach development. As these views are only of the participants it is hard to say how old school coaches perceive on-going coach development, but if these old school coaches that the participants describe had an unsatisfactory experience while attending these courses and there was little emphasis on on-going learning then there would be evidence to suggest that their would be a reluctance to engage in future on-going coach development opportunities. In other words due to habitus and poor experiences of coach development courses old school coaches maybe less likely to attend future coach development opportunities.

Two contrasting perceptions of self-reflection

The participants perceived that this has led to two contrasting perceptions of self-reflection and written self-reflection strategies within their current coaching environment. The participants had a very positive view of self-reflection and on-going coach development and suggested modern day coaches also have a very positive view of the self-reflection process. Modern day coaches that are currently undertaking contemporary coach development opportunities are being exposed to the benefits of self-reflection and seem to be engaged in continuous coach development:

> *I think the ones that are coming through, the younger ones are coming through and they get involved in something like [coach development programme] they'll get educated and they'll see the importance of it (self-reflection and on-going development) but you've got some (old school) coaches that are just stuck in the middle that will never change. (Teresa)*

In contrast, old school coaches were described by participants as having a very different perspective. These old school coaches appeared to be unaware of their behaviour and do not critically review their coaching. Such a mentality was perceived to be prevalent within the participants' current coaching environment:

> *I don't think the old-school coaches would necessarily sort of critique their delivery and I think that's why we still have coaches at the side of the parks, ranting and raving. (Sally).*

This 'lack of importance' or 'lack of value' of self-reflection was expressed as a key feature underlining many of the participants' comments:

> *I think a lot of old school coaches don't think to reflect...They don't sort of think of it actually as being a really important part, they just think oh well just do a quick, you know, think back of what happened and note it down and that's it. (Teresa)*

Participants suggested that old school coaches appear to place greater importance on reviewing team and player performance compared to personal written self-reflection of their coaching behaviours:

> *I just think people overlook the importance of it, they think all you need to review is the game and then a coach you need to fix what the issues are and as a team change in order to get the result...but in terms of analysing what your say and how you're saying it no one seems to realise the understanding and importance of it. (Tom)*

There are many components that must be managed by coaches such as, liaising with players, planning and delivering sessions and reflecting on team performance and personal self-reflection (Cassidy et al., 2009). Each of these elements of coaching is important, however the participants suggested old school coaches appeared to place more value on these measurable components and not on the soft, often intangible components of learning that can come from self-reflection compared to team performance:

...it's trying to find that balance of being able to improve yourself to improve your players, so most coaches would probably find when they do have down time that they're busy trying to plan their training sessions or their season plans, so doing that reflection side and possibly the education side sometimes gets pushed aside because they're so busy trying to get their players to where their goals are. They forget that actually they need to keep educating to make sure that they are reaching those goals for their players as well. (Fiona)

Indeed Knowles et al. (2001) acknowledged that "coach educators cannot therefore assume that the development of reflective skills will be naturally occurring phenomena that runs parallel in increasing coaching experience" (p.204). However, to enhance learning, Cushion et al., (2010) suggested that without such a form of a reflective process, coaches uncritically accrue experience without it meaningfully impacting on their practice.

The findings of my study suggested that modern day coaches have a 'progressive view' of written self-reflection and on-going coach development compared to how they perceive the views of old school coaches. Kidman and Penny (2013) explained that any learning that is developed is dependent on the individual's mental model. Coaches' learning therefore is dependent on their motivation to learn and to see relevance in relation to their own coaching and is based around their own social constructed learning experiences. Therefore, old school and modern day coaches may have very different mental models in how the see the self-reflection process. It could be difference in their mental models that will underpin how they perceive VSR as a tool for learning.

Even though Sport NZ has adopted an 'on-going learning' environment, the participants perceived, within their current coaching environment, there were a number of coaches who have not been exposed to and indeed do not value this philosophy. The findings suggested that due to habitus, old school coaches may place very little importance on the reflection process and may not value on-going coach development. Therefore, some old school coaches may have minimal understanding of how VSR could enhance their learning and personal development as a coach and thus will be harder to get 'buy-in' from them. To build a greater understanding of how VSR fits within on-going coach development in New Zealand, it is crucial to recognise, understand and further explore the existence of this old school mentality.

Summary

To engage these perceived old school coaches in VSR they must first be exposed to the benefits and the coaching community needs to get 'buy in' from these coaches for on-going coach development to occur. Taking a constructivist view of learning, coaches learn from a variety of different sources, and that learning should be viewed as a process of changing conceptions (cognitive structure) and not simply accumulated knowledge (Moon, 1999; 2004). With this in mind, Werthner and Trudel (2009) suggested that coach education programmes should continue to expose and provide access to coaching theories and on-going development opportunities. Yet,

understanding that the material may not have the same impact on all the coaches because of differences in the coaches' social construction through previous experiences.

Sport NZ has the vision of creating world leading coach development, therefore, needs to design and nurture the best learning context for all (modern and old school) coaches. As Knowles et al. (2005) suggested "coach expertise cannot be created within formal education courses alone but requires coaches to engage mentally with their own practice to learn and develop" (p.1713). If Sport NZ can get all performance coaches to enhance their reflective skills either through VSR or written reflection then they will be moving closer to their vision.

Chapter 5: Conclusion

The aim of this study was to explore how VSR as a tool for learning could enhance coach development in New Zealand. By understanding how performance coaches perceived VSR as a tool for on-going coach development, and any barriers that would stop their engagement the results of my research could be used to enhance future coach development strategies in New Zealand and beyond.

It was clear that all participants initially had a very positive perception about the benefits of VSR and its ability to enhance the reflection process. However, while participants shared a common desire to better themselves as a coach, several barriers meant that VSR is not currently used as part of their on-going development. Factors such as time, logistics, and self-confrontation are the specific areas that warrant further attention. Furthermore, participants perceived that within their current coaching environment there are a number of old school coaches who may have a contrasting negative perception of self-reflection.

The participants expressed a very positive perception towards reflective practice. There is consistent support throughout different disciplines for the value of structured, written reflection (e.g. Anderson et al., 2004; Knowles et al., 2001; Moon 2006). It is suggested that written reflections allow practitioners to make sense of and learn from their experience that would allow them to learn how to actually *do* sports coaching (Cropley et al., 2012). Using video within self-reflection has been suggested to enhance the reflective process and allow coaches to 'view' their experiences in front of them (e.g. Carson, 2008; Freese, 1999; Marsh and Mitchell, 2014; Sherin & Van Es 2005; Tripp and Rich, 2014). Sport NZ's 'on-going learning' and 'professional development' framework promotes the use of self-reflection, and has had a significant positive impact on the participants' awareness and engagement with written reflective strategies. Written self-reflection appeared to be part of the participants' everyday coaching.

Participants also expressed their awareness that VSR could enhance their reflection by increasing their self-awareness, reducing their reliance on memory, developing their 'noticing skills' and increasing the strength and quality of their athlete-coach relationships. They had all used VSR either with their players or in other areas of their lives. It was this habitual use of written reflection, combined with their awareness of the benefits and the fact that VSR was used in other areas of their lives that underpinned their positive perception.

What is interesting is that while all participants expressed this positive perception, including a want and desire to engage in VSR, none of the participants currently do so. It appeared that they perceived VSR as a beneficial tool for learning, but this awareness did not translate to prioritization of time to incorporate VSR in their coaching plans. Participants perceived that several barriers need to be overcome to engage in VSR outweighed the benefits gained. VSR

was considered too difficult, too time consuming, and required difficult logistical preparation to administer in practice. Time constraints such as family and work commitments were both barriers. Logistical issues of actually getting high quality video footage including the need for a camera operator were all discussed. The concept of self-confrontation and the fact female participants did not enjoy seeing or hearing themselves on camera also appeared to be a key barrier to VSR.

My study raised another key issue that needs to be considered when examining how VSR could enhance coach development. All the participants considered themselves modern day coaches and expressed that not all performance coaches might share their positive view of VSR. They perceived the existence of an 'old school mentality' towards the practice of coaching, self-reflection and on-going coach development within their current coaching environment. Coaches with this 'old school mentality' were described as not valuing on-going coach development and self-reflection compared to more contemporary younger coaches similar to themselves. The findings suggested that this was due to minimal emphasis on on-going development and the benefits of self-reflection within coach development 20 years ago, compared to today's modern era of coach development. It has been suggested that because of the unconscious operation of habitus, it is unsurprising that these old school coaches have been perceived to acquire an 'I know what's best attitude' towards their coaching. Participants suggested that because of this attitude these coaches are unaware of VSR and the benefits associated.

The findings of my study show a disagreement with comments from Carson (2008) who suggested that the use of VSR was more suited and crucial for novice and inexperienced coaches compared to experienced coaches. My study showed that VSR could be an effective tool performance coaches.

While Sport NZ's coach development framework promotes the use of self-reflection, participants were engaged in written reflective strategies and were aware of the benefits of VSR, however the barriers reported meant that none of the participants are engaged in VSR as part of their coach development. A summary of the key issues to the engagement of VSR are: 1) coaches do not value VSR enough to pursue it over and above written reflection; 2) coaches do not prioritize VSR in their weekly schedule claiming lack of time; 3) VSR is considered to difficult to administer due to the challenges of getting high quality footage through a tripod and/or finding someone to film; 4) some coaches to not like watching themselves as it creates a sense of vulnerability and/or self-confrontation; and 5) modern day coaches perceive that old school coaches do not value the self-reflection process due to their habitual nature.

My study answered its research question suggesting that performance coaches have a positive perception of VSR as a tool for learning, however this perception did not translate to prioritisation of time. The barriers listed above need to be addressed before VSR can become a habit and part of everyday coaching practice. It is therefore up to National Governing Bodies

(NGB's) and NSO's to address these issues. In summary, it is clear that regular use of VSR in coach development can enhance the value coach's place on the process, leading to more coaches using VSR more frequently. Thus increasing the quality of performance coaching in New Zealand and around the world.

Recommendations

Based on the successful implementation of VSR in teacher education, this study makes several suggestions (table 3) supported by previous research (Cropley et al., 2012; Carson, 2008; Tripp & Rich, 2014) as to how the perceived barriers to VSR in coach development could be overcome.

Table 3. Recommendations to NGB's and NSO's to over come the barriers to VSR

Key Recommendations	Impact for Coach Development
Educational Workshops	
Introduce VSR as a compulsory element in coach development programmes	• Improved understanding of VSR and its processes • Developing 'buy in' to VSR • Embedding VSR in all theory and practical coach development modules • Increased self confidence in undergoing VSR
Promote on-going coach development opportunities/workshops targeting senior more experienced coaches	• Coaches can review each other creating shared learning experiences • Coaches can be surrounded by likeminded people creating a more valued environment • Greater appreciation of coach development opportunities
Mentoring	
Use VSR as part of the mentoring process	• Support coaches in the initial VSR process to engage habit • Support the identification of areas to target for improvement • Provide shared video and dialogue to enhance reflection
Support Networks	
Create Communities of Practice supporting the implementation of VSR	• Create peer buddy systems to encourage VSR • Raise clubs awareness of the benefits of VSR so they can provide on-going support • Create informal learning opportunities online where videos can be shared
Use NZ National or elite coaches to promote VSR as a beneficial learning tool over and above written reflection	• Increased promotion of VSR • Further develop 'buy in' to VSR • Increase motivation to engage in VSR
Provide Resources for VSR	• Provide learning environments where coaches have access to high quality equipment to engage in VSR • Provide access to custom built tablet and coding software to simplify and enhance the VSR process

The benefits and effectiveness of educational workshops, mentoring and support networks in developing VSR as a regular learning tool is present throughout the education literature (Marsh & Mitchell, 2014; Tripp & Rich, 2014). Unlike much of coach development, the education sector exposes teachers to VSR very early in their education and VSR is regularly used as a successful learning tool. Teachers are provided opportunities for dialogue and shared learning, where teachers can experience video reflection in a supported mediated setting. They are also provided mentoring opportunities that have been critical in the development of teachers and changing their practice through VSR. It is these meaningful discussions and the absence of video feedback in coach development programmes that are not allowing coaches to see VSR as a worthwhile exercise.

Educational Workshops

For change to take place the coaches must be aware of the issue or behaviour, actually want to change and then be supported and guided if new behaviour patterns are to be adopted (Cassidy et al., 2009). Therefore, incorporating VSR in coach development programmes and workshops, coaches can be made aware of particular issues or behaviours relevant to them, these programmes can then encourage change and support coaches in changing their behaviour. This allows coaches to gain practical experience in process, creating 'buy-in' to VSR as a regular tool for learning. NGB's and NSO's could also incorporate more 'cooperative learning opportunities' (Côté, 2006) around video reflection targeting more senior experienced coaches allowing a collaboration of learning to take place.

Mentoring

The use of mentors as suggested by Carson (2008) would enable coaches to develop their competence at reflecting using video. Mentors can encourage and support the VSR process and help create dialogue to assist the learning process. The sharing of video's online over the internet can allow a mentee's to seek a mentor's from within their own coaching community while breaking down some of the geographical challenges.

Support Networks

As Cropley et al. (2012) suggested if a culture of trust and collaboration is established within formal learning environments Communities of Practice can be created, providing a support network and a shared learning environment for the on-going use of VSR. Highly regarded national or elite coaches can be used to promote VSR and maintain 'buy-in' within the performance coaching community. VSR resources can also be made available to increase the accessibility coaches have to conducting VSR.

Incorporating all of these strategies can enhance performance coaches on-going learning through VSR. Because learning happens beyond the classroom and formal training programmes, learning and coaching knowledge evolves through informal environments, self-

reflection of practical experience, observation and discussion with 'others' (Cushion et al., 2003; Irwin, et al., 2004; Nelson & Cushion, 2006; Nelson et al., 2013).

Sport NZ and indeed all NSO's, therefore, must, continue to promote VSR as part of coach development, but more importantly provide opportunities for coaches to gain practical experience in using VSR. By allowing coaches to gain experience and increase the value they place on VSR, they can begin to prioritize specific time in their coaching plan towards it. Sport NZ must also where possible, encourage coaches to engage in reflective conversations (shared reflections) around video reflection, as it is this process that helps shape and improve (in terms of depth and learning outcome) the quality of reflection (Burt & Morgan 2014; Cropley et al., 2012; Carson, 2008; Trip & Rich, 2014).

Limitations and implications

There were several limitations in the present study. The first limiting factor of this study was the number of participants who took part. However, the purpose of a qualitative study is not to generate findings which are generalizable to a wider population, rather the focus is more on depth of the data provided (Patton, 1997). As this was a Master's thesis, six participants was deemed to be a sufficient number to reveal some meaningful beginning insight into the perception of VSR as a tool for learning.

Secondly, the demographic range of participants was rather narrow. All participants considered themselves modern day coaches and are all relatively young (under the age of 40). They had all completed the majority of their coach development post Sport NZ's paradigm shift away from the historical accreditation system. There is potential for further development here looking at these old school coaches the participants refer to in more depth. Future research can explore if there are any similarities or differences between how the participants perceived school coaches view VSR compared to their actual perception.

Thirdly, all participants came from coaching team sports. Only 4 sports were selected as part of this study (rugby, netball, football and basketball). Future research could look to compare perceptions and barrier between coaches of teams and individuals.

A further potential area for future research is to look at gender differences in coaching. This study had one male and five female coaches. One female participant discussed female insecurity in watching herself. It would be interesting to see if there are differences in female and male coaches and the barriers that they see in performing VSR.

There has been considerable investment to establish large-scale coach education programmes that certify or accredit coaches. However research suggested that formal education programmes have a limited impact on the learning and development of coaching practitioners. It is Sport NZ's vision to "have world leading sport coaching development as the heart of the sporting

environment" (Sport NZ 2012, p.5). Sport NZ stated that the quality of New Zealand coaching must be a significant point of difference compared to the rest of the world (Sport NZ, 2012). Findings of this study highlight that Sport NZ's move away from formal accreditation schemes to an 'on-going' and 'professional development' philosophy is having a significant impact on the development of coaches in New Zealand.

Sport NZ is on the right track with is coach development philosophy (Cassidy & Kidman, 2010, Kidman & Penney, 2014). As Andrew Eade, Sport NZ's Coach Development Director, stated "Anecdotally I think the concept of continuous learning and self-reflection is slowly but surely becoming more embedded in our approach to coach development and in coaches actual coaching practice" (A. Eade, personal communication, December 1, 2014). National governing bodies from other country's can use New Zealand as an example of how a shift towards an 'on-going' and 'professional development' philosophy can be made. Dixon and colleagues (2013) proposed a call to action from a *pedagogy of scarcity* (restrictive implementation of reflective practice with an over emphasis on fixing problems with out dated paper-and-pencil exercises) to a *pedagogy of abundance* (expanding the view of reflective practice with more effective use of shared learning via modern information and communication technology) (Dixion et al., 2013). I see information technology and advancement in phones, tablets and computers playing a significant role in coach development in the future. By Sport NZ having a stronger emphasis on VSR within coach development programmes brings the opportunity for coaches and coach educators to create new ideas of how we see reflective practice. VSR should become a coaching disposition, rather than a 'tool' to be picked up and put down whenever a coach feels necessary.

As one of the founding fathers of reflective practice Schön (1983) suggested it might take several years to create durable traditions. It requires those positioned within the cultural and social hierarchy of sport coaching (i.e. Sport NZ) to become committed to reflective practice and VSR, thus ensuring a connection between the educational mission of coach education, experienced coaches and coach educators. The implementation of my study's recommendations into future coach development strategies, New Zealand will continue to move in a positive direction towards its vision of world class coach development.

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Glossary of Terms

Performance coaches

"Performance coaches support the narrower range of athletes who have shown extra ability and have moved on to some sort of district or regional representative sport at either a youth or adult level" (p.7 Sport NZ, 2013). They require "considerable coaching experience and have a high degree of knowledge within their sport" (p.10 Sport NZ, 2013). Coaches have capability in nurturing the love of competing and being the best you can be, player development in a competitive environment and understanding the needs of athletes in the perform phase. (Sport NZ, 2013).

Old school coaches

The participants used the term 'old school' to describe a 'traditional' coach. These coaches are predominately of an older generation compared to the participants in this study (over the age of 50). They gained the majority of their coaching knowledge and practical application of coaching through their experience as a player and how they were coached as an athlete. Rarely have these coaches attended any modern form of coach development (post 2000). The participants described these coaches as having coached the same way for many years, unable to change their habits and do not appear to be open to new ways of coaching. These coaches do not habitually seek out new coaching knowledge via modern forms of information technology, but rely largely on their experience to inform their decisions.

Modern day coaches

The participants used the term 'modern day coaches' to describe younger, more progressive coaches who are open to innovative ways of learning. The participants used in this study referred to themselves as modern coaches. Modern day coaches have typically completed the majority of their coach development since the mid 2000's and the implementation of Sport NZ's Coach Development Framework.

Self-reflection

The reflective process a practitioner uses to question his / her practice while examining each component in detail (Anderson et al., 2004).

Video self-reflection

Viewing video recordings of one's teaching/coaching practice within the reflective process. Using video or some form of visual recording to observe one's self from a perspective of an athlete/student/coach. The observations made are then used in the self-reflection process. Video allows one to review a particular incident a number of times allowing for more detailed reflection.

Performance analysis

Performance analysis can be defined as the systematic analysis of data or information to help in the acceleration of athlete/coach performance through a more objective approach.

Formal learning

An episodic learning experience where the learner does not select the material to be taught. Typically this is in the form of a coaching course where a certificate or qualification is gained. Usually comprises of both a theory and practical component to the course. Often done with a number of other coaches in attendance and usually done over the course of a day or a couple of weekends.
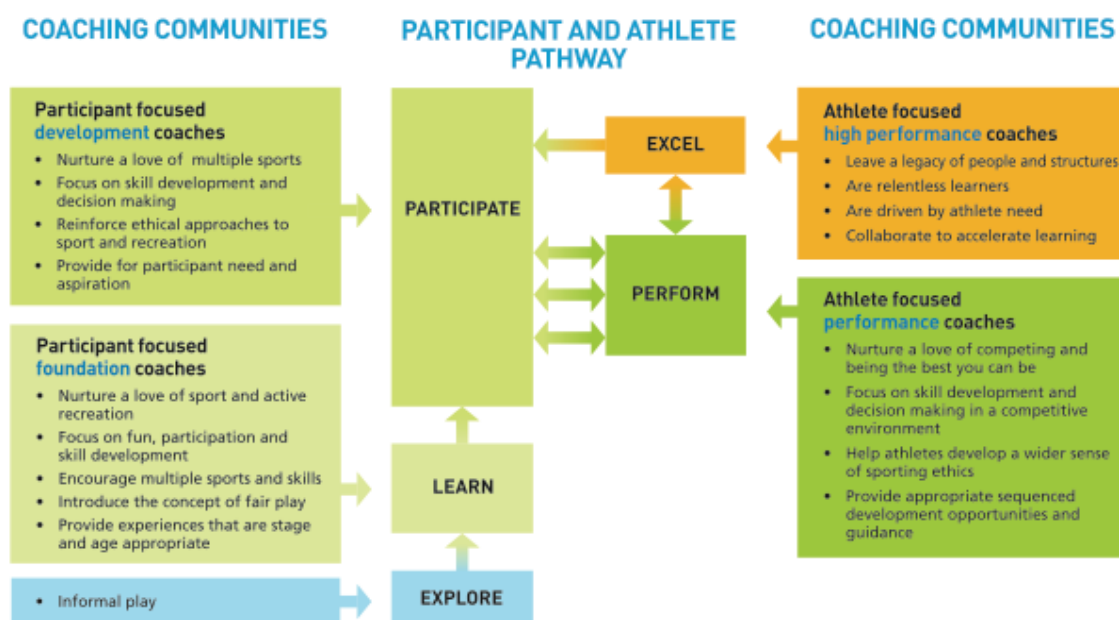
Non-formal learning

An organised educational (coaching) activity implemented outside the framework of the formal system, to provide select types of learning to particular groups of coaches (Coombs & Ahmed, 1974).

Informal Learning

Learning through informal techniques of practical coaching, observation and discussion with 'others'. Often occurs without a prescribed curriculum, facilitated by an 'other' (e.g. senior coach or program coordinator).

Sport NZ Community Coach Plan

(Sport NZ, 2012)

The New Zealand Coaching Strategy

(Sport NZ, 2012)

Appendices

Appendix 1: AUTEC approval for study

A U T E C
S E C R E T A R I A T

20 May 2014

Lynn Kidman
Faculty of Health and Environmental Sciences

Dear Lynn

Re: Ethics Application: **14/39 Video self-reflection and coach development in New Zealand - A qualitative descriptive study.**

Thank you for your request for approval of amendments to your ethics application.

I have approved minor amendments to your ethics application allowing an extension to the pool of potential participants to include coaches outside CAP.

I remind you that as part of the ethics approval process, you are required to submit the following to the Auckland University of Technology Ethics Committee (AUTEC):

- A brief annual progress report using form EA2, which is available online through http://www.aut.ac.nz/researchethics. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 26 March 2017;

- A brief report on the status of the project using form EA3, which is available online through http://www.aut.ac.nz/researchethics. This report is to be submitted either when the approval expires on 26 March 2017 or on completion of the project.

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to obtain this. If your research is undertaken within a jurisdiction outside New Zealand, you will need to make the arrangements necessary to meet the legal and ethical requirements that apply there.

To enable us to provide you with efficient service, please use the application number and study title in all correspondence with us. If you have any enquiries about this application, or anything else, please do contact us at ethics@aut.ac.nz.

All the very best with your research,

Kate O'Connor
Executive Secretary
Auckland University of Technology Ethics Committee

Appendix 2: Ethics documentation related to participant interviews

PERFORMANCE COACHES –
INTERVIEW
PARTICIPATION

Project Title: Video self-reflection and coach development in New Zealand – A Qualitative Descriptive Study
Researcher: Simon Mead
Masters Supervisor: Dr Kirsten Spencer

Dear xxx

My name is Simon Mead. I am a research student at AUT University conducting research for a Masters in Sport and Exercise.

Thank you for showing an interest in this project. Please read all the information in this leaflet carefully. Then please consider whether you wish to take part in this project. Participation in this project is completely voluntary. If you decide to take part, please complete the consent form and contact me. If you decide that you do not wish to participate, then please appropriately discard this leaflet or hand it back to the researcher. Regardless of your decision, I thank you for your time.

What is the purpose of this research?
The purpose of this study is to investigate how New Zealand performance coaches perceive video self-reflection. The study will explore what type of self-reflection coaches currently undertake and what barriers need to be overcome, in order for coaches to engage in meaningful video self-reflection.
By understanding how coaches perceive video self-reflection, this research will develop our knowledge of how self-reflection and video self-reflection fits within the on-going development of New Zealand coaches. Sport NZ has adopted an 'on-going learning' and 'professional development' framework. The findings of this study could contribute to a larger body of research into self-reflection as it relates to Sport New Zealand's Coach Development Framework.

What are the benefits?
I hope that participation in the interviews will offer you an opportunity to discuss your own self-reflection strategies, and how it relates to your on-going self-development as a coach. Results from this research will add to a better understanding of how performance coaches in New Zealand perceive video self-reflection. It is hoped that the outcome of this study will contribute to the Sport New Zealand's Coach Development Framework. By participating in this research project you will have access to the final submitted research piece containing the results of the interviews with a number of New Zealand performance coaches. This study is part of the researcher's AUT master's qualification

Why am I invited to participate in this research?
You have been invited to participate in this project because you have been part of the Greater Auckland Coaching Unit's (GACU) Coach Advance Programme (CAP). You have been

identified as a performance coach who is aware of self-reflection and the benefits associated with it.

What will happen in this research?

If you agree to take part, you will be asked to partake in one interview at a venue of your choice at a time suitable to you. It is unlikely to take any longer than 60 minutes. The subject area of discussion will include your coaching history, your experience of any self-reflection you have done and your perception of using video as part of the self-reflection process. This project involves asking you some questions. If you agree to be part of the study, I will give you some sample questions so that you may prepare for the interview once the consent form is signed. The exact questions may alter, but the guideline we will give you will be the essence of the interview. If you feel uncomfortable about any questions, remember that you do not have to answer them. Also remember that you can stop taking part at any time without any disadvantage to you.

What are the risks / discomforts?

It is not anticipated that you will encounter any risk as we will conduct the interview at a place and time of your choosing. If there are any questions you do not wish to answer, you will not be disadvantaged. The questions will not be of a personal nature and the results will have no impact on your future in the programme or on your coaching position.

How will these discomforts and risks be alleviated?

All names will be kept out of the transcripts and the final thesis report and pseudonyms will be applied to the participants from day one for records and reporting of data. At no time will you be able to be identified in the reported data. The CAP programme will not be mentioned nor will it be able to be identified. To be part of this research study is voluntary and you can withdraw from the study at any time.

How will privacy be protected?

All participants who consent to be interviewed will be considered part of the project. All records of this study will be kept private, only the researcher and his supervisors will have access to the data. Research records will be kept in a locked file. All participants will have an opportunity to read any data that will be used in the final report and if you are not satisfied your privacy has been protected we will withdraw the data and not use it in the final report. Data from this study will be retained by AUT University and will be stored for six years and permanently destroyed after this period.

What are the costs of participating in this research?

There are no financial costs of participation and will require no more than 60 minutes of your time.

What opportunity do I have to consider this invitation?

Please return the signed consent form to me by xx (date). Please note that your participation in this study is entirely voluntary. Whether or not you participate will not affect your own current or future relations within the GACU or AUT University. If you decide to consent to participate, you are free to withdraw from the study at any time including prior to the completion of data collection. Should you decide to withdraw from the study, any data I may already have collected will not be used without your consent.

What do I do if I have concerns about this research?
Any concerns regarding the nature of this project should be notified in the first instance to me (contact details are at the end of this information sheet) or to my Master's supervisor, Dr Lynn Kidman. Lynn is a senior lecturer at AUT University and can be contacted on 09 921 9999 extn 6678. Email lynn.kidman@aut.ac.nz

Concerns regarding the conduct of the research should be made to the Executive Officer, AUTEC, Erin Moloney, Phone +64 9 921 9999 extn: 8316. Email ethics@aut.ac.nz

Thank you. Regards,

Simon Mead

My Contact Details:
Simon Mead
AUT University
022 4140940
smead.ses@gmail.com

PERFORMANCE COACH
Consent Form

Project Title: Video self-reflection and coach development in New Zealand – A
Qualitative Descriptive Study
Researcher: Simon Mead
Masters Supervisor: Dr Lynn Kidman

○ I have read and understood the information provided about this research project in the Information Sheet dated dd mmmm yyyy.

○ I have had an opportunity to ask questions and to have them answered.

○ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.

○ I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.

○ If I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.

○ I agree to take part in this research.

○ I wish to receive a copy of the report from the research (please tick one): Yes○ No○

Participants signature:
....…………………………………………………

Participants name :
....…………………………………………………

Participants Contact Details (if appropriate):

………………………………………………………………………………..

………………………………………………………………………………..

Date: ……………………………….

Note: The Participant should retain a copy of this form.

My Contact Details:
Simon Mead
AUT University
022 4140940
smead.ses@gmail.com

Approved by the Auckland University of Technology Ethics Committee on 20th May 2014
AUTEC Reference number 14/39

Indicative Questions for Participant Interviews

Project Title: Video self-reflection and coach development in
New Zealand – A Qualitative Descriptive Study
Researcher: Simon Mead
Masters Supervisor: Dr Lynn Kidman
Date: **Semi-structured interview with:**

1. Tell me about your background as a coach. How did you get to where you are now?

2. What made you choose to get into coaching?

3. What sorts of formal coach education have you undertaken on your coaching pathway?

4. What did you find most beneficial about the CAP Programme?

5. Tell me about any informal on-going coach development you currently do.

6. Tell me what you know about self-reflection.

7. Do you engage in any self-reflection currently as a coach?
   a. If so what sort of reflection do you do?

8. What do you think of self-reflection is beneficial to your on-going coach development why do you think this?

9. Have you ever watched yourself coaching on video?
   a. If so, tell me what the experience was like?
   b. Did you find it beneficial and why?

10. What is your perception of video self-reflection with regard to your on-going coach development and have you got this perception?

11. How would you go about getting video footage of yourself coaching?

12. What would you describe as some of the biggest barriers that stop you getting video footage of you coaching?
    a. Tell me about them, why are they barriers?

13. If you were provided video footage of yourself coaching on a regular basis would it aid you as a coach what would it help you with as a coach?

14. What would be some of the barriers that would stop you watching this footage, why?

15. What sort of on-going coach development and support are you seeking now and why?