Understanding Scaffolded Learning – A Vygotsgian Investigation in Sport

(Dissertation submitted under the discipline of ______________ SPORT COACHING____________)

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Abstract

Traditional theories surrounding coaching have perceived coaching to be a one-dimensional, linear process whereby the coach is the sole being responsible for an athlete’s learning and progression. After closely examining these assertions, recent research within the last ten years has inspected coaching from a non-linear perspective, suggesting that athletes themselves have considerable influence over their own learning. Combined with the careful instruction and support of a coach during the learning process, it is believed that athletes’ capacity to learn and develop is much greater.

A qualitative data analysis in the form of interviews was conducted to explore and understand the coaching concept of scaffolding within high performance cricket settings. The work of Lev Vygotsky, specifically the ‘zone of proximal development’, is primarily used to underpin and interpret the data collected. Findings of the study reflect key features of the scaffolding process that coaches have, and continue to use in their respective environments such as establishing structure and developing knowledge through clarity and game-based practice. Barriers to scaffolding such as parental influence and time are also identified. Conclusions focus on scaffolding’s current limitations, implications for future coaching practice and recommendations for future research.
CHAPTER ONE
INTRODUCTION
With the standards of competition, expectation and potential benefits that come with high performance sport in today’s world, the demands and pressures placed on coaches to produce results and success with their athletes are relentless and uncompromising. Often however, the foundations behind a player or team’s success is overlooked and given little consideration with regard to its underlying influence. Whilst spectators are left marvelling at an instinctive piece of individual brilliance or a sensational passage of team play, the question of ‘how are they able to do that’ is frequently left unanswered. By delving into the fields of coaching and learning, this study looks to provide some insight into how players successfully negotiate tasks of seemingly extreme difficulty in the pursuit of excellence.

Traditionally, coaching has adopted a linear approach with research exploring the influence of power and discourse within the learning environment (Cote et al. 2005; Jones and Wallace, 2005). Within the last ten years however, literature has viewed coaching from a non-linear perspective, proposing that the social interactions between players and coaches play a significant role in the advancement of knowledge (Cassidy, Jones and Portrac, 2004; Cushion et al. 2010; Jones et al. 2007). Accepting that the coaching environment represents a social climate, or more specifically an exchange of knowledge and experience between coaches and learners (Jones, 2007), the work of Lev Vygotsky becomes particularly relevant and important. With the belief that a person’s potential for learning lies within their social environments as a result of interacting with peers and significant others Vygotsky’s research, originating from mainstream psychology, has had considerable implications for education and cognitive development settings. Key learning strategies resulting from his ‘zone of proximal development’ (ZPD) have subsequently revolved around learners developing independence and self-sufficiency through the gradual withdrawal of assistance from teachers.

Though never directly referred to in his work this was the first glimpse of scaffolding, the concept later distinguished by Wood, Bruner and Ross (1976). Likened to the necessary support a builder gives to a building during initial construction, the concept of scaffolding combined with Vygotsky’s findings have reshaped teaching methods today. This research associated with learning however, has yet to be consistently applied to the sporting context (Jones and Wallace, 2005). Coaching ideas and strategies informed by a
substantial bank of modern research (Cushion, Armour and Jones, 2006; Jones, and Wallace; 2006; Lyle, 2002) lends itself perfectly to a social, Vygotsgian perspective therefore the aims and objectives of the study are as follows:

1. To develop a further understanding of the term 'scaffolding'

2. To gain a further insight through examples, of how scaffolding can be applied in the sporting context to facilitate independent, self-sufficient athletes

3. To identify what key elements are important in contributing to scaffolding and an athlete's development within the coaching process

4. To consider potential barriers that may inhibit or prevent the scaffolding process

By providing an in-depth examination into scaffolding and the processes that enable it to be effective, the study intends to leave coaches with a firm idea of how they can go about maximising their athletes' learning and development. The insight the study provides most certainly gives light to some strategies and methods that high performance environments use to facilitate athlete success.
CHAPTER TWO

LITERATURE REVIEW
2.1 The Coaching Process

Since literature has started to explore and recognise coaching as a theoretical process, initial perceptions have portrayed it as being an uncomplicated, rationalistic phenomenon proposing that coaching can be simply explained and reduced to a modelled form (Cote, Salmela, Trudel and Baria, 1995; Fairs, 1987; Kilburg, 2001; Lyle, 2002). More recently however, a substantial bank of pedagogical research has challenged this notion by suggesting that the coaching process is ambiguous in its nature, with many complexities that cannot be fully conveyed and applied in a conceptual model (Cushion, Armour and Jones, 2006; Jones and Wallace, 2006; Vella, Oades and Crow, 2010). Whilst acknowledging coaching’s continuous process, it is believed that the cyclical nature of models portrays aspects of coaching as separate entities, rather than the more realistic and whole process that coaching actually is (Lyle, 2007). Just some of the complexities that underpin this assertion revolve around the inconsistencies between set goals, decision making and actual outcomes (Cross, 1995), whilst the dynamics of power between coach and athlete remains a cloudy topic for discussion with regard to interpersonal relationships, social interaction and effective collaboration (Ogawa, Crowson and Goldring, 1999).

Indeed, some research suggests that due to its unpredictability, coaching continues to fail in possessing a functional, conceptual framework of any kind (Gilbert and Trudel, 2004b; Jones and Wallace, 2006; Jones, 2000), which can be seen to have significant implications for current and future coach development and education (Cushion, Armour and Jones, 2003). These are valid ideas that coaches have to consider in their respective environments, leading many to question in practice how best to approach and deal with the challenging demands of the profession, from player management to the structure of individual training sessions. In response to this, Martens (2012) explains the notion of coaching philosophy; suggesting that coaches should develop their own philosophy or ethos to assist with the deconstruction of complex issues that have the potential to arise. Further research also concludes that a coaching ethos can provide players with the foundations of a successful, congruent working culture originating from knowledge of what
the coach's values and principles are, to being able to apply them in practice and competition (Cassidy, Jones and Portrac (2004), Cross (1995) and Thompson (2012).

Though coaching philosophies will naturally be unique due to the experiences and personal ideologies of a coach, it is acceptable to assert that the approach adopted by the coach will reflect their particular philosophy. In the past when working with players, research has predominantly focused on coach-centred approaches whereby the coach assumes a role similar to that of a dictator; deeming themselves largely responsible for a player's development (Cote et al., 1995; Jones and Wallace, 2005). With subsequent findings reflecting a need to consider a greater holistic stance (Jones and Wallace, 2006), more recent literature has attempted to explore athlete-centred approaches to coaching with a view to developing self-sufficient, independent thinking athletes to facilitate and enhance performance (Butler and Griffin, 2010; Jones, 2006; Kidman, 2005).

A key factor in this facilitation lies within individual and collective coach-athlete relationships. It is all very well exploring the concepts and theories within coaching literature that can influence learning and athlete development, but if the coach-athlete relationship is not a harmonious one, both teacher and learner will find making progress extremely difficult. This is reflected through Jones et al. (2004) who assert that “the interpersonal nature of coaching is the most essential feature for practitioners to consider if they wish to be successful” (p28). But what actually determines an effective coach-athlete relationship? What sorts of things are important in establishing and maintaining a relationship? Former England football manager Graham Taylor explains in Jones et al. (2004) the importance of the coach gaining trust and respect with players. He emphasises the need for coaches to understand the person as a whole as well as the athlete; the logic being “you’re actually showing them you care, and whilst you show them that you think about them and the other side of life, you stand to gain a great deal in terms of your working personal relationship” (p28-29). This notion is supported by research that strongly highlights the impact a strong base of social support can have on making the coach-athlete relationship a successful partnership (Dilman, 1985; Fraser-Thomas and Cote, 2009; Jones et al. 2011; Weiss et al. 2007).

Within this, it is also accepted that communication is a vital ingredient to establishing positive relationships (Cassidy et al. 2004), with specific relevance to
strategies, training exercises and role clarity. This draws parallels to the idea that coaches must get players to ‘buy into’ his or her coaching, to give them purpose and direction in practice (Jones et al. 2004). Though it is hugely difficult to please every single player in a team environment (Kidman and Lombardo, 2010), frequently engaging in communication with athletes enables the coach to gauge whether drills and practices are positively viewed and are worth persevering with (Jones and Wallace, 2006). This constant engagement with players and the notion of social support is crucial in making the relationship an effective one. If players are made to feel valued therefore, honest, open and constructive feedback can be gained to further advance practice and subsequent learning (Benson et al. 2006).

It has been recognised that such feedback can also be forthcoming through player and coach engaging in reflective practice, a concept that will have links with many of the avenues to learning and cognitive development identified in this paper. Cropley, Hanton and Miles (2010) explain reflection as a constant evaluation of specific elements associated with a particular experience, with a view to advancing knowledge. Research has strongly supported its use to deconstruct performances and behaviours to inform future actions (Gregory, Long and Volk, 2004; Kenner 2004). Subsequent knowledge generated from such a process continues to challenge coaches and players to critically evaluate themselves (Bull et al. 2005), allowing self-development and the progression of holistic relationships.

2.2 Learning

Arguably, the most difficult task for a coach is ensuring that their athlete/s learn whilst maintaining levels of engagement, enjoyment and performance. As a general idea, learning is a difficult concept to define due to its multidimensional nature (Raab, 2003). In simple terms however, it can be seen as the basic changes in one’s capability to perform a skill as a result of continued practice or experience (Magill, 2004). Behaviourist theories argue that learning must correspond to a change in behaviour for it have to occurred, whereas social approaches conclude that learning can occur purely through observation, suggesting that behaviour change need not be an indicator for learning to have taken place.
With recent coaching methods such as scaffolding demonstrating effective use of a social learning approach (Reiser, 2004; Wood, Bruner and Ross, 1976), the question for coaches is how can such an approach be used to facilitate learning. What elements within the process itself are important, and why? This study intends to provide some answers to provide direction to coaches to facilitate both technical and tactical skill development. In terms of technical enhancement, a wealth of literature (Bandura, 1976, 1977; Sidaway and Hand, 1993; Weinberg and Gould, 2003; Wesch, Law and Hall, 2007) has explored the benefits that observational learning can have on overall skill development, from retention and motor reproduction (Bandura, 1977) to improvements of error detection (McCullagh, Burch and Siegel, 1990). Having been recognised as one of the most stimulating forms of conveying key information regarding movement patterns (Bandura, 1986), visual demonstrations can therefore represent an example of how social interaction can advance knowledge.

With learning being the key aim of any session (ECB, 2012) coaches must also consider how best to develop their players’ strategic and tactical awareness for use in competition. Although a simple notion, it is essentially the players who have to step onto the pitch and react to the demands of a situation, not the coach – an idea that is often brushed aside by many. Practice therefore, should look to mirror theories associated with constructivism, whereby the athlete gradually develops their understanding by physical and social interaction with their immediate environment (Fosnot, 1996; Grehaigne, Richard and Griffin, 2005), a concept also referred to as situated learning. The Teaching Games for Understanding (TGfU) model proposed by Bunker and Thorpe (1982) and later modified by Kirk and MacPhail (2002), is an example of such practice. Also referred to as ‘Game Sense’ (Australian Sports Commission, 1997), the model enables athletes to engage in processes of problem solving, decision making and internal reflective practices (Kidman and Lombardo, 2010); all of which relate to modern styles of athlete-centred coaching geared towards independence and self-directed learning (Butler and Griffin, 2010; Tennant, 2006).

Deconstructing the TGfU model down into simple, observable and realistic processes in a practical form is essentially what coaches need to do to make the concept successful (Kirk and MacPhail, 2002). Why? Contrary to the natural assumption that
success induces learning, it is often the playing experiences resulting in failure that provide the most useful feedback for athletes (Orlick, 1998). That is not to say learning does not occur after success (Jones, Armour and Portrac, 2004), more the reality of high performance sport that experiences of failure are analysed and addressed in minute detail to prevent re-occurrence (Jones, 2007). It is this notion that often prompts coaches to find ways of simulating a match environment in practice, replicating feelings of pressure and anxiety so that failure and the subsequent learning that follows have the opportunity to occur prior to actual competition.

2.3 The Zone of Proximal Development

However effective the game-based learning approach is, and continues to be in athlete development, there comes a time when a player requires a degree of instruction from the coach to assist in solving a problem. They may be experiencing difficulty with a new skill for example, or struggling to find a way of coping with the demands of a pressure situation, or even something as simple as going through a bad run of form and needing technical assistance. All of these scenarios are common occurrences across all sports concerning individual learning and cognitive development. Particularly in high performance sport where success is driven by results, the demands placed on coaches to provide feedback and initiate improvement are increasingly urgent. They need to be able to find ways that will allow them to address examples such as those given in the most effective way.

The work of Vygotsky offers a considerable insight into some of the pedagogical theories coaches still use to this day. Specifically his zone of proximal development (ZPD) looks to explore this relationship of learning and cognitive development, and as such is regarded a fundamental concept by this study. Defined as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance” (Vygotsky, 1978, p. 33), this theory was traditionally applied to child learning, though its underpinnings can also be applied to the sporting environment. In simple terms, the ZPD consists of skills and/or knowledge that are known to the athlete, and skills and/or knowledge that are not known to the athlete with the ZPD corresponding to skills, tasks and knowledge that the athlete can achieve with guidance and support from the coach.
It is universally accepted however that every athlete is different; in their personality, ability and the way they learn. So how do coaches go about harnessing an athlete’s learning capacity specific to a given task? A large bulk of research (Cushion et. al, 2009; Fairs, 1987; Jones and Wallace, 2006; Lyle, 2002) emphasises the need for coaches to engage in a constant process of assessment in relation to the ZPD, though the term ‘assessment’ itself appears to have some confusion surrounding it according to Glasby (2006). Essentially, assessment is a gathering of information that is used to make informed decisions about an athlete, and must be that must be purposeful, systematic and most importantly an ongoing process (Cassidy et al. 2004). With regard to the ZPD; the necessary guidance (otherwise known as scaffolding) provided by the coach to an athlete during a task is dependent on the coach understanding what the athlete is trying to do, and identifying what can be done to make it a success (Smidt, 2009). This is a coaching skill of high complexity, and one that appears essential to maximise the ZPD’s effectiveness.

Even upon completion of a task, how can the coach distinguish what knowledge their athlete now knows compared to what remains unknown? Designed to help coaches monitor their learners, the concept of Assessment for Learning (AfL) is acknowledged to have made a significantly positive impact within the education setting (Black et al. 2003). In application to the sporting environment, we can define AfL as “the process of seeking and interpreting evidence for use by performers and coaches to decide where performers are in their learning, where they need to go, and how to get there (Assessment Reform Group, 2002). Much like Vygotsky’s ZPD, AfL entails coaches offering instruction and feedback to players, whilst promoting deeper levels of understanding (Hargreaves, 2005). Examples such as setting and reviewing learning objectives, frequent use of questioning and collaborative learning are intended to provide coaches with the necessary feedback they require to inform decisions, as well as encouraging players to think critically in terms of self and peer assessment (Black et al. 2003).

2.4 Scaffolding

As alluded to earlier, scaffolding as a concept is closely linked to Vygotsky and the ZPD though it was never directly referred to in his work. Introduced by Wood, Bruner and Ross (1976), scaffolding can be seen to play a pivotal role in current learning strategies, whilst further emphasising the importance of effective relationships between learners and
skilled others. Its metaphorical meaning can be likened to the scaffolding of a building structure with the athlete acting as the building (Dennen, 2004). In the building’s initial stages of construction, there is a lot of scaffolding in place to support it, however as it begins to develop and take form, the scaffolding gradually decreases eventually leaving the building to express itself in its entirety. Essentially, coaches are the scaffolding through the guidance and support that they provide. A fundamental aim of scaffolding as a theory is to instil athlete independence, so that players have the capability to make decisions and take ownership of situations (Fair et al. 2005). As an athlete develops his or her knowledge as a result of scaffolding, their individual ZPD naturally evolves and expands meaning that skills or information that used to be beyond their capabilities, can now be learned without any assistance (MacNaughton and Williams, 2009).

Much of the scaffolding literature predominantly explores the development of the individual learner/athlete without much consideration for a collective group or team (Jones and Wallace, 2006). The thoughts, philosophies and practices adopted by former British Lions coach Sir Ian McGeechan however, attempt to demonstrate scaffolding from a team perspective. His ideas that are cited in Jones et al. (2004) revolve around creating a structural framework for his rugby players; a framework which aims to facilitate an effective learning environment in which they can grow and develop, which subsequently leads to knowledge of individual role clarity. Importantly, Ian recognised the need for players to make their own decisions in practice in order for them to be successful in competition. He expressed his ideas as creating “roots and wings” (p57), in that the roots represent the fundamental coaching structure and overall goal to be achieved, whereas the wings represent the freedom of choice the players possess within that structure. These structures and foundations that McGeechan puts at the heart of his coaching environment, provide a rationale for the concept of the coach assuming the role of an ‘orchestrator’ as opposed to the traditional prescriptive coach (Jones and Wallace, 2006; Jones et al. 2004; Wallace and Pocklington, 2002). The term orchestration mirrors the characteristics of scaffolding theory (Wood, Bruner and Ross, 1976), whereby the coach looks to guide and instruct players with a view to developing existing levels of knowledge.

With this in mind coaches should look to explore and engage with scaffolding methods that push athletes’ current boundaries of knowledge such as collaborative
learning and realistic practice. Collaborative learning involves players working together in a community of practice (Culver and Trudel, 2008; Wenger, 1999), with the emphasis on establishing individual identity and “learning as social participation” (Jones et al. 2011, p95). Coaching methods based around reciprocal learning and peer tutoring can also form part of the scaffolding process, as players have the opportunity to assume the role of the teacher themselves, facilitating the development of self and peer assessment (Smidt, 2009). The batting ‘buddy system’ introduced by England cricket coach Andy Flower is a notable example of this in practice, whereby specialist batsman tutored a non-specialist batsman. Not only does this encourage player responsibility, but it enables both sets of players to develop their own learning through a relaxed and constructive environment. For methods such as these to be effective, much depends on the surrounding social climate and the relationships between players (Wenger, 1999).

More importantly however, are the implications for current and future coach education. With a large proportion of courses not appearing to fully prepare coaches for work (Chesterfield et al. 2010), coach education programmes must attempt to incorporate these learning ideas into their content and delivery, along with a greater emphasis on managing and coping with players’ needs to make sense of coaching’s complexities and provide a more realistic and accurate representation of coaching itself (Cushion et al. 2003).
CHAPTER THREE

METHODOLOGY
3.0 Methodology

3.1 Participants

To ensure that the study generated the best possible information the participants used for this study were carefully chosen using purposive sampling (Gratton and Jones, 2010). Whilst it is accepted that such a technique does not guarantee accuracy of data, it enables the collection of ‘rich’ information that other techniques fail to achieve (Smith, 2010). Participants were expected to provide detailed accounts of their experiences and other study-specific information that they had acquired over their cricketing coaching careers, therefore it was essential that this was reflected through their credentials and other criteria as is shown: (1) accredited to at least ECB Performance Coaching standard (UKCC Level III); (2) coaching in a high performance environment (i.e. county standard or above); (3) have been coaching at this level for at least 3 years; and (4) coaching young adults between the ages of 14 and 21. Having strong criteria such as this not only confirms that the participants are suitable for the study, but their expertise represents a key strength of the study.

Across three counties in England, numerous coaches that were known to meet the criteria were contacted via e-mail to explain the purpose of the study and to gauge their interest in participating. From this initial correspondence four male coaches were willing to participate, of which three were qualified to UKCC Level III with one qualified to UKCC Level IV. All participants had in excess of 15 years coaching at the level stated in the criteria and were still actively involved in their respective environments. Though not a stated requirement of the criteria, it was interesting to note that all of the coaches had had illustrious playing careers at various levels, one having played at international level with the other three having represented their counties.

3.2 Instrumentation

3.21 Interview Guide

It was decided that the best way to explore the coaches’ philosophies, experiences and present approaches to coaching in relation to scaffolding was through the development of an interview guide. The guide itself was of a semi-structured nature to ensure the key themes of the study were fully addressed, whilst providing the participant a certain degree of flexibility during conversation (Gray, 2004). Adopting this approach
facilitated the collection of rich, in-depth information as the interview maintained an informal conversational style whereby participants felt able to divulge and discuss personal experiences related to their coaching. It was also recognised during the interview that the principal researcher’s past associations and relationships with all of the coaches contributed towards the fluency of the interview process, consequently being an additional strength of the study.

With regard to structure, the guide was made up of five themes. Theme one looked to address the coaching process and comprised of questions relating to the environment in which the participant was currently coaching in, along with explorations into their coaching philosophies including challenges and complexities that have been encountered. Theme two was concerned with learning, and investigated how the participants looked to enhance knowledge and understanding in their players. Theme three explored development in more detail, looking at the player as an individual and how coaches cater for each player in relation to assessment and the zone of proximal development. The fourth theme – that of scaffolding – examined the coaching methods participants’ used to promote independence and responsibility in their athletes whilst identifying additional resources of benefit that players had available to them. The fifth and final theme closely inspected the coach-athlete relationship and the impacts it has on player development. Throughout the duration of the interview, participants were encouraged to refer to examples within their own coaching to add contextual understanding and to inform future coaching practice.

3.22 Pilot Study

Prior to the commencement of the study, a pilot interview was conducted with a senior member of the sports lecturing staff at Cardiff Metropolitan University to gauge the effectiveness and appropriateness of the interview process in its entirety, simultaneously identifying any weaknesses of the guide itself (Gratton and Smith, 2010). Though no major adjustments were made to the questions themselves, the experience gained from the pilot in terms of understanding the participant’s answers and formulating suitable probes to address the questions was invaluable and certainly contributed to the smooth running of the study’s interviews and the subsequent rich information. Undertaking the pilot study also provided the principal researcher with an opportunity to test the necessary recording equipment to be used in the study, ensuring that it was functioning properly.
3.3 Procedure

Once the necessary ethical approval had been granted, the participant coaches were provided with an information document relating to the purpose of the study (see Appendix A), with an outline of the themes relating to the questions they were going to be asked. It was thought that by allowing them to familiarise themselves with the themes of the interview, the coaches would have sufficient opportunity to reflect upon their experiences and coaching methods enough to facilitate suitable responses so that the interview can be conducted in a smooth fashion (Gratton and Jones, 2010). With this in mind, the interviews were scheduled within one week of receiving the briefing document to ensure that responses and reflections remained fresh to generate the rich quality of information. Prior to the interview, the coaches were also provided with an informed consent sheet (see Appendix B) which confirmed their ethical right of confidentiality and the right to withdraw at any point during the study.

To avoid environmental bias of any kind each interview, conducted by the principal researcher in a face-to-face manner, took place in a mutually convenient location in private where there were no interruptions and minimal distractions. All interviews lasted between 50-75 minutes each and were subject to a Dictaphone recorder, which was subsequently used to transcribe into word documents.

3.4 Data Analysis

Due to the qualitative design of the study, a combination of inductive and deductive content analysis measures were used to disseminate and interpret the coaches’ interviews (Smith, 2010). Under the recommendations of Morse and Richards (2002), a process of topic coding was deemed necessary to identify and establish congruent topics and emerging themes. Prior to this however, the principal researcher read each transcript to familiarize and engage with the raw data itself. Having completed this the data was then carefully analysed from a deductive approach, whereby themes and categories derived from existing literature were coded and inputted into a table form. Upon completion of this step, the data was scrutinised again using an inductive approach, whereby new emerging themes were identified and coded into the same table as the deductive themes. All themes and categories generated during these stages were subsequently used to support the
study’s aims and objectives, and formed part of the results section where key extracts from the interviews were used to convey the established themes. As a final step to ensure that no pivotal information had been missed, a secondary analysis using deductive measures was completed.

3.5 Trustworthiness

For qualitative studies to be considered valid and reliable in the world of academic literature, it has been acknowledged by Lincoln and Guba (1985) that they must possess the characteristics of trustworthiness, these being; credibility, transferability, dependability and confirmability. In order to address the issue of credibility all interview transcripts were sent back to the participants to check and confirm correctness prior to analysis. The use of rich quotes from the data to reinforce the study’s aims and objectives, and subsequent themes from the findings provided a degree of transferability, whilst the dependability and consistency of findings was increased due to the principal researcher undertaking all interviews and analysis therefore minimising inter-interview bias. With regard to confirmability considerable time and care was taken to ensure that the findings rooted in the data linked back to the raw quotes found in the interview transcripts.

It has also been recognised that the social interactions between interviewer and participant can have a significant bearing upon the quality of data that is collected (Bull et al, 2005; Lincoln and Guba, 1985). It was interesting to observe therefore, that the longest and most in-depth interview (11,500 words) was with the participant that the principal researcher had had the most recent contact time with, whereas the shortest interviews were with coaches with whom the principal researcher had not been in contact with for five to six months. Regardless of the reasons behind this, it represents how interactions can affect openness and honesty which subsequently impacts upon the quality and depth of information gathered.
CHAPTER FOUR

RESULTS
4.1 Setting the Benchmark: Establishing & Maintaining Structure

In developing a further understanding of what the concept ‘scaffolding’ actually entails, it was generally recognised by the participant coaches that creating some form of initial structure within their environment was necessary in establishing some common ground with their players. This can be demonstrated through, “…to set a discipline and a standard which you expect everybody to adhere to, a team ethic”, “….everybody’s going to be different but there has to be a structure that everybody buys into” and “so, every day you go to a cricket match there is a structure; there is a time you have to be there. That’s discipline”. Fundamentally however, one coach reflected that structures in the coaching context were merely an extension and adaptation of everyday life;

We all need a structure because life is about being able to work within structures. You cannot work outside a structure, but you will have the freedom to express your own ability within a structure and so there has to be a structure to the day or the session etc and those disciplines will go on to the field and that’s when you work as a team.

This notion of discipline and setting good habits within an environment is considered to be a key instrument to success, both individually and collectively as a team. One coach revealed:

…once you get the structure, you never think about it in business, you never think about making money, you just do the right things and money will come as a result of doing the right things. In cricket results come because everybody’s doing the right job.

Using current understandings of scaffolding that connote the laying of foundations to further development (Dennen, 2004), it can be seen that establishing structure and expressive freedom in the coaching environment is of paramount importance. The challenge for coaches therefore, is to ensure that the structure is maintained and adhered
to by the players. How is this done? More than one coach explained how they use physical fitness to set the benchmark:

Coach D: This year we worked with them and said “Look, you will be tested and you will not get onto the spring programme unless you hit those levels.” And we’ve seen some marked improvements in some of the weaker players….

Coach C: And once people step outside that structure I think you have to be prepared to stand up and be counted and individually talk quietly to that person and say “Look, you’re not quite up to scratch.”

From such an example, it is apparent that players actually have some degree of responsibility and independence within the boundaries of the structure, in that they must reach a certain goal. How they achieve it however, is down to them. Though each environment will invariably possess characteristics that make it unique to any other such as age, ability and maturity levels, it was acknowledged that the fundamental concept of having a structure should remain and meet the demands of any situation: “Coaching at those different levels is no different. You apply the same principles. You assess; you prepare and they perform”. This is further supported by, “so you have to adjust the routines according to the match situation. And I guess that’s the same as a player; you bat in a different way, in different phases of the game.”

4.2 Developing Understanding: Learning by Playing & Pushing the Boundaries

With regard to understanding and applying typical characteristics of scaffolding in coaching practice (player independence and problem solving for example), it emerged that employing a game-based learning approach as opposed to a more traditional coach-driven skills approach was preferred:

Coach A: ….a proper match situation where the coach and I will go out and actually umpire a game, we’ll play say 40 overs, have 2 teams and actually start the game and talk to them and say ‘why aren’t we doing this?’ and ‘why
aren’t we doing that?’ We point out how or what they ought to be doing as a lot of them tend to be set in the way they approach things.

Coach B: Do we work on a skills basis? Probably less and less – the performance programme in our county in theory, is based on working with the younger age groups and actually improving or applying the skills so that as they progress, the more time needed or less time rather is needed to work on skills, and more time to work on actually playing the game.
Coach C: …all the practices have got to be geared towards that game situation….we talked about coaching and said assess the coach from watching people play first. Always from watching people play…..devise games where they’re playing cricket.

In providing a rationale for adopting such an approach one coach reiterated that, “when you’re in the middle, a player is on his own. He’s got to make his own decisions, so in everything you do you have to prepare him to make his own decisions.” Playing games therefore goes some way to raising levels of self-awareness and plays a crucial role in developing game knowledge as another coach recognised:

Coach B: Planting seeds I think is the important thing. You’re actually asking questions in the hope that they will give you the right answer, but sometimes you don’t get the right answer and you just have to manipulate the conversation around the right answer.

Part of this approach is also concerned with the idea of pressure and replicating match intensities, which the coaches generally seemed to approve of and encourage as the below quotes suggest:

Coach A: I actually believe you have to take them out of it (comfort zone), I know there may be a modern trend to try and keep people in their comfort zone, otherwise they won’t learn….again it’s dependent on the individual I suppose, but at some stage I do think you have to actually put them under pressure and see what they’re about.
Coach D: So you try to recreate that environment to show them that they can do it so that it comes back to them under pressure. You try to recreate that the best way possible. It’s very difficult to have an open net all the time, but you can just do it with some throw-downs or whatever else from a batting point of view; or there’s a situation where you can use targets for a bowler, to say “Right, it’s the last over of the game. What are you going to do? Which cone are you going to hit?” “Actually I’m going to bowl 5 yorkers and a bouncer.” Whatever else it is, and you can practice that to recreate it.

Creating an environment whereby the player/s are put under the spotlight in a pressured game situation, is therefore recognised as one of the most effective ways of developing knowledge, experience and characteristics that represent scaffolding.

4.3 Developing Understanding: Clarity & Communication

In determining what key factors contribute to a scaffolded environment and subsequent player development, most participants identified the importance that role clarity has within the team structure with regard to achieving levels of high performance as noted below:

Coach D: ….we’re building people up so that they know exactly what their roles are and my job is to get the best out of them and to keep challenging those individuals to keep doing their job the best they can. And all that has a massive impact on the players, at the end of the day we’re giving them the best possible environment.

Coach C: …if we prepare well – if we were a chef and we prepare the ingredients well, and we get it all organised in the kitchen, because we know exactly what we’re going to do, we’ll probably end up with a good meal. Exactly the same here, if you prepare, if you make sure all the balls are there and all the cones are there and all the nets are in the right position, the bowling machines are working, it’s the same as a stand-up comedian, the same as a man who goes on stage and performs, the bass guitar in a group,
if all the players in the group know exactly what they’ve got to do and once they play together the music comes out and it’s brilliant!

Coach C: There’s a very simple clarity. You have a role and responsibility to your team-mates. You also have a role and responsibility to your partner when you’re batting with him and you also have a role and responsibility to your partner when you’re bowling at one end and he’s bowling at the other.

Further recognition of role clarity from another coach can be found through, “what I believe in is the team, and I try to involve people - captain, players, make sure that they know their roles....” and “if you watch an England warm-up, for example, actually Flower can almost stand and watch if he wanted to; because everybody knows their job. Clarity of thought, clarity of the session”

Although role clarity is a desirable aspect within the coaching structure, actually how is it achieved? The responses from the coaches reported that communication formed the blocks upon which everything in their environment was built around as the quotations show; “just keeping contact with them, even if it’s just a basic message “How’s it going? How’s your game at the moment? Where do you feel you’re at? What are you working on?” and I think that communication is key”, “I think one of the things I have tried to do is communicate....I always like to work with someone who I know I can talk to” and “if he’s got a problem or they’ve got a problem you can talk it through and that’s vital.”

From these quotes it is clear that the role of communication between coach and athlete/s plays a crucial part in establishing individual roles within the team, and with this clarity it is acceptable to suggest the player can subsequently develop a greater base of understanding from which to perform. This is re-affirmed by one coach who says, “Just talk to him about it, and try to get him to understand rather than telling him exactly what’s happened. It’s about communication really I think.”

4.4 Providing a Platform: Caring & Creating a Comfortable Environment

When looking to create the best possible environment for players to learn and perform in, the most common response from the all of the coaches revolved around the notion of care, comfort and making players feel at ease as the following quotes reflect: “I
think the first thing you do is, once we’ve picked the 12 we constantly remind the players that it’s not a trial thereafter. They are in the set-up and that gives them more confidence.” and “it’s the care issue – making them feel comfortable and that I care and the coach cares. That then hopefully makes a difference to them”. Another coach agreed by saying:

Coach A: Make sure they feel that the environment they’re in is one which they’re comfortable with and as a result releases their potential….doesn’t always happen, and never will do in a squad but that’s what I try to do, try to make sure everybody is comfortable.

In addition the coaches alluded to the importance of emotional intelligence, and being able to empathise and relate to players through, “talking to an individual player the next morning, who you know is probably going to be disappointed because he hasn’t succeeded and you want to reassure him”. For example and:

Coach A: One parent actually said to me their son feels like I’m an older brother….and I don’t think I’ve done that deliberately, it’s just something that I think I’ve created through the environment. That’s going back to the togetherness etc, and hopefully that lets them release their potential, enjoy themselves and play.

Coach C: …if I saw somebody who had a bit of a problem integrating, I would make sure that I just jogged somebody’s arm to keep an eye on that chap for me… I would always be watching for that situation, to see anybody who doesn’t feel comfortable in the environment.

In making a player feel comfortable, another general feeling amongst the participants related to the way in which mistakes were perceived and addressed; “I think mistakes might be the wrong word, errors in judgement is how I look at it”. Another coach reflected, “it’s not mistakes it’s a lack of understanding, a lack of awareness”, whereas another emphasised the importance of allowing players to make their own choices and the impacts this can have on a player’s confidence and in the long-term:
…once they make that decision, even if you know in your view that it’s the wrong one, you’ve got to let them do it and you’ve got to back them and so you form relationships with people where they realise you really want them to do well and be successful.

…I can think of half a dozen players in my 40 years coaching, that I still have conversations with now and they’re not even playing cricket any more, but they ring me about other things in their lives.

From an individual and collective perspective all the participants agreed that honesty and freedom of expression was a crucial aspect in ensuring players felt comfortable:

Coach C: …you’ve got to try again to create an atmosphere where people feel they can actually, positively suggest and contribute and maybe say things that other players probably wouldn’t agree with, so you end up having an open discussion.

Coach D: I think communication, two-way communication – So I think importantly having a situation where the player is comfortable in picking up the phone, emailing, texting, face to face contact, about an issue or what they’ve done well.

4.5 Barriers to Scaffolding: Parental Influence and the Issue of Time

With regard to what factors have the potential to inhibit or limit the effectiveness of the learning environment, three of out of four coaches strongly highlighted the negative influence of parents as is shown through, “Where you have a problem is where the parent tries to take that responsibility rather than the young player, and if that’s the case then I think you have an issue…” and “The parent thing is something that’s changed over the years, and that aspect is becoming increasingly concerning for coaches because as far as they’re concerned their son or daughter are internationals and criticism is incredibly difficult.”
One coach reflected that, “some people want to become test cricketers, some people are there because their parents want them to be there” whilst another went even further to say:

Coach C: This is a very important one, I think, parental influences on young people are very bad for cricket generally! The best parents are the ones who, when you’re playing at home you tell them you’re playing away. When you’re playing away you’re playing at home, so they don’t come to the game! Because generally speaking, there are very few parents who can actually stay out of the way and be supportive to their kids rather than dominate their kids. Because a lot of them want to play the game, which they weren’t very good at, through their children.

Importantly it was also recognised that parents can create additional external pressure on a player as one coach pointed out: “Sometimes it’s (the mistake) due to pressure, a lot of times through pressure off-field, maybe people on the balcony and their parents going “Tut, tut, tut!” and those sort of things.”

Aside from parental influence, the most significant barrier to creating an effective learning environment was found to be the issue of time as can be shown: “Time constraints are the biggest problem,” and “I’d like more time but a lot of these guys are at university, so they have a lot of other commitments to play other sports and also it’s about resources.” Further examples emphasise this notion and the difficulty it presents for coaches:

Coach A: but it’s all to do with time. You just don’t have time being a volunteer, particularly if you do work full time which I do. But it would be lovely to do, and lovely to give the lads the opportunity to have all that detailed information.

Coach D: that’s something I’m really working on a lot at the moment, with the élite guys, to make the best use of their time, because I have limited
time, to make the best use of every five minutes of the programme that we’ve set up.

Whilst there are bound to be more negative influences that can have an impact upon the individual and the group, the two issues identified by the participants show just how complex it is for coaches to create and successfully sustain an effective learning environment.
CHAPTER FIVE

DISCUSSION
5.0 Discussion

5.1 Setting the Benchmark: Establishing & Maintaining Structure

As well as enhancing the current understanding of scaffolding as a platform for learning, one of the purposes of this study was to identify what key elements are important within the coaching process that contribute to scaffolding. The notion of establishing structure within the coaching environment; a universally recognised concept by the participant coaches is consistent with previous research that suggests structural organisation provides the foundation for a continuous cycle of learning (Merrill, 2002). This research is congruent to the original work surrounding the zone of proximal development with it being stated that without a structure in place, the learner has no platform from which to attempt problem solving (Murray and Arroyo, 2002; Vygotsky, 1978). It also concurs with original scaffolding literature that suggests a person’s capacity to learn is greater when immersed in a familiar environment (Wood, Bruner and Ross, 1976). Essentially therefore, a foundational structure that becomes normality can be seen to contribute towards a player’s learning experience by acting as the boundary for what knowledge is currently known and not known.

Furthermore, the idea of promoting a degree of freedom within a set structure supports and builds upon the work of Wallace and Pocklington (2002) whereby the coach assumes a role similar to an ‘orchestrator’ as opposed to directly influencing learning. The findings also correspond to the ideas cited by Sir Ian McGeechan in Jones et al. (2004); that of ‘roots and wings’ where the roots represent the fundamental coaching structure and desired outcome, and the wings represent the freedom of choice a player possesses within that structure. An example provided by a participant coach in this study reflected a pre-match routine where the preparation had a structure, yet within it players were granted time to individually prepare as they deemed appropriate. Further examples can also be found through the setting of minimum fitness requirements and additional team discipline, illustrating that an environment’s structure can consist of many sub-structures within an overall one.

From an educational perspective, an environment that encourages such freedom and creativity under the superficial guidance of the coach has the potential to stretch and broaden the scope for understanding in athletes, for each experience contributes
significantly to an individual’s knowledge and understanding. Having the capacity to express freedom can consequently advance a learner’s boundary of existing knowledge, developing their personal zone of proximal development in the process. It is worth mentioning at this point that any such advancement of knowledge is not restricted to just players, but coaches too as Burns and Joyce (2005) suggest. This gives credence to the assertion that learning and the construction of new understandings is a reciprocal process between coach and learner (Mercer, 1994).

By the coach encouraging creative expression in practice, players are naturally bound to possess greater levels of responsibility and independence when it comes to furthering their ability, be it physically or on a performance level. This conclusion can be underpinned by research that has found increased levels of persistence and effort in athletes’ who have more control over their development (Denison, 2007; Jones, 2007). Though considerations are required when using such an approach due to age and skill level (Anderson & Armbruster, 1990; Hoke, 2011), this ownership over personal improvement can facilitate improved self-awareness when developing skills and during problem solving (Kidman, 2005), providing scope for its use in a coaching setting.

5.2 Developing Understanding: Learning by Playing & Pushing the Boundaries

The findings gathered in this study — that pushing athletes’ capabilities to their limit is necessary to advance learning — strongly supports Vygotsky’s zone of proximal development as it mirrors the complexity, authenticity and realistic characteristics that a real life task is likely to consist of (Fernandez et al. 2002; Murray and Arroyo, 2002; Vygotsky, 1978). Such findings are further supported by research that attributes improved performance to the constant acquisition of new experiences (Reiser, 2004). Former table tennis Olympian Matthew Syed (2011, p76) reflected upon his own experiences to highlight this point further —

“It wasn’t that I felt like a changed player; it was that I was a changed player. My body and mind had been transformed through a sustained process of being pushed beyond existing limitations – by grappling with tasks that, to use the words of Ericsson (1994), were ‘outside the current
realm of reliable performance, but which could be mastered within hours of practice by gradually refining performance through repetitions.”

By frequently exposing players to experiences that exceed their current boundaries of comfort in training, the capacity for learning or rather the zone of proximal development can be vastly increased. Thus, coaches must examine and potentially modify their practice environment to ensure training is purposeful and relevant, tailored to individual needs and match-specific encounters. In conjunction with this, the findings maintain the belief that setting tangible, measurable and flexible goals can positively impact upon athlete performance (Scoular and Linley, 2006). Whilst testing athlete’s physical and mental capabilities, coaches are recommended to ensure that players constantly have something to work and strive towards.

With regard to adopting a game-based learning approach, an approach preferred by the participant coaches over more prescriptive styles of coaching, the findings add considerable weight to research that supports Bunker and Thorpe’s (1982) Teaching Games for Understanding (TGfU) model and subsequent adaptations that have followed (Australian Sports Commission, 1997; Kirk and MacPhail, 2002). In terms of practical application, the major limitation of current scaffolding literature is its shortage of specific examples in a coaching setting (Orey, 2001). In addressing another key aim of the study, coaches and practitioners are provided with some concrete examples, albeit cricket-specific, of how sessions can be tailored to meet individual needs through a game-based learning approach, facilitating tactical awareness and opportunities to enhance knowledge in the process.

The findings also support research that identifies the use of questioning as a key component to player learning and development (Kirk and MacPhail, 2002; Renshaw and Chappell, 2010), with coaches encouraged to refrain from demonstrating their superior knowledge; instead facilitating thought provoking discussions by listening and interacting with players (Ladyshewsky, 2010). Through the use of questioning and the examples provided, the findings also reflect the mediating influence of the coach in assisting an athlete’s successful completion of the task, alluding to the notion within scaffolding theory
that as learning develops, the influence of the significant other gradually reduces (Wood, Bruner and Ross, 1976).

5.3 Developing Understanding: Clarity & Communication

Considerable research in the sporting domain has examined the effect of affirming individual roles in a group setting, and the positive impact it can subsequently have on performance (Bray and Brawley, 2002; Cantelon and Murray, 1993; Shoenfelt, 2003). If players are able to focus solely on the demands that their task presents without confusion or conflict, it is acceptable to assume that they are likely to experience increased feelings of confidence and efficacy. The findings in this study uphold this assertion whilst also supporting the idea that individual role clarity can positively influence team cohesion, persistence and overall performance levels (Beauchamp, 2007). It can be considered vitally important for coaches to assign and establish individual roles within the group environment. However this can be more challenging and complex than it appears as Yukelson (2001) acknowledged.

It has been stressed for example that effective coach-athlete communication is essential to ensuring clarity and understanding of roles (Shoenfelt, 2007), firstly to promote feelings of efficacy, but more importantly because roles are constantly changing and evolving to meet the needs of a specific situation. A batsman’s role during an innings represents a suitable example; his/her role or approach to batting will invariably change after a wicket has fallen, just as a bowler’s role will change depending on the stage of the game in relation to how many runs are required by the batting team. In a pressurised game situation, it is also important for coaches to consider a player’s level of competency prior to assigning a specific role to minimise negative feelings that may emerge if failure occurs.

With regard to scaffolding, the findings emphasise the need for coaches to consider their own role and influence within the learning environment be it in a training or game situation; that of a mentor or task supervisor (Wood, Bruner and Ross, 1976) as opposed to directly assisting a player in completing a task. Assisting a player too much may result in dependency on the coach and the development of learned helplessness (Weinberg and Gould, 2007), associated with decreased motivation and effort levels.
Whilst accepting the flexible nature of roles, the findings continue to support further recommendations that role assignment must be a two-way communication process between coach and player/s so as to avoid role ambiguity and role dissatisfaction (Eys et al. 2005). However, Shoenfelt (2007) also recognised that a coach’s level of experience can determine the effectiveness of the communication process and the roles that are established, due to complexities such as maintaining player morale and role acceptance. With regard to the implications for coaches, not only must they facilitate open discussions with players to affirm roles, the roles must co-exist within an individual’s skill capabilities and yet exist harmoniously in a team setting.

5.4 Providing a Platform: Caring & Creating a Comfortable Environment

In striving to create an environment that effectively facilitates scaffolded learning, the findings directly correlate to research that encourages coaches to assume the role of a ‘carer’ as well as a coach (Jones, Armour and Portrac, 2004). Such a role involves high levels of empathy; being aware of players’ feeling and emotions, being attuned to their events and situations that exist outside of the coaching environment and using emotional information to inform future decisions (Neal, Spencer-Arnell and Wilson, 2009). As a result of this, it is accepted that coach-athlete relationships are likely to positively develop, with players experiencing significantly higher levels of self-confidence that can impact upon performance (Rogers, 1961). However, some studies have acknowledged the delicate, unseen formal boundaries that exist between the role of a coach and that of a player (Bergmann, Drewe, 2002; Jones et al. 2004). That is not to say coaches are prohibited from developing deep social connections and friendships with players, more that they need to consider the impacts of such interactions and endeavour to separate them from the coaching environment in which they operate.

When looking to implement scaffolding as a method of learning, research also highlights that the player or learner should be encouraged to take risks and experiment with new alternative strategies during problem solving (Larkin, 2001). The findings appear to support this assertion as all of the participant coaches defined mistakes as ‘opportunities to learn’ rather than attributing them as a negative phenomenon. Consequently, players felt more at ease to explore and try new things, developing self-
awareness and independence in the knowledge that the coach supported them in their decision. With reference to the zone of proximal development, if players feel comfortable and secure in their environment without the fear of making mistakes, they have a much better platform from which to expand their levels of knowledge and experience.

The findings also alluded to the promotion of honesty within a group environment, suggesting that it contributes significantly towards establishing a comfortable environment. This is supported by Cilliers (2005), who concluded that honesty and openness allows learners to benefit more from their experiences due to their meaningful and thought provoking nature. Furthermore, research has found that feelings of mutual respect as a product of honesty, often results in a more cohesive and harmonious group environment (Fletcher, 2011). In terms of implications and fostering a comfortable environment, coaches should look to develop their emotional intelligence skills by being aware of what is going on around them. Careful consideration should also be given to how mistakes are dealt with whilst also promoting an honest environment that should look to exude freedom of expression and consequently – confidence.

5.5 Barriers to Scaffolding: Parental Influence and the Issue of Time

Whilst exploring what key factors can facilitate an effective learning environment, it is just as important to consider what barriers can negatively influence its effectiveness so researchers can direct and inform future coaching practice. The findings in this study to some extent support assertions that parents can have a negative impact upon their youngster’s learning, by assuming excessive levels of control and responsibility, thus preventing the player from developing self-awareness skills and independence (Holt et. al. 2008; Wuerth, Lee and Alfermann, 2004). From a Vygotsgian perspective, this influence is equivalent to that of a teacher solving a learner’s problem themself as opposed to assisting the learner indirectly. Crucially therefore, coaches must recognise the boundaries of their assistance to facilitate optimum learning.

The findings also agree with the work of Norton et al. (2000), that increased parent influence may occur due to a previous lack of personal fulfilment (i.e. having not succeeded in their own career) leading to unwanted participation from the player and a lack of motivation to improve. Subsequent research has challenged this notion somewhat,
suggesting that excessive levels of parental influence are a result of parents not feeling involved within their youngsters’ environment in terms of progress and development (Jowett and Timson-Katchis, 2005). Furthermore, research has also found that parental influence can positively affect a youngster’s performance as a result of increased social support and positive encouragement (Wheeler, 2011). Whilst accepting that not all parental influences can be of a negative nature, coaches should therefore look to promote a parent-inclusive environment that informs and enlightens parents in relation to their youngster’s learning.

With regards to the lack of contact time between coaches and players the findings do not appear to build upon any previous assertions, more for the reason that the issue of time has not been examined in much detail. Nevertheless, the consistency of such findings throughout the entirety of the study makes it a significant barrier that future research should look to address, providing a rationale for the use of scaffolding in the process. For although coaches can be exempt from any personal blame for this barrier due to full-time jobs and other commitments of the players, it emphasises the importance of creating an environment that promotes independence and responsibility so players can continue to learn outside of the formal coaching environment.

5.6 Strengths and Limitations

The primary aims of the study were to advance current understandings of the term ‘scaffolding’ whilst also identifying what key elements were involved in contributing to this process within the coaching environment. By conducting interviews with a number of experienced, high level coaches within the cricket environment the study has been able to generate a wealth of insightful, rich data which succeeds in providing numerous practical examples for coaches in the working world – another pivotal aim of the study. Typical examples revolve around adopting a game-based learning approach, using questions and assessments to set and maintain structural boundaries whilst also providing emotional support. The information and examples bring with them a variety of practical implications which can inform and improve future coaching practice, possibly even contributing to a framework for developing an effective scaffolded environment.
Having said that the study does have its limitations. Most importantly is the fact that only four coaches were used in the sample, making it difficult to generalise to the wider coaching community in cricket and that of other sports. Secondly is the fact that all of the coaches worked on a voluntary basis, albeit within a high performance environment, which prevents their individual circumstances concerning contact time with players being applicable to all coaches (Cropley, Miles and Peel, 2012). With most coaches likely to experience their own issues and demands regarding time and the amount they have with athletes (Otienoh, 2009), the study does reflect to an extent, the complexities and challenges that constantly surround the coaches within their respective fields.

5.7 Future Research Directions

To address the limitations of the study, it is recommended that future research should look to involve a larger sample of coaches to generate a greater base of knowledge and experience that can be used to inform coaching practice. Future research should also look to build upon the knowledge generated in this study by targeting female and non-elite samples to gather a rounded conceptual understanding of how learning through scaffolding can be achieved in view of the zone of proximal development. The implications for both the sport and education fields would most likely be of extreme benefit with the capacity to enhance the learning environment resulting in improved performance, and skills that can be applied to life in general. Without bypassing the complex nature of coaching, researchers should be encouraged to continue exploring the coaching process to develop a greater understanding of its dynamics to provide the best possible experience and fountain of knowledge for new coaches.
CHAPTER SIX

STUDY SUMMARY & CONCLUSION
6.0 Study Summary & Conclusion

With the aim of the study being to investigate the concept and use of scaffolding in coaching, the research undertaken by Vygotsky provided a lens from which current understandings could be looked upon and developed. Specifically his approaches to learning as a social interaction and ‘zone of proximal development’ have contributed significantly towards how practitioners coach today. Exploring initial scaffolding research by Wood, Bruner and Ross (1976) drew attention to the important role that the coach or skilled other has during a learner’s development, with recommendations for how practice should be tailored to enhance an individual’s knowledge.

Although many factors were identified for contributing towards a scaffolded environment, the coaches in the study highlighted the need for boundaries and structure, from both a performance and organisational perspective. Maintaining some form of structure and familiarity was deemed essential to enable player security whilst facilitating independence and responsibility. This notion of security and comfort was further reflected through the notion of caring; the participants highlighted the importance of creating an comfortable environment where players felt at liberty to express themselves and seek advice should they require it. With regard to directly advancing knowledge and an individual’s zone of proximal development, realistic, game-based learning was recognised as an important concept in practice, enabling players to expand their current experience and develop problem solving skills within the confines of a competitive situation. Potential barriers to the scaffolding process were also acknowledged, with coaches expressing concerns over the considerable influence parents can still have over their youngsters inhibiting their capacity to learn independently. Concerns over the amount of time coaches have with their players were also brought to light though this continues to be a difficult factor to overcome.

From the array of literature presented, it appears that research is still attempting to conceptualise scaffolding as a pedagogical theory in coaching, therefore it is recommended that future studies continue to investigate its uses and applications across a broad range of sports at varying levels. The results generated from the study do not intend to state exactly how scaffolding should be used in the coaching setting; on the contrary it aims to make coaches aware of the complex and unpredictable nature each coaching
environment represents (Cushion et al. 2010; Jones and Wallace, 2005, Lyle, 2002). By investigating scaffolding along with the factors that can make it effective however, coaches are provided with some key principles from which practice can be informed and improved. Consequently it is hoped that athlete learning can move forward from these improvements, resulting in enhanced performance and the development of athletes as people as well as performers.
CHAPTER SEVEN

REFERENCES
7.0 References


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Sidaway, B., & Hand, M. J. (1993). Frequency of modeling effects on the acquisition and retention of a motor skill, Research Quarterly for Exercise and Sport, 64, 122-125


APPENDIX A – Participant Information Sheet

Dissertation Title: Understanding Scaffolded Learning – A Vygotsgian Investigation in Sport

This document provides a run through of:

1) the background and aim of the research,
2) my role as the researcher,
3) your role as a participant,
4) benefits of taking part,
5) how data will be collected, and
6) how the data / research will be used.

The purpose of this document is to assist you in making an informed decision about whether you wish to be included in the project, and to promote transparency in the research process.

1) Background and aims of the research

What is scaffolding?
Imagine a player represents a brand new building under construction, and the scaffolding on the building represents your influence as a coach. In the early stages of construction, the building needs significant amounts of scaffolding to help it grow and develop. Over time as the building progresses, the scaffolding gradually becomes less and less to the point where it is only needed to rectify and attend to any problems the building has.

In any sports setting, the fundamental aim of any coach is to develop and improve their athlete/s to the fullest extent possible. To accomplish this some coaches look to take a lead role, being involved in every aspect of the athlete’s training and practice including performance. More recent research however, is exploring ways in which a coach can promote learner-centred approaches enabling athlete/s to learn from within themselves, peers and carefully designed practice environment. This piece of research looks to explore the reasons why a coach might adopt this athlete-dominant approach, what the approach actually looks like in practice and the subsequent impacts it can have on athlete learning and development.

2) My role as the researcher:
The project involves me (Matthew Thompson), the researcher, conducting an informal interview with you to gain an insight into your coaching methods, philosophies and personal experiences as a coach.

3) Your role as a participant:
Your role is to answer the questions in the interview as honestly as possible. The questions predominantly focus on 1) attitudes and approaches to coaching 2) your role in facilitating athlete development and learning, 3) the importance of positive coach-athlete relationships. The completion of the interview is not compulsory, and you do not have to respond to every question should you wish not to.
4) **Benefits of taking part:**
The information obtained from this study will allow better insight into the coaching styles, methods and practices that put players at the forefront of learning to facilitate problem-solving, independent thinking and ultimately skill development. As a result of this we will aim to gain a greater understanding of how such attributes are developed in practice and from the holistic relationships coaches have with players. We will be happy to share this information to any of the participants of this study.

5) **How data will be collected:**
As alluded to above, data will be collected solely from the interview questions I will ask you.

6) **How the data / research will be used:**
In agreeing to become a voluntary participant, you will be allowing me to use your responses to the interview questions and include them within a larger data set that includes the data of other participants. Your personal data will be completely anonymous at all times.

**Your rights**

Your right as a voluntary participant is that you are free to enter or withdraw from the study at any time. This simply means that you are in full control of the part you play in informing the research, and what anonymous information is used in its final reporting.

**Protection to privacy**

Concerted efforts will be made to hide your identity in any written transcripts, notes, and associated documentation that inform the research and its findings. Furthermore, any personal information about you will remain confidential according to the guidelines of the Data Protection Act (1998).

**Contact**

If you require any further details, or have any outstanding queries, feel free to contact me on the details printed below.

Matthew Thompson
Cardiff School of Sport
Cardiff Metropolitan University
CF236XD, United Kingdom
Email: st10001315@outlook.uwic.ac.uk
APPENDIX B – Informed Consent Sheet

CARDIFF METROPOLITAN
INFORMED CONSENT FORM

Title of Project: Understanding Scaffolded Learning: A Vygotsgian Investigation in Sport

Name of Researcher: Matthew Thompson

Participant to complete this section: Please initial each box.

1. I confirm that I have read and understand the information sheet dated […………………..] for this evaluation study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that it is possible to stop taking part at any time, without giving a reason.

3. I also understand that if this happens, our relationships with the Cardiff Metropolitan University, or our legal rights will not be affected.

4. I understand that information from the study may be used for reporting purposes, but I will not be identified.

5. I agree to take part in this study on scaffolding and learning with regard to athlete development

__________________________________________________________________________
Name of Participant

__________________________________________________________________________
Signature of Participant

Matthew Thompson

__________________________________________________________________________
Name of person taking consent

__________________________________________________________________________
Signature of person taking consent

* When completed, one copy for participant and one copy for researcher’s files.
APPENDIX C – Interview Guide

**Theme 1: The Coaching Process & Complexities**

- **Talk to me about the coaching environment you’re currently involved with…**
  - For example the age and playing ability of your players
  - And how often for example do you have the opportunity to work with them?

- **How would you describe your coaching philosophy? For example……**
  - Tell me some of the values and beliefs that you stand by as a coach?
  - What things or influences have helped you develop these beliefs over time?
  - Why are these values important to have when you coach?

- **As we all know, no player is perfect in everything they do – mistakes are often made. Whether it is in practice or in competition, how do you deal with mistakes and lost games?**
  - A player for example, may have a rush of blood during a game and play a poor shot getting out in the process. What do you do as the coach?
  - Might the conversation you have with a player depend on their personality? Or when you speak to them for example (straight after getting out for example)?
  - What implications does this have for players wanting to try new and innovative skills?

- **Coming into a new environment can be a challenging for a coach. Describe for me some of the challenges you faced…**
  - For example, getting players to respond to your coaching. How did you initially look do this? (buy in)
  - Explain to me some of the challenges that you faced, or still continue to face? ( resistance)
  - How did you look to overcome these barriers?
Theme 2: Learning

- Tell me how you look to develop your players’ knowledge and understanding of the game. Talk me through some of the practices that you might use for example…
  - Individual decision making for example, is often responsible for winning or losing. How are your players allowed to learn the many complexities of the game?
  - Identify to me the ways in which you might monitor and evaluate a player’s progress.
  - Why these methods?
  - Once progress has been established, what happens next?

- Throughout your coaching career, describe to me some of the most effective strategies you have found that engage players and induce learning….
  - Several players in the England dressing room for example, have spoken about the batting ‘buddy system’ Andy Flower has introduced and the positive nature of it…
  - How are your sessions orientated around player enjoyment?
  - What impact do you feel enjoyment has on a player’s learning?

Theme 3: Zone of Proximal Development

- We’ve just touched upon developing knowledge and understanding in a player. To ensure that this understanding is sustained, how do you allow your players to assess their own performance?
  - Players might find it useful to engage in group discussions for example…
  - What other ways do you allow players to manage their own learning either during the session or in between sessions?

- Obviously every player is at a different stage in their development…
  - One player may be a relatively late skill developer for example, and is still catching up to the standard of others. Explain to me how you might look to cater for players of varying ability?
• As coaches, we know the importance of tailoring a session or exercise to an athlete’s needs.…

  o It could be detrimental for example, to place a task on a player who is not capable of performing it correctly. But how might you gauge their ability to complete the task prior to setting it?

Theme 4: Scaffolding

• Tell me some of the support services you as the coach, have at your disposal to further develop your players? Examples could be things like – physiotherapy, psychological support, specialist coaching and nutritional advice.…

  o Why are these resources important in facilitating development?
  o Talk to me about has the response from your players with regards to engaging with these resources?

• Individual and collective responsibility is crucial when out on the field as a player. Tell me what things you might do within a coaching session to develop this.…

  o Some players for example, may have difficulty in pushing themselves to their limits when not under your supervision. How might you go about addressing this?

• Moving onto a match day scenario, briefly tell me some of the things that happen during preparation. What role do the players assume for example.…

  o What resources to your players have access to on a match day?
  o What sort of effect does your routine have on the players do you think?
  o How do you deal with individual preferences to match preparation?

Theme 5: Coach Athlete Relationship

• Share with me your thoughts on what elements make up a strong and positive coach-athlete relationship.…

  o First of all explain to me what you perceive ‘strong’ to mean?
In terms of establishing what this actually looks like, how do you go about doing this?

What benefits does this have for the player/s?

What benefits does this have for you?

- Give me an example........ relationship you enjoyed with a player during your coaching....
  - What, if any benefits did you perceive this relationship to have on the player?
  - What effect did this have you’re your coaching?
  - What kind of barriers (if any) can potentially hinder the formation or maintenance of a relationship?