Cardiff School of Sport

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Comments	Section
	Title and Abstract Title to include: A concise indication of the research question/problem. Abstract to include: A concise summary of the empirical study undertaken.
	Introduction and literature review To include: outline of context (theoretical/conceptual/applied) for the question; analysis of findings of previous related research including gaps in the literature and relevant contributions; logical flow to, and clear presentation of the research problem/ question; an indication of any research expectations, (i.e., hypotheses if applicable).
	Methods and Research Design To include: details of the research design and justification for the methods applied; participant details; comprehensive replicable protocol.
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	Discussion and Conclusions [2] To include: collation of information and ideas and evaluation of those ideas relative to the extant literature/concept/theory and research question/problem; adoption of a personal position on the study by linking and combining different elements of the data reported; discussion of the real-life impact of your research findings for coaches and/or practitioners (i.e. practical implications); discussion of the limitations and a critical reflection of the approach/process adopted; and indication of potential improvements and future developments building on the study; and a conclusion which summarises the relationship between the research question and the major findings.
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CARDIFF SCHOOL OF SPORT

DEGREE OF BACHELOR OF SCIENCE (HONOURS)

SPORTS COACHING

‘Strategies, methods and techniques used by coaches to ensure their athletes remain in the Zone of Proximal Development (ZPD), to ensure maximum learning and skill development occurs’.

(Dissertation submitted under the discipline of Coaching)

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Abstract

Vygotsky's (1978) 'zone of proximal development' (ZPD) is a notion that has been utilised within child psychology and learning and has consequently been applied within an educational environment. However, the roots of the ZPD framework may lend itself to an explanation in a sporting context. The aim of this study was to explore the process that occurs between a coach and athlete when facilitating learning and skill development, through the lens of Vygotsky's ZPD framework. It sought to provide new found meanings to the current literature that account for coach's practices and intentions. Three coaches were interviewed allowing rich qualitative data to be collected, which resulted in an in-depth process of analysis and coding relevant information that had been revealed. The findings exposed the important role that a coach has as a 'more capable other', both in enhancing understanding and skill development, and also outside of the sporting context itself. Furthermore, the coaches illustrated a vital part the athlete themselves may have in their development in relation to skill and personnel, and that methods such as empowerment and scaffolding can be utilised effectively to fulfil athlete potential. Also, accounting for individual needs when progressing the ZPD has been reinforced through the coach's practices. The results provide a stepping stone for future research, however having a larger sample may increase the validity of the study, and would also allow for a comparison of team and individual sports to be made.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The advancement and competitive nature of the sporting environment has led to the increased importance of ensuring individuals acquire maximal learning and skill development. Therefore the role of the coach has become essential to an athlete's understanding and progression. As coaches gain knowledge, their philosophy will be reviewed and attitudes and values will be altered in accordance with individual needs of the athletes (Kidman, 2001). It is vital that coaches have an understanding of various methods and strategies that can be implemented to aid the development of athletes, resulting in successful performances (Farrow, Baker and MacMahon, 2008). However, the complex notion of sport coaching reveals the problematic reality of the coach-athlete relationship, and the challenges faced by the coaching profession (Jones and Wallace, 2005). Throughout their recent studies, Jones and Wallace (2005) have discovered that academic literature has become progressively more critical and detailed. It has been proposed that the popular adherence to rationalistic assumptions about coaching has been challenged; consequently leading to the suggestion that coaches need support in learning how to cope with the intricate and often uncertain nature of the work that they do (Jones, 2006). There is a need to digest the ambiguous methods and practices illustrated by coaches, to allow an understanding to be gained of the effective coaching principles that are displayed and preached.

It has been proposed that an individual will progress within a 'zone of proximal development' (Vygotsky, 1978). The concept of this proposition involves the distance between the problem solving abilities of an individual when working alone, and the level of potential development when assisted with a more experienced peer or capable other (Jones, 2006). Individuals will continue to enhance their learning and skill development when remaining within this zone. The concept initially became apparent within child psychology and learning, used as a framework to represent how a child or pupil can develop their learning through mediation from a teacher (Kozulin *et al.,* 2003). However, the general concept of the ZPD may be applied to a sporting context. There is a need for a 'more capable

other', such as a coach or teacher, to facilitate an individual when retained in the ZPD, by providing a scaffolding of support to aid and enhance the development. Therefore when learning has occurred, or a skill has been mastered, the scaffolding can be 'removed', and the ZPD will progress. The term scaffolding is something that has been used largely within an educational setting, and involves the pupil using guidance from a teacher as a support, until the individual achieves the objective or can solve the problem alone (Brain, 2000). Acquiring knowledge relating to the performers needs and learning preference is essential in order for development and progression to occur. Research has provided an insight into the implications Vygotsky's 'zone of proximal development' has within an educational setting, for example in a classroom environment (Foley, 2002; Bunce, 2010). Findings revealed collaborative work had a positive effect on cognitive and social outcomes, and those individuals who worked alone failed, as opposed to those who worked alongside a more capable other succeeded. This gives further reason to explore and unravel the practices illustrated by coaches within a sporting environment to facilitate learning and skill development.

It was thought that interviewing experienced coaches would allow for an in-depth and accurate response regarding the practices that are illustrated, and the reasoning behind these motives, revealing new found detail of the coaching process. Specifically, a qualitative interview approach was adopted in attempt to focus on definite theoretical areas that would provide an insight into the aims and objective of the investigation, paired with a presentation of new found context and phenomenon.

1.1 Aims and Objective

If a better understanding of the way in which coaches ensure their athletes remain within the ZPD is to be acquired, then a more in-depth examination of the coach's practices appears imperative. Therefore the aim of this study was to shed light on the nature of coaching sensitivity when actualising and progressing the 'zone of proximal development'. Also, to gain an understanding of the interaction that occurred between a more capable other and athlete when facilitating and generating improved learning and performance. The objective of the project was to

explore the process that occurs between a coach and athlete when facilitating learning and skill development, through the lens of Vygotsky's 'zone of proximal development' framework.

CHAPTER TWO

LITERATURE REVIEW

2.0 Literature Review

2.1 Coaching Complexity

The coaching process is far from a structured and direct notion. The generic concept of the process is often uncontrollable and does not operate cleanly (Cushion, 2007). It is also suggested that these processes will not be equally applicable in all circumstances (Lyle, 2002). The focal challenge to coaches may lie within the success of transferring enhanced skills and experiences into over-whelming situations that may not be of comfort. Investigation into making sense of the ambiguity and unpredictability that practitioners undoubtedly face, highlights the idea that theories have been grounded from linear empiricism, through our own knowledge and sensory experiences (Spence, 2012). Coaches instead may acquire greater knowledge and understanding if they open themselves up to the complexity of coaching, by embracing various perspectives that may help to make sense of the unpredictability.

Research undertaken exploring the practice of coaching is argued to be over-simplistic, resulting in a lack of research into the conceptual development of the coaching process (Cushion, 2007). Increasingly, research supports the notion that coaching is not something that is merely delivered, but instead a dynamic social activity that engages both coach and athlete (Jones, 2007). Therefore the relationship between a coach and athlete is paramount when facilitating and guiding skill development and learning. This supports the view of Rodriguez (2008), who comments explaining having a strong understanding of an athlete can help to build immediacy and efficacy within the coach-athlete relationship. Exploring the styles of interaction that occurs between a coach and athlete, including the timing of interaction paired with the specific dialect that is utilised will lead to increased knowledge, and provide an insight into the effect it has on learning.

However, traditionally, coaching has been an autocratic practice and prescriptive in nature (Kidman, 2001). The rationalistic, instructional approach to sports

coaching suggests that coaches are more comfortable and at ease when the power and control lies within themselves (Garvey, Stokes & Megginson, 2009). Controversially, athletes preferred learning styles may contradict the traditional approach. Increased research into coaching methodology including empowerment and orchestration and the effect it has on individual learning and development needs to be addressed by coaches, to ensure their practice is best suited to their athletes. When applied to coaching, orchestration may be described as a coordinated activity within set parameters expressed by coaches to instigate, plan, organise, monitor and respond to evolving circumstances in order to bring about improvement in the individual and collective performance of those being coached (Jones and Wallace, 2005). This is a vital addition to the notion, as it is vital that athletes are continually challenged and are engaged within their own practice. This approach also emphasises challenging the athlete's personal power, through encouragement and incentives, as opposed to facilitating their learning through feedback stating what is right and wrong (Garvey, Stokes & Megginson, 2009). The coaching may be flexible and suggest an athlete centred approach, but attention is taken to detailed tasks. This further proposes that the coaching process is far from rationalistic, which is a reductionist approach towards the practice of coaches. Complications and problems would not occur if the process formatted in a linear sequence.

Coaches who fail to meet the required demands and individual needs of their athletes may whiteness a period whereby plateaus occur in athlete development, an effect that can be experienced from a lack of engagement and interest (Warren, 2002). Therefore the importance of the coaches 'role' may go beyond applying their own personal knowledge and coaching beliefs and illustrating this through practice. The planning, programming and execution of information that is delivered must be based on the laws of the athlete's total potential and total efficacy development within the particular environment (Trninic, Papic & Trninic, 2009). Having a strong understanding of the performer's role and potential, within the learning process, can be beneficial to a coach, when considered and accounted for effectively. Also, in relation to the development of the performer, the coach must recognise the ability of the individual, and what can be achieved through various coaching guidance.

The strength of a relationship between coach and athlete can determine the potential development that occurs. As coaches gain an enhanced understanding, their philosophy will be reviewed and attitudes and values will be reformed in accordance with tailoring individual needs of the performer (Kidman, 2001). Allowing the athlete to have an input into the learning process is viewed to be an integral addition to coaching (Taylor and Wilson, 2005). Ignoring this view may cause the athlete to feel undervalued, due to the lack of opportunity to voice and share ideas. This can have an overall detrimental effect on the development of skills and personnel. Contrastingly, consenting to the athlete to have a role within their own learning may be beneficial, and research demonstrates the concept of social interaction. Such an approach can result in an increased retention of tactical and technical aspects of performance, and also higher levels of commitment, due to the increased amount of investment from themselves towards their sporting endeavours (Gagne *et al.,* 2003). Furthermore, research suggests that individuals who experience an autocratic coaching style adopt a 'robotic' approach to sporting performances (Jones, 2006). The development of their ability within their discipline will be hindered if the athlete is not given a specific role within the process.

To overcome the issues that are associated with the traditional, prescriptive nature of coaching, various approaches have been identified that coaches may preserve within their 'tool box', to ensure athlete interest and engagement. 'Scaffolding', is a term that is used within an educational setting, and has become a common method of teaching. It encourages pupils to use guidance from a teacher as a support, until a firm understanding is built whereby the problem may be solved alone (Woolfolk, Hughes and Walkup, 2008). The term is used to primarily support learning and aid problem solving, which can be manipulated into the coaching field. Coaches may engage with their athletes to encourage improvement during the process of 'scaffolding'. It refers to a procedure that enables a performer to carry out a task, solve a problem, or achieve a goal that would be beyond their unassisted efforts (Daniels, 2005). Acquiring knowledge relating to the performers needs and learning preference is essential in order for development and progression to occur. Additionally, scaffolding is much more than a physical support in a learning context, addressing student learning of concepts,

procedures, strategies, and metacognitive skills (McLoughlin, 2002). Furthermore, scaffolding is a process that relies on interaction and conversation, if learning and understanding is to take place. It may be seen as a powerful conception of teaching and learning, whereby a meaningful connection between teachers and students knowledge is created (McCaslin and Hickey, 2001). This strengthens the view that coaches must capture and take account for the athlete's sense of understanding and perception in the given situation, when facilitating learning and development.

2.2 Learning

When assisting the development of an individual, it is paramount to consider the various ways in which we learn and ensure the support given is tailored to the needs of the individual, in order for maximum benefit to be attained. Learning actively involves constructing our own meaning and values to something that we already have attained knowledge from (Jones, Hughes and Kingston, 2008). Research implies that learning is not a process that takes place independently, the assistance of a peer, teacher, and coach or more capable other can be advantageous (Bullock and Wikeley, 2004). It has been proposed that peer-assisted learning, a process that involves peer observation, feedback and mentoring, has been recommended as an educational strategy to improve student's skill acquisition (Henning, Weidner, Snyder and Dudley, 2012). Furthermore, working within a peer group can enhance learning and development, through the reflective practice, and also increasing individual perceptions of various learning styles that can aid knowledge and skills (Donaldson-Fielder and Bush, 2009). When making sense of this research and applying it into a coaching environment, it suggests that individuals will take great benefit from working with team mates and coaches, whereby the learning process may involve facilitating each other and actively discussing performances. This furthers the view that the coaching process should take into consideration the learner and athlete, as opposed to being an autocratic and coach lead practice.

An important factor of the learning process, between coach and athlete, is the language used within coaching sessions and also outside of that environment.

‘Language’ may be described as a body of words that provides systems for their common use by people who share the same culture or are from the same society (Delaney and Madigan, 2009). The specific dialect used by coaches may influence behaviour expressed by the athlete. This behaviour is suggested to be modelled and learnt from those around the individual, including peers and significant others (Mellalieu and Hanton, 2009). Therefore the way in which the coach delivers the message to the performer, is proposed to have an influential effect on the individual’s actions, a suggestion that coaches may not necessarily have a deep understanding of. It is key that coaches are aware that the specific dialect used and the timing of the message, whether it is informal, technical or the provision of feedback, may determine the actions conveyed by the learner. Also, recognising that the learner may have a contrasting perception of the message that the coach is attempting to deliver, and the effect that may have on the learner’s development and understanding (Jones, Armour and Potrac, 2004). This reinforces the view that a coach must gain an understanding of the individual and account for this when facilitating their development. It situations whereby a skill is trying to be learnt or developed, the language used by the coach must match the outcome that is foreseen, therefore the precision and the volume of the message is an addition to the notion that coaches must perfect in order for maximal benefit to occur.

Observational learning or ‘modelling’ is a term that is used to describe how an individual will illustrate a change in behaviour, as a result of experiencing a person’s actions, whereby imitation occurs (Coon, 2006). Implications of observational learning have been suggested, however the main body of research comes from an educational setting, more specifically involving teachers and pupils (Vedder, 2003). It is suggested that learning through a method of observing others, is an effective way for individuals to gain a fast understanding of an action that can be imitated, implying that information has been processed in order for the skill to have been learnt (Hancock, Rymal and Ste-Marie, 2011). The learning process can be enhanced through observing peers and athletes. Individuals learning will be aided when a more capable other illustrates how something should be done, or if an athlete observes a peer carrying out a skill that is in the region of one’s potential ability. It has been proposed that by watching others, an individual will learn what behaviours are appropriate for themselves, and therefore models

who are seen as similar are more readily imitated (Pintrich and Schunk, 2002). However, an in-depth understanding of how the learning progresses must be understood, including specific techniques and strategies that should be unfolded to fully gage the in-way in which coaches assist the development of an individual in various settings.

2.3 Vygotsky's 'Zone of Proximal Development'

The status of a coach or a teacher implies that they are more significant to the learner or athlete, and as already mentioned, known as a 'more capable other' (Newman and Newman, 2008). This may be because of their expert power or the knowledge that they preserve due to experience. However, the 'more capable other' can play an essential role in an individual's learning and development. It has been proposed that an individual will progress within a 'zone of proximal development' (Vygotsky, 1978). The concept of this proposition involves the distance between the problem solving abilities of an individual when working alone, and the level of potential development when assisted with a more experienced peer or capable other (Jones, 2006). It may also be described as the functions that have not yet matured, functions that will mature tomorrow but are currently in an embryonic state (Vygotsky, 1978). Individuals will continue to enhance their learning and skill development when remaining within this zone. It is therefore the responsibility of the coach to aid their development, providing a structure that will offer guidance and as a result, facilitate learning. The amount of guidance offered by the capable other in order for the task or skill to be performed successfully will be reduced as the learner over time gains an understanding of what is required to perform the activity (Cassidy, Jones and Potrac, 2004). Learning can then be said to have taken place. However, it is important to recognise that learning should be matched in some manner with the athletes or child's development level (Vygotsky, 1978). In relation to coaching, the skills that are in the process of development, must be at a complexity or difficulty that is in reach with the performer, otherwise the development may be hindered. However, it is also vital to reinforce the significance of attempting to produce a skill that may be too comfortable and not challenging enough for the individual, and the potential implications that may have for athlete development.

Although relevant literature accounts for various coaching methods that can be adopted, there is limited research that accounts for the practices displayed that enables athletes to advance through the ZPD and continue improving and learning. In relation to the ZPD, problem based learning enables the individual to be supported by an experienced coach or teacher, to accomplish an objective. It is an approach to learning that is characterised by flexibility and diversity, in the sense that it can be implemented in a variety of ways in and across different subjects and disciplines in diverse contexts (Savin-Baden, 2000). Problem solving skills and strategies conveyed in the process of actualising the ZPD are intended to help advance the individual's capacity for abstract thinking (Chak, 2001). It is a style of learning that maybe used effectively to ensure athletes are challenged to achieve the outcome, but the complexity is still within their own capacity.

Research has provided an insight into the implications Vygotsky's 'zone of proximal development' has within an educational setting, for example in a classroom environment. A study composed by Bunce, (2010), investigated the implications that the ZPD has on classroom based learning. It is argued that collaborative work within a class room has positive cognitive and social outcomes (Foley, 2002). Results from the study conclude in particular that children who worked independently failed, in comparison to children who worked with the teacher succeeded in the given task. This was argued to be due to the teacher's number of functions that were performed to ensure the child remained on task whilst they learned. This further gives reason to investigate the methods and practices displayed by coaches within a sporting setting that enables athletes to continue learning and developing. However, it is important to take into consideration that Vygotsky has not clearly stated what form of social interaction constitutes assistance to a learner in the ZPD (Bunce, 2010). Therefore other factors may account for the way in which individuals learn and develop, which need to be explored to add to the existing literature.

Assisting students or performers within their ZPD is a personalised process. The ZPD is not determined by age or grade level, which is how schools normally approach instruction; learners will have different individual needs, such as

preferred learning styles. A task that is too difficult or complex and requires scaffolding for one individual may be completed without any assistance by a peer. Individual learners have been found to have different scaffolding needs as well (Daniels, 2001). This can cause difficulty for the teacher or coach. Schunk (2004) proposed that individuals with a narrower ZPD will need more frequent and detailed assistance. This further supports the view that research needs to be carried out, investigating the process that coaches go through to ensure their athletes continue to improve in performances, and also to discover how coaches adopt practices to tailor for individuals who display contrasting ZPD's.

Vygotsky's 'zone of proximal development' expresses the notion of interaction, and the perceived benefits that it may hold. Research proposes that learning creates the ZPD, that is, learning awakens a variety of internal development processes that are able to operate only when the individual is interacting and co-operating with peers or a more capable other (Vygotsky, 1978). The processes become part of the individual's achievement once they are internalised. Thus understanding the various components of interaction that takes place between coach and athlete to ensure learning progresses, may reveal and unpick some of the complex areas of the coaching process. In addition, ensuring athletes are continually learning and therefore progressing their ZPD is a belief that needs to be adopted by 'more capable others' and coaches, resulting in a need to explore the practices that are demonstrated that reveals how learning is taking place efficiently amongst sporting individuals.

CHAPTER THREE

METHODOLOGY

3.0 Methodology

3.1 Proposing a Qualitative Approach

The aim of this study was to shed light on the nature of coaching sensitivity when actualising and progressing the 'ZPD'. Also, to gain an understanding of the interaction that occurred between a more capable other and athlete when facilitating and generating improved learning and performance. According to Creswell (2003), qualitative approaches are beneficial for exploring relatively unexamined topics; therefore a qualitative method was warranted given the lack of literature regarding the interaction between coach and athlete when applying Vygotsky's 'ZPD'. It is suggested that an important factor regarding the rejection of more quantitative approaches is that sport is affected by complex and multifaceted social forces (Cassidy *et al.,* 2004). Subsequently, qualitative research has become essential within sport studies as it aims to capture moments of reality or truth (Sugden, 2005). This was the exact intention of the study. Furthermore, Gratton and Jones, (2004) suggest that qualitative research, intends to capture meanings or qualities that are not quantifiable, such as feelings, thoughts, and experiences. The objective of the project was to explore the process that occurs between a coach and athlete when facilitating learning and skill development, through the lens of Vygotsky's 'ZPD' framework. This section highlights the research methods that were utilised by the researcher, accounting for the study design, methods of data analysis, issues of reliability and validity and ethical concerns.

3.2 Study Design

3.2.1 Participants

To ensure a rich amount of data was provided, the participants for this study were chosen, in order to meet a certain criteria. As opposed to gaining random participants, the chosen participants were selected on the basis of the potential information that they could provide, due to their coaching experiences and current

status. The method of sampling used was ‘purposive sampling’. It is based on the assumption that the researcher wants to discover, understand, and gain insight and therefore must select a sample from which the most amount of data can be extracted (Merriam, 2009). The three participants chosen all worked within a sporting environment as coaches, at Cardiff Metropolitan University. The coaches that were chosen had experience in team and individual sports. It has been recommended that it is imperative to select a relevant participant in order to extract the richest information from which the most can be learned when addressing the research question (Marczyk *et al.,* 2010).

3.2.2 Procedure

The initial task to perform before the data was collected, was to create an interview guide which would be utilised during the collection phase (see appendix A). The interview guide was made up of three sections, containing theoretical areas in which sub questions were devised. The theoretical areas were based on the review of literature that was previously carried out. The questions that were formed were open questions, the purpose of which were to encourage the coach being interviewed to give in-depth, detailed responses as opposed to closed questions which would have limited the coach’s reply (Evans *et al.,* 2008). The interview guide was tailored to the studies aims and objectives, in the hope of the answers provided by the coaches were specific and relevant to the study. The use of probes was also implemented, this was for the benefit of the research, and to ensure the coaches remained on track when necessary.

The selected coaches were then contacted, to enquire about the possibility of partaking in the investigation. A participation information sheet and informed consent form (see appendix B and C) was provided, to give the coaches an insight and purpose behind the study. Once the agreement to be interviewed had been confirmed, a suitable date, time and location was arranged. The data collection then took place, each interview lasting approximately one hour. A Dictaphone was used to record the findings, which enabled transcripts to be written, data to be reviewed and also for validation purposes. The coaches were informed of being able to view the written transcripts of their individual interview, so that relevant

interpretations could be verified. A notepad was also used to write down information of relevance and importance.

3.3 Data Analysis

3.3.1 Inductive and Deductive Content Analysis

The process of analysing qualitative data is fundamentally a nonmathematical analytical procedure that involves examining the meaning of people's words and actions (Maykut & Morehouse, 1994). The researcher attempted to produce trustworthy statements from the data that was collected. The transcripts were initially deductively analysed, using the literature review and interview sub questions as a tool to begin coding the relevant data, including distinguishing key themes. Statements were then inductively derived from the interview transcripts; this was carried out by the researcher interpreting common findings and trends that were demonstrated across all of the three participants interviews. Consequently, the constant comparative form of analysis was thought of as the best method to use. The aim of this process was to look at text, or speech to see if possible themes can be picked from the data and grouped together. It was thought that using this method of analysis would allow the objectives and aims of the study to be accomplished.

3.3.2 Coding within Data Analysis

It has been suggested that 'coding' is a key tool to ensure that analysing data is a thorough and a systematic process (Patton, 2002). When carrying out this process, the data can begin to be defined and categorised by posing questions, which then allows new perspectives to become apparent on the material (Charmaz, 2003). The researcher took time to explore the transcripts in detail, highlighting and coding key findings that would potentially be used to complement the key themes that would be established from the raw data. The creation of key themes that would be used to breakdown the discussion, were produced by grouping together common findings that were traced from the three sets of transcripts. The themes that were chosen were thought to best meet the aims and

objective of the study, ensuring that the findings produced were relevant and significant.

3.4 Validity, Reliability and Trustworthiness

When composing a study where by qualitative data is collected as a means to produce trustworthy and significant findings, the validity and reliability of the study are two components that must be identified and made aware of (Patton, 2002). The implications of misinterpretations being made by the researcher cannot be hidden. It was vital that the researcher only coded and used the findings that were made present within the respondent's interviews and transcripts, as opposed to using personal motives and opinions to shape common trends and themes (Willig, 2012). Recognising the potential actions of a researcher mistaking a coded finding as what they 'want' to see, rather than extracting the raw data in as an accurate interpretation is also of importance. The reliability of the procedure was enhanced through making accurate notes throughout the interviews, containing personal comments that were to be used in partnership with the transcripts. The framework of trustworthiness revised by Lincoln and Guba (1985) was also considered in a bid to increase the trustworthiness of the study.

3.5 Ethical Considerations

Ethical issues that need to be considered in a study that collects qualitative data are suggested to be relatively recognisable, due to the intensive nature of the research design and exposure of private and personal information (Halloway, 1997). Therefore, prior to the three participant's confirmation of their permission to participate in the study, a participation information sheet was made available for the coaches to study before the interviews commenced. This reinforced their decision of whether or not to participate, as the content of the information sheet contained the aims and objectives of the study, and also background research providing a rationale for the research to be completed. Also, an informed consent form was sent to the three participants. This provided a very vague overview of the study, including general and broad statements ensuring the participants were aware that they had the right to refuse to take part and the right to change their

mind regarding participating once the study had begun (Jackson, 2012). The subjects signing the form indicated that they had given their informed consent to participate in the research. The subjects were debriefed at the end of the data collection phase, to reduce the effect of the coaches suffering any psychological harm or deception. The subjects were also told that the transcripts would be made available for them to read, to ensure the answers provided were interpreted and coded accurately and fairly.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Results and Discussion

The study sought to explore the process that occurs between a coach and athlete when facilitating learning and skill development, through the lens of Vygotsky's 'Zone of Proximal Development' (ZPD) framework. The aim of the research was to shed light on the nature of coaching sensitivity in actualising and progressing the ZPD. Also, to gain an understanding of the interaction that occurs between a 'more capable other' and athlete, when facilitating improved learning and performance. The findings that became apparent from the coaches interviews have been categorised and presented into five main sections: (1) The role of the coach: A 'more capable other'; (2) Athlete input: The importance; (3) The 'illusion' of empowerment; (4) Scaffolding: The creation of an 'uncomfortable environment'; and (5) Progressing the ZPD: Developing understanding and awareness. The results are presented with accompanying discussion. It suggested that the report will be more readable if the presentation of data, manipulations of those data and interpretations are integrated into a logical whole (Rubin and Babbie, 2010).

4.1 Role of the coach: A 'more capable other'

Within coaching team and individual sports, developing knowledgeable athletes has been suggested to be a vital notion of a coach's role. However, the role of a coach requires more than the one-directional transition of knowledge between themselves and their athletes (Jones, 2006). If maximal sporting performance is to be enhanced and developed, coaches must engage within their practice, and build strong learning relationships with their athletes. When the question regarding the importance of having a positive relationship with their athletes to aid progression, was poised, the three coaches interviewed (C1, C2 and C3) demonstrated the effect it may have.

C2: 'I think for me, the relationship that you have with them underpins everything, everything we do with them and the kind of culture that we work in. They are different relationships but they are kind of founded in those same beliefs and values still'.

The three coaches shared similar views regarding coach-athlete relationships. They suggest that the environment that is created through coaching behaviour and practice underpins the potential development that an individual may illustrate. The actions and behaviours of a coach such as communication and technical instruction are proposed to have an effect on the athlete's perception of perceived self-competence, self-esteem and indices of motivation (Burg, 2008). This can have a direct effect on performance, signifying the coach's behaviours that are illustrated being paramount when aiding learning and performance.

The process that occurs between a coach and athlete presents conflict within the literature, revealing whether or not a coach has a duty of care and other paternalistic responsibilities (Hardman and Jones, 2011). Research proposes coaches need to give attention, engrossment, and care, both inside and outside of the sport, and also the confidence in performers taking risks that may result in failure (Jones, 2009). The coaches were mindful in relation to understanding that their athletes needed more attention and understanding of than that of just an 'athlete', supporting relevant literature.

C1: 'The other day one of the other people that I coach, one of the girls that I coach, was sitting in the bench upset and so I went and had a chat and she was talking about her dissertation and those sort of things, so it definitely has the capacity to slip over to pastoral care, and I think that's important as well, it's important for them to know that you're there to help them as people and not only as just athletes'.

Also:

C2: It's about how we can take where they are, how can we capitulate the learning and the experience that they got in hockey and how they can take that into the real world. How can then in these environments they learn, or I create an environment where they can learn, and take into their real life experience'.

Findings reveal the coaches considerations and respect that they illustrate towards their performers. The coach's awareness of their role and the effect they can have on the development of players and performers is evident, not only within the sport itself, but also to help develop interpersonal competency in real life situations. This sense of purpose is suggested to benefit overall life functioning, in which sport can play an essential part (Williams, 2007).

Having awareness of the responsibilities that are portrayed when labelled as a 'coach' is evident from the findings. This is reinforced further when the coaches are questioned regarding their personal interpretation and knowledge of what a 'more capable other' entails. *C1: 'A more capable other, it sort of ties in to two of the things we've talked about, one being what is my role as the coach, what do I see my role as, but then it's also, peer stuff as well, because we are all, in some ways, a capable other'*. *C2: 'Being this notion of a 'more capable other' is just a facilitator. It's recognising that, I'm responsible for making things challenging, and ensuring they gain that learning. Below that, it's not just about me it comes back to that peer assisted learning; actually I'm aware that some of them are quite capable of those environments'.*

However, what becomes apparent was the recognition that the coach may not be the only 'more capable other'. Whilst literature illustrates the role of a 'more capable other' within an educational setting (teachers and tutors), it remains evident that an individual with greater competencies (a coach) can support problem solving activities and promote individual task mastery (Daniels, 2005). According to the coaches interviewed, the suggestion of peers and team mates being 'more capable' is apparent within many sports and can play an additional role in skill development and understanding. For example, one participant reported: *'It comes back to that peer assisted learning, actually I'm aware that some of them are quite capable of those environments'.* Other coaches responses in relation to a 'more capable other' not necessarily being the only capability in the process, indicated that some athletes are performing to a higher standard than when the coach themselves were competing, so in that sense, the athlete is more capable than the coach. These findings support the view of Jones (2006), who indicates a more knowledgeable person may be a fellow athlete or peer, and can

play a significant role in the learners transition from other-assistance, to self-assistance (Daniels, 2001).

4.2 Athlete Input: The Importance

The participating coaches suggested communication with individual players and athletes is essential when negotiating learning outcomes and reinforcing what potentially could be achieved. These findings are in agreement with the thoughts of Kidman and Lombardo (2010), who proposed coaches, should encourage athletes to enhance their responsibilities not only in relation to problem solving, but in other areas that will aid the team including personal goal setting. Furthermore, ensuring athletes feel they are an important member of the team or learning process, whereby their input is valued and respected (Burton and Raedeke, 2008). The coaches viewed discussing individual targets and objectives as imperative to retain engagement and motivation. Therefore taking time and effort to converse with players to establish reachable goals and allowing the athlete to have an input is something that should be recognised within the process.

C3: 'It's more of a sort of discussion. They have an idea of what they want to achieve, its ensuring individuals are self-sufficient'. Indeed, this view was held with another coach who stated, *'Managing the individual within the collective. I think they would feel like they've all got a pretty individualised programme'.* The findings may contradict the traditional approach to sport coaching, which is characterised by the coach taking all responsibility for all aspects of learning and performance (McMorris and Hale, 2006). Therefore the findings that have been extracted support the view that previous concepts of the coaching process are now developing and becoming less authoritarian in nature (Humphrey, 2008).

Other coaching implementations that have been adopted by the coaches include 'peer-assisted' learning. Participants expressed the implementation of peer-assisted practices to be encouraged due to the positive implications it has to individual learning. One of the coaches testified, *'They have fostered a habit, to help each other out as much as possible, there is a good social link'.* Another coach indicated: *'They are encouraged to talk to each other about what they are*

doing, through questioning and providing feedback'. The notion that this method of coaching can increase an individual's learning is reinforced by the views of Capstick and Fleming (2002). They advise the focus of peer-assisted learning is not to 'teach' learning and thinking skills to other students, but through their application, subsequent knowledge and understanding of the subject matter may develop, within the co-operative environment. However, the coaches insisted that their role may still play a pivotal part within this learning concept. Ensuring that athletes remain on track from *'occasional prompts from the coach',* highlights the belief that the process may not be entirely an athlete-centred approach. As one coach reflects, *'If they get it wrong, I will intervene and ask them why they think that was the issue, and reinforce the correct answer when it is given'.* Although, through the coaches questioning, the athlete still has the power to influence their understanding by governing an answer, as opposed to being instructed and told the expected response. It is also important to consider the type and content of conversation regarding peer-assisted learning. Although the benefits have become evident, coaches must be mindful of the feedback that is given from other athletes. One coach states: *'Some athletes, who are highly skilled, overload information when providing feedback, which can be detrimental to the performer'.* Coaches may need to facilitate the discussions that become apparent when team mates are working together, to warrant beneficial and appropriate implementations.

Team cohesion and strong group dynamics are fundamental concepts that should be developed, to increase the likelihood of performance and individual progression (Moran, 2004). The view that observational learning can be advantageous to learning through imitating a model of good practice is shared by Williams, Davids and Williams (1999). Coaches expressed their willingness to use senior or more experienced players as tool to influence and impress younger or less experienced members of the squad. Through passing on the responsibility to an athlete when demonstrating a skill or technique, it empowers the individual to illustrate their competence to the peer group, utilising them in the learning process. One coach commented, *'Youngsters copy the seniors, therefore I'm very careful when choosing who demonstrates, not only in practice, but with the videos that are used'.* This resonates with the views of Schempp (2003), who clarifies using a

player to demonstrate an action can have a valuable impact on the rest of the team, who are left determined to imitate the model.

4.3 The 'illusion' of Empowerment

An emerging theme that arose from the responses made by the coaches was in regards to empowering athletes and the affect it may have on their development. Comments made by the participants propose empowerment is not a method directly utilised within their practice, yet the athletes are manipulated to believe they do acquire power to an extent. This inductive phenomenon reveals new found beliefs, contrasting to the extant literature on the topic. This also goes against the analysis of data that has already been presented, suggesting the coaching process is inconsistent and complex. One of the participants stated that it would be wrong to say they have full shared leadership, which would be an illusion. In agreement, another coach reported that *'sensitive, insightful interventions'* are made to ensure the athletes are retained within the coach's preferable medium, and that's a crucial part of what a coach has to do. Current literature reveals the philosophy of empowerment, which aims to make athletes increasingly responsible for their own performances, by giving them a degree of ownership over them (Jones, Armour and Potrac, 2004). However, one of the coaches interviewed exposed the fact that they are driven by results, and funded by performance. Therefore the suggestion that the coach is the only, or plays a major role in the coaching process is presented, to make certainty of the skill development and as a result, performance.

In contrast, another coach explained how an athlete would be empowered within his practice, utilising a problem solving approach whereby the individual would have the freedom to determine the choices that are made, to complete a complex set of skills or routine. This is a common approach within coaching (Roman and Manuel, 2008). However, the learning outcome or end product would be devised by the coach himself, suggesting the athlete would have not been entirely empowered. This supports the view of Cassidy *et al.,* (2009), whereby the emphasis is on inviting input in a way that leads the athletes to buy into the coach's agenda and programme. As opposed to providing the athlete with full

input into the decision making process, the coach has controlled the agenda upon which athlete input was requested. This supports the concept of empowerment being an 'illusion'. Furthermore, another participant exposed his practice, stating that he manipulates the system, so that an illusion is created. Although the players may have believed that they had been involved in the decision making, and consequently bought into the idea, all along in fact, the subject had been shaped from the coach's decisions and ideas. When asked to put the notion into a live example, the coach described how each unit of the team will come up with an agreed objective; however the objective will be shaped from the chosen key themes that have been exposed by the coach during the week. This differs from the perception illustrated by Jones *et al.,* (2002), who claims empowerment should be used as a method of increasing the capacity of individuals or groups to make choices and transform those choices into desired actions or outcomes.

Nonetheless, the amount of negotiations and discussions instigated by the coaches presents empowerment being used in a different light. Empowerment may be implemented in various styles, the entire power and responsibility does not have to be given to the athlete to warrant being empowered. The method of questioning individuals promotes cognitive abilities, whereby the coach uses prompts in effort to gain a correct response from players (Cassidy, *et al., 2009)*. The majority of the coach's responses in relation to their practices were shaped around discussions, negotiating, and questioning, a fact that cannot be undervalued. For example, one participant claimed that the individual and situation governs the types of questions and therefore the amount of feedback that is provided. Also, it was made apparent that it is a fundamental process that can hinder or allow development to occur.

C1: 'Its determined by what I think is going to make a difference for them, what is it that I can say or do which is going to help this athlete move forward either in understanding or performance'.

The coaches insisted that when carrying out a discussion or asking the athlete questions, the conversation would be athlete driven, and only small probes would be demonstrated to fulfil a response or simply to facilitate the performer. According

to Kidman and Hanrahan (2011), successful coaches need to apply an effective questioning technique at training sessions to enhance athlete learning. This suggests that athletes need to be given the opportunity to understand themselves the process that needs to be carried out to ensure development, and questioning may be used as a tool to empower individuals to produce a correct response themselves.

4.4 Scaffolding: The creation of an 'uncomfortable' environment

The participants in the study expressed a strong understanding of scaffolding, and how it can be implemented within coaching sessions to facilitate learning and skill development. One of the coaches stated that scaffolding is everything. A coach being in the room provides scaffolding. It's a form of emotional support. Research proposes that the term 'scaffolding' has become too broad in the field of education and sport. Also, the term has been used as a delegation for any cultural practices associated with advancing performance, knowledge and skills (Davis and Miyake, 2004). The coaches announced that the difficulty of using scaffolding effectively, lies with distinguishing how much to scaffold and when, in regards to tailoring for individual needs.

C2: 'Individuals have different levels of potential, meaning they require different levels of scaffolding and support to achieve goals, so the way in which I scaffold becomes different'.

This may present a level of difficulty for the coach. To scaffold efficiently, the coach must have a strong understanding of each individual, including the knowledge of what makes an athlete 'tick' and also how the dynamics of the group work. Existing literature revealed that scaffolding within an educational setting becomes most effective in promoting problem solving abilities, when it involves just a teacher and one pupil, as opposed to a group (Smith. *et al.,* 2005). This also can be generalised to the sporting culture, reinforcing the previous point made by one of the coaches regarding individuals needing various levels of scaffolding. What may be an important note to take may be the emphasis on individuality, and

the reality that the coach will have to take into account tailoring for different individuals when providing a scaffold of support to achieve a learning outcome.

Through analysing the data, it is proposed that for an individual to develop, and therefore improve in performance, the coach must have to create a learning environment that may be relatively uncomfortable for the performer, in order for them to be challenged and retained outside of their comfort zone. One participant detailed:

C1: 'Doing things better in trampoline, means being in a state of instability. Attempting to get them away from their comfort zone, to a place which is uncomfortable, requires a lot of scaffolding and support from the coach'.

Although the context of the sport may influence largely the coach's perceptions, the undeniable concept of his beliefs can be generalised to other sporting situations. Vygotsky's 'ZPD' notion also reveals that the zone, in which progression is most likely to occur, is, uncomfortable and challenging for the individual. Another participant explains that it is supposed to be uncomfortable, because it is challenging, the group buy into that. The important part is ensuring you are pitching to everyone, to enable all tasks to be challenging. Also, the coach is suggested to make sure athletes are aware themselves of where they are in their learning. Problems occur when the athletes don't think they are being challenged enough. Therefore the level of feedback and awareness you create for them is crucial. However, this may well be an illusion as well.

4.5 Progressing the ZPD: Developing understanding and awareness

It has been proposed that an individual will progress within a 'zone of proximal development' (Vygotsky, 1978). The concept of this proposition involves the distance between the problem solving abilities of an individual when working alone, and the level of potential development when assisted with a more experienced peer or capable other (Jones, 2006). The coaches interviewed expressed their views regarding the ZPD, and illustrated not for the first time within the interview, the significance of having an understanding and the awareness of

the athletes within their sports, and ensuring that they are kept within the zone during practice, due to the beneficial factors. However, what appears to be the difficulty in ensuring all athletes are kept within their respective ZPD's, is for the coach to have the awareness and capability to know all performers ZPD's i.e. where development and progression is suggested to occur. Therefore it becomes essential for the coach to know where an individual is in relation to their learning and the difficulty of the task. This is so practices can be designed in way in which learning and skill development can be facilitated and enhanced. As previously mentioned, practices need to be challenging for the performer. One coach stated, *'You have to make sure they are doing stuff that they wouldn't be able to do without me, otherwise you will be in a situation whereby you are teaching them things they already know, preventing them from getting in the zone'.* Therefore the coach's role is essential in guaranteeing the athlete's practices promote stimulating challenges that require problem solving capabilities. Also, the process becomes dynamic as opposed to static. An individual's ZPD will constantly change as improvements occur, and will have different ZPD's for each skill and technical aspect of performance. Furthermore, the athletes themselves need to have an awareness of their learning and what needs to be developed. A coach interestingly commented, noting:

C3: 'If you can keep them in that area, it will encourage them to continually develop, and they will get a lot more out of the process. If they don't have a good understanding, then the impact will be minimal, they won't learn as much and issues have the potential to arise'.

This finding supports the view of the importance being placed on individual understanding and awareness. When working with high performance athletes, the role of the coach is to assist and guide rather than dominate and control. The coaches appear to be principally concerned with producing athletes who are not only technically proficient but who are also able to analyse situations and solve problems for themselves (Jones *et al.,* 2004). This in effect should be beneficial in aiding and progressing athlete's personal zone of proximal developments. Therefore according to Vygotsky (1978), skill development and learning should occur, resulting in stronger practices and performances.

4.6 Summary

To recapitulate what was extracted from the data and categorised into the five key themes which provided detail and insight meeting the aims and objective of the study, a summary has been presented. The findings presented suggest the central role a coach has when facilitating an individual's development and learning. Furthermore, the athlete also must take control within in their own understanding of developing skills and performances, as opposed to being fed information consistently by a coach. Methods such as scaffolding and empowering athletes have been illustrated by the coaches as a way in which to aid improvement and progression. These results may be considered particularly interesting when you consider the current belief that sport coaching is dominated by authoritative and controlling coaches; a belief that is appeared to be changing.

CHAPTER FIVE

CONCLUSION

5.0 Conclusion

The study looked to explore the process that occurs between a coach and athlete when facilitating learning and skill development, through the lens of Vygotsky's 'ZPD' framework. Although only three coaches were interviewed, the findings may resonate with the practices and philosophies that are illustrated by other team and individual coaches in the sporting environment. The findings demonstrate that the coach plays an essential role within the process; including ensuring individuals are continually challenged, impacting on learning and performance, paired with other responsibilities outside of the sport. Furthermore, the athlete may have a proportional role governing and facilitating their own learning and understanding, which is encouraged by the coaches, and implemented through methods such as empowerment and peer-assisted learning. Utilising 'scaffolding', to advance and progress an individual's ZPD has been revealed as a key notion of the coaching process. Additionally, creating a coaching environment which may deemed as uncomfortable by the athlete may in fact enhance their development, because of the coach's presence influencing the practice. However, as already stated, as a result of only three coaches being interviewed, the findings may not be generalised to a wider population, investigating using a larger sample would have increased the validity of the study.

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APPENDICES

APPENDIX A

INTERVIEW GUIDE

Interview Guide

'Setting the Scene'

Ok, so before we begin, can you tell me about your current coaching environment, including what you do and how you became involved with your role?

- *Influenced by anything?*
- *Coaching philosophies- influence from past experiences?*

Coaching Complexity

Reflect back to a situation whereby you were challenged to help an individual develop and improve, what was the process you went through to successfully help the athlete? E.g. A certain skill, technical aspect of performance, mental issue etc.

- *Did you experience any feelings of discomfort?*
- *Did you still feel within control of the situation?*
- *Did the athlete's behaviour/performance affect their development?*

Talk to me about the relationship you have with your athletes, and the effect it has on their own development? Can you relate it to how quickly and wiling they are to learn and improve?

- *Strong relationship?*
- *Have you set boundaries to retain the 'coach' status? Explain.*
- *Have you coached an individual where the relationship has been 'poor'? Explain.*

It may be argued that coaching is a prescriptive process, in light of your own coaching, how much of an input do you allow your athletes to have? Can you provide an example?

Talk to me about empowering athletes. Can you reflect back to an example when you empowered a group of performers, and the effect it had on the session?

- *What is your understanding of empowerment?*
- *Have you used the notion? If so when and how?*
- *What are your perceptions about empowering athletes?*

Within your coaching, I presume you have athletes with various abilities, some stronger than others. How does that affect your practices? Does your level of input change depending on the individual?

- *Do you allow the athlete's to have any input? I.e. goals, targets?*
- *Is it determined by their level of understanding?*
- *Is it situational or a fixed process?*

As coaches, we give feedback to our athletes, to give them an idea of how they are progressing. Talk to me about how feedback impacts athletes learning and development.

- *Is it situational?*
- *Is it determined by the athlete's current ability?*
- *Any examples that you wish to share?*

When coaching, can you tell me when you would typically provide feedback? Including at what point it is given and also the structure of what is said? Example?

- *Talk to me about the dialect that is used, and the affect it may have on performance?*
- *How much information do you think should be given to the athlete?*
- *Differ between training and competition?*

Does your role as the coach go beyond coaching the individual within the sport?

- *What else is important to ensure they develop?*
- *Talk to me about the relationships you have with your athletes outside of the sport.*

Can you tell me about what you need to know about your athletes when coaching?

- *Is it more straightforward with fewer problems when you have a good understanding?*
- *The effect it has on you as a coach? Less pressure?*

Being aware of the athlete's potential is suggested to be a vital notion of coaching. Can you talk to me about this?

- *Does it affect how much guidance to provide?*
- *What do you do to gain a better understanding of your athletes? In both a coaching and relationship sense.*

The term 'scaffolding' encourages individuals to use guidance from a coach as a support, until a firm understanding is built whereby the problem may be solved alone. Can you tell me about the effect it might have on individual learning and progression. You probably do this already; can you give me an example?

- *Is it an effective approach to coaching?*
- *Has it worked for you?*
- *Should coaches utilise it to facilitate development?*

Learning

The way in which you deliver a message is a significant factor in the learning process. Tell me about how you may convey a message and whether it has a direct effect on the performer's actions?

- *What factors do you take into consideration?*
- *Is it situational?*
- *Does it vary between athletes?*

Athletes may perceive a message that you deliver in a contrasting way in which you hope for. How do you ensure all athletes have an in depth understanding when you address the group with instruction? Can you provide an example?

Peer-assisted learning actively involves working with team mates to achieve a common or shared goal and has been proposed to be beneficial to an individual's learning. Can you talk to me about this, what do you believe to be the benefits?

- *Examples of peers working together? What was the effect?*
- *The role peers and team mates have during sessions?*

What sort of practices can peers illustrate and perform to aid individual learning? Can you provide any examples?

Observational learning is suggested to be an essential method of learning? Tell me whether learning will be increased if peers observe each other when demonstrating a skill or action?

- *How does it aid learning?*
- *If not, why not?*

Does the model have to be in the region of the learner's ability? Do you think learning will be more likely if the observer believes they can achieve the skill?

Reflect upon a situation whereby the athlete was given a role during a training session or in a competition environment. Talk to me about your input and role as a coach?

- *Did you stand back and let all power go?*
- *Did you use probes to direct the learning? Can you discuss any examples?*

Talk to me about the importance of problem solving to aid learning?

- *Have you an understanding of it?*
- *Have and why did you use it?*
- *Discuss examples.*

Zone of Proximal Development

As a coach, it is suggested that you are a ‘more capable other’ and can play an essential role in an individual’s learning and development. What does this mean to you? What does this look like in your practice?

- *What do you understand by the term ‘more capable other’?*
- *Does your role decrease, as the athletes learning increases?*
- *What practices do you illustrate?*

Ok, so linking with what we discussed earlier regarding athletes with various abilities, how does this affect the assistance you provide?

- *Frequency and nature of assistance?*
- *What do you do to get the best out of all your athletes?*
- *Individual goals and targets?*

The zone of proximal development is a concept that involves the distance between the problem solving abilities of an individual when working alone, and the level of potential development when assisted with a more experienced peer or capable other. See the picture.

To ensure your athletes continually enhance and develop, what practices might you perform?

- *What do you understand about ZPD?*
- *Have you come across it before?*
- *Is it realistic?*
- *Examples of athletes who fail alone, yet succeed with assistance?*

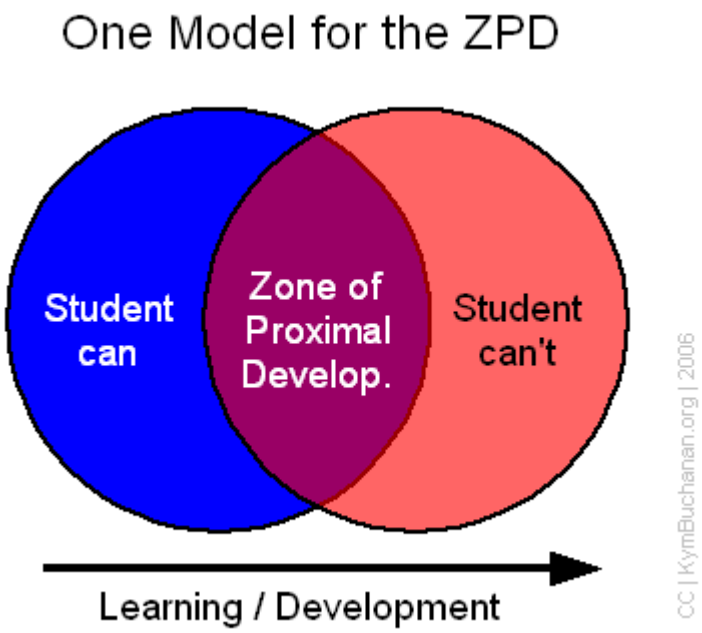
Zone of Proximal Development

What is Known

Skills too difficult for a child to master on his/her own, but that can be done with guidance and encouragement from a knowledgeable person.

What is not Known

And…



APPENDIX B

PARTICIPANT INFORMATION SHEET

Cardiff School of Sport Ethics Committee
Research Participant Information Sheet

Project Title: Strategies, methods and techniques used by coaches to ensure their athletes remain in the zone of proximal development (ZPD), allowing maximal learning and skill development to occur.

This document provides a run through of:

1) The background and aims of the research.
2) My role as the researcher.
3) Your role as a participant.
4) Benefits of taking part.
5) How the data will be collected.
6) How the data and 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

It has been proposed that an individual will progress within a 'zone of proximal development' (Vygotsky, 1978). The concept of this proposition involves the distance between the problem solving abilities of an individual when working alone, and the level of potential development when assisted with a more experienced peer or capable other (Jones, 2006). Maximal learning and skill development will take place when the athletes are within this zone. The project seeks to explore the process that occurs between a coach and athlete when facilitating learning and skill development, through the lens of Vygotsky's 'ZPD' framework. I aim to shed light on the nature of coaching sensitivity in actualising and progressing the ZPD. The research aims to develop an understanding of the styles of interaction that occurs between a more capable other and athlete when facilitating and generating improved learning and performance.

2) My role as the researcher:

The project involves me (David Prichard), the researcher, taking approximately an hour maximum of your time to complete an interview which will be recorded using a dicta-phone, for data reviewing purposes. I will also be noting relevant information down that will also be used for data reviewing purposes.

3) Your role as a participant:

Your role within this project is to answer the questions that are asked in the interview as honestly as you can, giving in-depth and personal responses when possible. The interview will take place at a convenient time and at an agreed location, and will last approximately an hour of your time.

4) Benefits of taking part:

The information gained from the study will allow an in-depth understanding of the various coaching methods and techniques that are adopted by different coaches, to ensure their athletes achieve maximal learning and skill development. Therefore a greater understanding of various strategies and concepts that are used will be gained. The information that is recorded will be available to you, as transcripts will be produced to ensure accuracy.

5) How data will be collected:

As alluded to above, data will be collected solely from the interview that will be conducted, using a Dictaphone for recording purposes, and also I will be making relevant notes throughout.

6) How the data / research will be used:

In agreeing to become a *voluntary* participant, you will be allowing me to use your responses from the interview. Your personal data will be anonymous and will not be reported alone, but within the total sample of participants.

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.

David Prichard

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Cardiff Metropolitan University
CF236XD, United Kingdom
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APPENDIX C
INFORMED CONSENT

CARDIFF METROPLOLITAN
INFORMED CONSENT FORM

CSS Reference No:
Title of Project: Strategies, methods and techniques used by coaches to ensure their athletes remain in the zone of proximal development (ZPD), allowing maximal learning and skill development to occur.
Name of Researcher: David Prichard

Participant to complete this section: Please initial each box.

1. I confirm that I have read and understand the information sheet 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. ☐

_____
Name of Participant

_____ _____
Signature of Participant Date

_____ _____
Name of person taking consent Date

_____
Signature of person taking consent

* When completed, one copy for participant and one copy for researcher's files.