

**Challenges for sustainable talent detection, identification and development in
selected sporting codes in Mamelodi, Tshwane Primary Schools**

by

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DECLARATIONS

I, Mankopane Jacob Manamela, herewith declare that the language of this research report set in UK English has been edited in the APA style, by Jillian Bishop.

I, the undersigned, also hereby declare that this research for the degree or Magister Artium (Human Movement Sciences) at the University of Pretoria, has not previously been submitted by me for the degree at this or any other university, that it is my own work in design and execution, and that all materials from published sources contained herein have been duly acknowledged.

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Date:.....

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SUMMARY

Title: Challenges for sustainable talent detection, identification and development in selected sporting codes in Mamelodi, Tshwane Primary Schools

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The influence of sport serves a vital purpose in changing human lives, from a social, cognitive, political, health and spiritual perspective. In addition, sport contributes to personal development, fun and enjoyment and, achievement and contributes to ethical values (Lee, Whitehead, Ntoumanis, & Hatzigeorgiadis, 2008).

Sport faces numerous challenges in South Africa. It is the purpose of this study to focus on helping learners, coaches and administrators to develop talent from a young age and create awareness of the application of nurturing athletes at an early age. The Department of Sport and Recreation South Africa (SRSA) developed a key policy document (the National Sport and Recreation Plan) (NSRP) that aims to transform sport and aligns with the National Development Plan (NDP) that aims to revive physical education and sport in schools.

The significance of school sport as a vehicle for access and opportunity to an active lifestyle at an early age, particularly in soccer, rugby and netball, is recognised by SRSA.

The use and application of science in enhancing, identifying and channelling sporting talent at an early age is prevalent (Côté, Lidor, Hackfort, Vaeyens, Güllich, Warr & Philippaerts, 2009). Children learn a broad range of fundamental, emotional and physical skills that could contribute to their later specialisation in a given sport.

Due to the lack of appropriate soccer, netball and rugby coaching knowledge and the seemingly un-co-ordinated and ad hoc approach to talent detection, identification and development in these sports in Mamelodi Primary Schools in Tshwane, it becomes difficult to institutionalise these sporting codes optimally at school level.

The researcher argues that identifying these challenges it might contribute to facilitating the desired enabling environment for sustainable talent detection, identification and development in primary schools in Mamelodi, Tshwane.

Therefore, the research question proposed for this study is the following:

“Why is soccer, netball and rugby talent not sustainably detected, identified and developed at an early age among primary school learners in Mamelodi?”

The overall aim of this study is to identify and describe challenges for sustainable talent detection, identification and development in soccer, netball and rugby in Mamelodi Tshwane Primary Schools.

In order to achieve the research aim, the following specific objectives are set for the selected sporting codes (soccer, netball and rugby):

- Establish key success factors for sustainable talent detection, identification and development in selected sporting codes.
- Perform a situation analysis of talent detection, identification and development systems in selected sporting codes in Mamelodi Primary Schools.
- Identify challenges that prevent sustainable talent detection, identification and development in Mamelodi Primary Schools.

- Propose a sustainable strategy to guide talent detection, identification and development in selected sporting codes in Mamelodi Primary Schools to contribute to the achievement of the strategic objectives of the NSRP.

The research follows a qualitative design method that gathers insight into coaches' perceptions of challenges that prevent sustainable soccer, netball and rugby talent detection, identification and development in the focus area of Mamelodi Primary Schools. Furthermore, the researcher used a structured interview to uncover challenges in detection, identification and development in the selected codes. The research population for this study is soccer, netball and rugby coaches. A total of nine (n=9) coaches was sampled.

The Humanities Research Ethics Committee (ResEthics) of the University of Pretoria approved the research prior to the commencement of data collection.

The results confirmed that there was no significant relationship between the participation of coaches in sport and the influence they had in coaching learners at school. A minority of the coaches confirmed they had minimal participation in their sporting code, which places a greater influence in the detection, identification and development and nurturing of talented rugby, soccer and netball players.

The coaches' experience and qualifications have a significant relationship to athlete development. In this study only a majority of soccer and netball coaches have the required coaching experience whereas the rugby coaches have minimum coaching experience.

The findings emphasise the importance of and the need for proper systems such as training and development of coaches in areas such as coaching, tactics and techniques, as they do not have sufficient experience and the formal qualifications required to coach the athletes.

The study concludes that coaches lack the knowledge and the ability to apply motor-related fitness skills, the required protocols to measure them and in addition the implications for athlete development. The majority of the coaches indicated an ability to understand and identify the technical skills used in their respective codes.

The study recommends encouraging schools to regularly support and capacitate school teachers and community volunteers so they can keep abreast of learning trends. Physical education should be revived in previously disadvantaged schools in order for physical educators to teach motor skills, learning, development and fundamental skills.

The coaches provided a unique insight into how coaches conceptualise talent to identify potential in rugby, soccer and netball players in South African schools.

Keywords: talent detection, identification and development, sporting codes, rugby, soccer, netball

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GLOSSARY OF ABBREVIATIONS

CATHSSETA	Culture, Arts, Tourism, Hospitality, Sport, Sector Education and Training Authority
DBE	Department of Basic Education
FIFA	Federation of Internationale Football Association
LTPD	Long-Term Participant Development
NSF	National Sports Federation
NSA	Netball South Africa
NSRP	National Sport and Recreation Plan
SAFA	South African Football Association
SARU	South African Rugby Union
SRSA	Sport and Recreation South Africa
SASSO	South African School Sport Organisation
TIPS	Technical Skills, Intelligence, Personality and Speed

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CHAPTER ONE

ORIENTATION, PROBLEM STATEMENT, AIM AND OBJECTIVES AND RESEARCH METHODOLOGY OF THE STUDY

1.1 ORIENTATION

Sport has power and fulfils an essential role in global society. It contributes to the social, physical, psychosocial and behavioural attributes of both participants and non-participants. Sports participation should be available to everybody to maximise their total abilities through physical activity.

The question can be put: “What is the essence and nature of sport?” Sport is defined by the White Paper on Sport and Recreation for the Republic of South Africa (2012) as any activity that requires a significant level of physical activity involvement and in which participants engage in either a structured or unstructured environment, for the purpose of declaring a winner, though not solely so; or purely for relaxation, personal satisfaction, physical health, emotional and development. Right to Play (<http://www.righttoplay.com>) defines sport as all forms of physical activity that contribute to physical fitness, mental wellbeing and social interaction, such as play, recreation, organised or competitive sport and indigenous sports and games. According to the Council for European Sports Charter (2001), sport can be defined as all forms of physical activity which, through casual or organised participation, aim at expressing or improving physical fitness and mental wellbeing, forming relationships or obtaining results in competitions at all levels.

From the above-mentioned definitions, the researcher defines sport as an activity that can be physical, competitive and recreational that contributes to fun and enjoyment, development and achievement. Furthermore, it can be formal and informal. In formal participation there is a set of rules and regulations while in informal participation, participants formulate their own rules and play for fun and enjoyment (Sport and Recreation South Africa, 2012).

The National Department of Sport and Recreation South Africa (SRSA) together with the Department of Basic Education (DBE) developed the National Sport and Recreation Plan (NSRP) (Sport and Recreation South Africa, 2012) and sport policy respectively. These documents outline the strategic objectives of reviving physical education and sport in schools in designated areas. Through the NSRP (Sport and Recreation South Africa, 2012), the focus is on developing talent in various sporting codes and giving learners an opportunity to play and expose their talents in these codes. In introducing school sport leagues, SRSA has identified 16 priority national sporting codes for school sport, namely netball, football, rugby, athletics, cricket, hockey, swimming, volleyball, softball, handball, goal ball, gymnastics, tennis, chess, basketball and indigenous games.

The significance of school sport as a vehicle to provide access to an active lifestyle at an early age (particularly in soccer, rugby and netball) is recognised by SRSA and DBE. SRSA aims to provide sustainable talent identification programmes and the development of all learners to participate in school sport programmes; assist educators, coaches and community volunteers to deliver quality school sport programmes; assist schools to offer sport programmes; and provide the infrastructure for school sport programmes for identified talented learners (National Sport and Recreation Plan, 2012). A school sport league system includes learners at primary and high school level. In this study the primary school is the focus area. The primary school league culminates at provincial level; the athlete's progression through the league system takes the form of an intra-school league where learners from the same school play each other, and an inter-school league which involves schools in the same area playing against each other at regional, provincial and national level (NSRP, 2012).

Scientific evidence on identifying and channelling sport talent at an early age is prevalent (Côté, Lidor & Hackfort, 2009; Vaeyens, Güllich, Warr & Philippaerts (2009). At an early age children learn a broad range of fundamental emotional and physical skills that could contribute to their later specialisation in a given sport (Côté et al., 2009). The objective of learning basic movement skills in a sport is to ensure that children are exposed to different sports at an early age (Balyi, 2001); mastering basic movement skills through fun and enjoyment could provide a basis for early talent detection and identification and a platform for subsequent talent development in sport.

The South African government recognised the challenges of lack of physical education, talent identification and development at school level in their Strategic Plan for Sport (2012–2016) and the NSRP (2012). The NSRP focuses on three core pillars: the notions of an active nation, a winning nation and an enabling environment. The NSRP (2012) emphasises the use of sport in all its manifestations as a tool to develop all South Africans and to establish a continental and international presence in sport. In order to achieve this South African sport sector developed a vision for 2030 (SRSA, 2012). Expected outcomes for the South Africans sport system by 2030 include:

- 50% of South Africans participating in sport.
- 80% of South Africa's priority National Sport Federations (NSF's) in the top three positions in world rankings.
- Creating sustainable talent identification, nurturing and development.
- Maximising access to sport, recreation and physical education in every South African school.

In this study the focus is on the nature of the sporting codes of soccer, netball and rugby.

Soccer is arguably the most popular sport in South Africa, with a large number of followers (BMI, 2007). It has grown tremendously over the years with more corporate companies contributing immensely by means of sponsorships and through successive hosting of international events, i.e. the FIFA 2010 World Cup, the 2009 Confederations Cup and the 1996 and 2013 Africa Cup of Nations, which contributed substantially to the economy of South Africa (FIFA, 2010). The performance of the national soccer team has, however, been disappointing internationally and continentally, as South Africa is ranked 77th and 22nd respectively (FIFA, 2012). The low ranking of South Africa's national soccer team (Bafana Bafana) could be attributed to a number of challenges to the South African soccer system. These challenges include politics in soccer, changes in the rules of the game, removal of physical education in the education system, discontinuation of soccer school leagues in public schools, and lack of capacity building and facilities in schools and community level (FIFA, 2012).

Netball is an action-packed team sport, mainly played by women and enjoyed by players of all ages and abilities, from junior players to highly skilled elite athletes (Davis & Davis, 2006). It is

an intermittent game that requires explosive movements such as short, fast sprints, quick stops and many changes of direction (Ryan, 2009). In South Africa netball is the number-one women's sport, with the objective of nurturing women from grass roots to elite level. Netball is ranked amongst the top five sporting codes in the country and number six internationally. Its success is due to a combination of talent from different races and various development programmes and schools (www.netball-sa.co.za).

South Africa has a rich historical **rugby** tradition. Prior to 1994 rugby was plagued by the challenge of interest in participation coming from only a few racial groups. Hosting and winning the 1995 Rugby World Cup created opportunities for all members of society. Furthermore, the introduction of schools competitions by the South African Rugby Football Union (SARFU) (South Africa Rugby Football Union, 2001) in designated areas, creating opportunities for technical officials and coaches in the sport through capacity building and network development programmes, has created tremendous exposure for athletes. The introduction of development programmes such as leagues and competitions, and tournaments such as Craven week, premier schools and varsity competitions have been a driving force for talent detection, identification and development in schools. The high world ranking of rugby is attributed to a number of factors including introducing rugby at a young age, and creating opportunities for coaches and technical officials from grass-roots level (SARFU) (South Africa Rugby Football Union, 2001) .

Although these expected outcomes as formulated by SRSA are generic, they are applicable to all South African sport codes and levels of participation. **When these expected outcomes are extrapolated to sporting codes in South Africa, the status of detection, identification and development in netball, soccer and rugby is as follows:**

Soccer is undoubtedly the most popular sport in South Africa in terms of participation (Allegi, 2004). This tendency is also reflected at school level. It can therefore be argued that soccer at school level can provide excellent opportunities to realise the vision of an active and winning nation and the strategic objectives of the national government (NSRP, 2012). It is, however, common knowledge that school sport and soccer coaching in township communities lack scientific talent detection, identification and developmental systems and procedures. From the researcher's involvement in and experience of soccer coaching in primary schools in Mamelodi,

community volunteers and unqualified, unwilling school teachers identify talented players and facilitate coaching sessions. In reality schoolteachers, including those in Mamelodi, are not appropriately trained to detect, identify and develop soccer talent. This obviously impacts on the quality of access to school sport. A national analysis by SRSA (2012) focusing on the status of school sport in dimensions such as coaching and training of teachers indicated that teachers need more training in the respective sporting codes as well as in officiating, which has an impact on talent identification and development particularly in soccer. In soccer the national federation – the South African Soccer Association (SAFA) – in partnership with the Culture, Arts, Tourism, Hospitality, Sport, Sector Education and Training Authority (CATHSSETA) facilitates coaching workshops for educators and officials involved in soccer coaching despite a lack of funding. Vaeyens, Güllich, Warr and Philippaerts (2009) indicate that soccer requires early specialisation, as children start playing from the ages of five to six. At this stage, basic soccer skills include technical skills, intelligence, personality and speed (TIPS) (Brown, 2001). Soccer coaches should introduce players to technical and motor development skills such as passing, kicking and dribbling. Intelligence factors include the ability to create space and analyse the game, while developing personality in soccer includes requires having a positive attitude to the game, teammates, officials and opponents. All of these basic skills should be introduced at an early age. From the above it is clear that in order to achieve the strategic objectives of the NSRP in terms of talent detection, identification and development, a number of benchmarks must be met in soccer at primary school levels. These benchmarks include a scientific system of talent detection, identifying and developing qualified coaches and enabling sport support environments such as age-appropriate leagues and facilities.

Historically **netball** has been a neglected sporting code in South Africa due to political, social and cultural influence as it is women-focused. There are other things that hamper the development and nature of the sporting code, such as transformation with regards to redress of inequalities in access for South African citizens who want to play the sport (www.netball-sa.co.za).

Netball has done well in terms of raising the national flag and the success of the national team may be attributed to several factors: sound youth development programmes such as the Spar

Netball programme (both financial and non-financial support) and Long-Term Participant Development (LTPD) laid down by Netball South Africa (NSA) (NSA, 2011). Today NSA has national teams starting from Under 17, 19 and 21 programmes. The status of talent detection, identification and development in Primary Schools in Mamelodi is lacking as the technical knowledge of the sport is facilitated by teachers who are not accredited in the areas such as selection, management, identification and development of learners. Netball South Africa (NSA, 2011) has crafted a LTPD Model that aims to detect, identify and develop netball players.

Through the LTPD, Netball South Africa (NSA, 2011) identified key challenges that impair the development of the sport in the country, such as coaches not applying science to detect, identify and develop players at schools and lack of knowledge of coaching education concepts that focus on the technical and tactical ability of players.

The third focus on a sporting code is that of **rugby**. The hosting and winning of the Rugby World Cup in 1995 and 2007 broke down barriers such as racial tensions amongst groups in the country. Historically rugby was seen as a dominant white sport in South Africa due to its tradition and culture (SARFU, 2001). The South African Football Rugby Union (SARFU) (2001) has been heavily criticised on issues of transformation, redress and equity in the selection and provision of opportunities to other races. A challenge still exists for rugby administration to unlock opportunities in the school system. Private schools are evidently better off than public schools in areas such as access to the sport, facilities, resources, opportunities and the influence and involvement of parents and teachers supporting the structures and developmental areas of their children (SARFU, 2001). The current status of rugby in Tshwane is gradually influencing learners to participate in the sport. Through the Blue Bulls Rugby Union, and the establishment and formulation of development programmes, clubs and leagues have been created for learners to participate in rugby at schools and clubs in areas around Mamelodi, Soshanguve, Hammanskraal and Atteridgeville. This approach aims to educate and capacitate coaches, volunteers and teachers in implementing, training, detecting, identifying and developing rugby players.

1.2 PROBLEM STATEMENT

Due to the lack of appropriate soccer, netball and rugby coaching knowledge and the seemingly un-co-ordinated and ad hoc approach to talent detection, identification and development in these codes in Mamelodi Primary Schools in Tshwane, institutionalising these sporting codes optimally at school level presents a number of significant challenges. The researcher argues that identifying these challenges may contribute to facilitating the desired enabling environment for sustainable talent detection, identification and development in Primary Schools in Mamelodi, Tshwane.

Therefore, the research question proposed for this study is:

“Why is soccer, netball and rugby talent not sustainably detected, identified and developed at an early age among Primary School learners in Mamelodi?”

1.3 AIM AND OBJECTIVES OF THE STUDY

1.3.1 Aim

The overall aim of this study is to identify and describe challenges to sustainable talent detection, identification and development in soccer, netball and rugby in Mamelodi Primary Schools.

1.3.2 Objectives

In order to achieve the research aim, the following specific objectives are set for the selected sporting codes (soccer, netball and rugby):

- Establish key success factors for sustainable talent detection, identification and development in the selected sporting codes.
- Perform a situation analysis of talent detection, identification and development systems in the selected sporting codes in Mamelodi Primary Schools.
- Identify challenges that prevent sustainable talent detection, identification and development in Mamelodi Tshwane Primary Schools.
- Propose a sustainable strategy to guide talent detection, identification and development in the selected sporting codes in Mamelodi Primary Schools to contribute to the achievement of the strategic objectives of the NSRP.

1.4. CLARIFICATION OF TERMINOLOGY

This section contains brief definitions of concepts and terms that are used interchangeably in this investigation in the focus areas of sport development and motor behaviour and the manifestation thereof in specific sporting codes.

1.4.1 Talent

Talent can be defined as a natural ability or success that can be displayed from early childhood to adulthood. Talent is a marked innate ability defined as artistic accomplishment, natural endowment or ability of a superior type (Brown, 2001). Talent is generally considered an exceptional natural ability to attain goals (Moon, 2003); therefore, logically, athletic talent ought to be the exceptional natural ability of an individual to perform a sports-related task or activity. Furthermore, talent is an individual's special aptitude that is above average for specific functions.

From the above definitions, the researcher interprets talent as a natural ability that can be demonstrated in physical and non-physical activities such as music, art or sport.

1.4.2 Talent detection

Talent detection is the discovery of potential participants amongst those who are not currently involved in the sport. A long prediction is also made that the participants have the necessary attributes to achieve excellence in a particular sporting code (Williams & Reilly, 2000).

The researcher defines talent detection as an environment created for athletes in the form of fun and enjoyment without any pressure externally. In this setup athletes are able to play as many sports as they can in order to learn various motor skills such as throwing, catching and hopping.

1.4.3 Talent identification

Regnier, Salmela and Russell (1993) define talent identification as the process of recognising current participants with the potential to become elite athletes. Furthermore, it entails predicting performance over periods of time by measuring physical, physiological, psychological and social attributes as well as technical abilities, either or in combination.

Talent identification is a process that involves making a judgment about performers' qualities and offering that individual an opportunity to do something for which he or she is suited, talented athletes must be identified on their ability to be the best athletes in the future not their current abilities (Davids, Lees, & Burtwitz, 2000).

Talent identification is complex to define; however the researcher's definition of talent identification involves the process of giving athlete's opportunities to participate and nurturing athletes' performance and abilities.

1.4.4 Talent development

Talent development implies that participants are provided with a suitable learning environment that includes facilities, equipment and coaching support in order to realise their own potential (Durand-Bush & Salmela, 2001).

The concept of talent development is defined by the researcher as offering and improving athlete's technical, tactical, psychological and social attributes in their respective codes.

1.4.5 Talent selection

Talent selection is an ongoing process of identifying individuals who demonstrate prerequisite levels of performance in a given squad or team (Williams & Reilly, 2000). The researcher defines talent selection as the process of coaches selecting athletes who demonstrate the skills and satisfy the coaches' criteria and methodology in their respective codes. An example is displaying passing accuracy in soccer, catching in netball and sprinting in rugby.

1.4.6 Talent retention

Talent retention is screening young players in sport using experienced coaches to apply sport tests (physical and skill tests) to identify those most likely to succeed in that sport (Williams & Reilly, 2000). Talent retention involves retaining athletes in the sporting programme, for example placing athletes with potential in an academy programme or a structured environment.

1.4.7 Motor behaviour

Motor behaviour can be defined as an umbrella term of motor development and a process of acquiring a capability for producing skilled actions. It occurs as a direct result of practice, is not due to maturation or physiological changes and cannot be observed directly (Haibach, Reid & Douglas, (2011).

1.4.8 Motor development

Haywood and Getchell (2005) define motor development as a continuous process of change in functional capacity. It is age-related, has interacting constraints in the individual and the environment and requires tasks that drive these changes.

1.5 RESEARCH METHODOLOGY SUMMARY

Only a summary of the methodological framework is presented at this stage. The purpose of this study is to identify and describe challenges in the sustainable talent detection, identification and development in soccer, netball and rugby in Mamelodi Primary Schools. Ethical approval was granted by the authors' institutional ethics committee before coaches were approached. The procedures and purpose of the research were communicated to the coaches. The confidentiality of results was emphasised and the participants were made aware that they were under no obligation to participate. After informed consent forms were obtained, assessment took place at a prearranged time convenient to the coach.

The study can be classified as a qualitative design. Six male and three female coaches, three coaches per sporting code (n=9), were purposively selected from Mamelodi Primary Schools in Tshwane. The researcher designed and administered a structured interview format to uncover

challenges in detection, identification and development in the selected codes in Mamelodi Primary Schools. Initially the researcher identified soccer as the only sporting code, but following recommendations from the CATHSSETA PDP Bursary Committee two additional sporting codes that focus on age groups from primary level (6–14 years) were added to make the study more comprehensive.

The researcher chose to interview a smaller group as it was manageable. A detailed discussion of the research methodology applied in this study is presented in Chapter 4.

The three themes identified under the study are:

- Theme 1: Background information on respondents

Subthemes are qualifications of respondents, coaching experience and segments (the experience acquired coaching the code).

- Theme 2: Talented-related concepts

Subthemes are respondents' understanding of concepts such as detection, identification and motor skills such as running and jumping.

- Theme 3: Practical manifestation in structured lessons

Subthemes are the manifestation of development concepts in a practical coaching environment including decision making, feedback applied in all respective codes and the athletes' cognitive ability.

Chapter 2 of the study addresses the three themes as challenges.

1.6 LIMITATIONS OF THE STUDY

It must be noted that there are limitations inherent within the current study that must be considered alongside the results that emerged.

- A relatively small number of coaches were interviewed (n=9). They described and outlined each of the factors in slightly different ways and to differing extents.

- The views expressed were their individual perceptions of the talent detection, identification and development process in rugby, soccer and netball.
- However, even though the factors outlined were “perceived” by the coaches to be important, the very fact that each member of the sample was actively employed in talent detection, identification and development in rugby, soccer and netball raises questions about their suitability if the factors identified were not important in practice.
- The length of the interview schedule would have affected the coaches’ concentration, and fewer questions may have provided more accurate answers.

1.7 OUTLINE OF THE STUDY

Chapter 1 (pp. 1-12) comprises introduction and contextualisation to the study. This chapter, explains the underlying problems, gives the aims and objectives of the study, clarifies terminology, summary of the research methodology used and limitations of the study. Talent detection, identification and development as a theoretical framework of reference in soccer, rugby and netball are discussed in Chapter 2 (pp.13-41). Chapter 3 (pp. 42-84) aligns literature on motor behaviour in sport. Chapter 4 (pp. 85-92) presents a detailed framework of the research methodology used in this investigation. It explains the research design used and the process which data is measured. Chapter 5 (pp. 93-302) will present the analysis and discussions of the results. Chapter 6 (pp. 303-308) focuses on the recommendations and conclusions about the dissertation and furthermore set recommendations for future research.

1.8 CONCLUSION

Chapter 1 of the study provided a contextual perspective on the study by presenting an orientation to the title, identification and formulation of a research problem and aims and objectives. Related terminology, a research methodology, and a summary with anticipated limitations were identified. Chapter 2 provides a theoretical framework on talent detection, identification and development in soccer, rugby and netball.

TALENT, TALENT DETECTION, IDENTIFICATION AND DEVELOPMENT IN SPORT – A THEORETICAL FRAME OF REFERENCE

2.1 INTRODUCTION

The field under investigation is situated within sport and it is therefore important to introduce the reader to the essence and nature of sport. The specific focus is the manifestation of talent detection, identification and development of athletes in sporting codes. A theoretical framework is therefore provided as basis for the practical interpretation of the coaches' knowledge and experience of talent-related concepts. This is in essence a challenge to their ability and is indicated as such in this study.

2.2 THE NATURE OF SPORT

Sport can be defined as an activity that involves exerting one's body, and is competitive (Council for European Sport Charter, 2001). This very broad definition includes very informal sports and formal sports (Nixon & Frey, 1996). The development of sport is imperative in childhood development as sport builds skill enhancement, communication, leadership and relationships with friends (Cote, 2014) through unstructured play. Another motive given by young people for participation in sport and physical activity is fun and enjoyment (Crocker, Hoar, McDonough, Kowalski & Niefer, 2004). Focusing on the provision of fun and enjoyment is vital to enhance the attitudes of young people to physical education and ultimately increase participation in physical activity (Garn & Cothram, 2005; Crocker *et al.*, 2004).

From the above definitions the researcher defines sport as all forms of physical activity that through casual or organised participation aim at expressing or improving physical fitness and mental wellbeing, forming social relationships or obtaining results in competitions at all levels.

2.3 DEFINING CONCEPTS RELATED TO SPORT DEVELOPMENT

The concept of sport development is founded in a theoretical frame of reference that defines, explains and applies the essence and nature thereof in sport. The concepts that form the manifestation of sport development, and the focus of this study, are talent, talent detection, identification and development itself.

The title of the research reflects on challenges that the coaches face in the process of developing sporting codes. The first challenge for the coach and a prerequisite for sport development is a well-founded theoretical frame of reference (knowledge base) of development concepts. The interviews with the coaches in this research include an assessment of the coaches' knowledge and experience of sport development (Theme 1).

The nature of sport development is discussed as basis for the understanding and manifestation thereof in the three sporting codes under investigation.

2.3.1 TALENT

Brown (2001) defines talent as a special natural ability, a capacity for achievement or success. Howe, Davidson and Sloboda (1998), as cited in (Helsen et al.,2000), propose that talent in any other sporting code is partly innate – as its origins are in genetically transmitted structures, the full effects of talent may not be evident at an early age. McPherson (1997) defines talent as an outstanding performance in a specific activity that can be developed through learning and interactions with environmental influences, or even modified by the personality and motivation of the learner.

From the above definitions, the researcher interprets talent as a natural ability that can be demonstrated in physical and non-physical activities such as music, art or sport.

2.3.2 TALENT DETECTION

Sport programmes are often elaborate and comprehensive protocols and test batteries that can be used to detect a talented junior player. Detection as described by Brown (2001) involves the discovery and mass screening of potential performers through conducting coaching clinics, programmes and trials with a number of participants having an interest in the sport. In detection

stages athletes are given more opportunities to participate in as many sports as possible, which will ensure that they gain various motor skills that will be beneficial later when they select their sporting code. Côté (2014) encourages coaches to conduct deliberate play; those that are not screened or selected in the programmes should also be monitored and encouraged to participate in sports that ultimately lead to enhancement and refinement of their skills. The concept of detection aims to discourage coaches and practitioners from selecting at an early age and to increase mass participation.

In soccer, rugby and netball the emphasis is placed on displaying specific sport-related skills and attaining the target measures in the various test protocols. In its current application in soccer, netball and rugby, talent detection is the extent to which a player possesses particular physical, physiological and mental abilities. Hoare and Warr (2000) propose that in team sports (such as soccer, netball and rugby) there are anthropometric, physiological, psychological, perceptual and technical contributions to performance. These multiple factors should be considered in any discussion of talent detection in soccer, netball and rugby, in addition to the “game sense” or awareness that is required for excellence as a player (Hoare and Warr, 2000).

The researcher defines talent detection means offering opportunities for children and matching their qualities to a particular sport and to those sports to which they are most suited. During detection, children are not fully committed to the sport as they only participate for fun.

2.3.3 TALENT IDENTIFICATION

Talent identification can be defined as the long-term prediction of the potential of an individual (Du Randt, Headley, Loots, Potgieter, De Ridder & Van der Walt, 1993). In addition talent identification provides the identified or selected athlete with an adequate infrastructure of appropriate coaching, training, competition and facilities. This is a must if the athletes in question are ever to reach their potential. Many talent programmes have focused primarily on the early identification of talent while the process of nurturing and development has been neglected (Martindale, Collins & Abraham, 2007). Williams and Reilly (2000) argue that talent identification programmes have significant roles and have become increasingly important in sport, due to the increase in the number of professional sporting codes and the resultant greater

competition for talented junior players. The internationalisation of sport has also meant that higher performance standards are required in both domestic and international competition (Hoare & Warr, 2000). As stated previously in the terminology, talent identification involves “screening children and adolescents using selected tests of physical, physiological and skill attributes in order to identify those with potential for success in a designated sport” (Hoare, 2000:2).

Du Randt *et al.* (1993) outline the systematic processes of talent identification that involves three stages of detection, identification and development. The first stage includes exposure to a balanced physical and motor development programme to identify talented athletes, which usually takes place at the ages of 8–10 in the form of mass screening, observations and field tests and evaluation of general movement and physical ability. The second stage takes place 18–24 months later, usually at the age of 11–12 years, by making use of observation, field tests of performance and the rate of improvement. When conducting these tests the child’s biological age is taken into account and the progress of the child is monitored against a benchmark. The selected athletes’ fundamental skills and general motor and physical development are enhanced and the athlete is offered experience in a variety of sports. The third stage takes place around the age of 14 years. The talent identification systematic process described by Du Randt *et al.*(1993) reflects an approach in an ideal schools environment that provides opportunities for children to develop optimally in respect of their physical–motor, psycho-social and cognitive abilities.

The detection and identification of the respective codes under study (soccer, netball and rugby) requires complex criteria used to identify potential for excellence.

The generic criteria used in talent identification programmes in **soccer** include accurate passing, tackling, running and controlling the ball, defending the ball and the ability to read the game. Other scientific tests are used such as flexibility, strength, explosive power, agility, jumping, height and weight (Williams & Reilly, 2000). In addition both observation and field tests results are analysed using the application of science.

In **netball** there are various techniques and tactics used to identify and detect potential athletes. During the fundamental stage (6–11 years of age) physiological attributes such as running, power, speed, endurance, body coordination, movement skills, body awareness and basic decision making are basic technical skills. From the age of 11–14 years good footwork and

change of direction, ball skills such as acceleration and deceleration, balance and control without the ball, good basic handling skills, accuracy of passing, catching ability, attacking skills including ability to make appropriate decisions, and effective use of space, timing and vision. In defence, the coaches and selectors look for defending situations such as good one-on-one defending and defence of passes, footwork to demonstrate efficient running technique, ability to sprint and change direction and side-steps (www.netballsa.co.za).

In **rugby** identifying talent uses a mixed approach of observation and scientific criteria. Players are observed during competitions such as Craven Week and scouts use a grading tool and worksheet of the rugby attributes including catching, running, strength, condition, speed and video analysis of movement skills including change of direction in motion. The final stages include physiological testing under an intensive programme that measures and analyses the performance of athletes such as flexibility tests, jumping, power, speed, height, weight and psychological performance such as anxiety, concentration and coping strategies. In a nutshell the above-mentioned sporting codes use slightly similar criteria for talent identification (SARFU, 2001).

Talent identification is a complex process that involves identifying athletes with the potential to achieve and become elite players. Athletes are identified through numerous criteria such the technical and technical skills of the sporting codes (e.g. physical dimensions such as height for a goalkeeper in soccer and defender in netball). Other scientific tests such as sit and reach to determine the flexibility of the hamstrings use machines.

2.3.4 TALENT DEVELOPMENT

The final stages involves talent development, which emphasises acquiring the basic motor and psychological skills rather than innate capacities, and focuses on the quantity and quality of training needed to reach top level performance that is complex, multi-factorial and dynamic in nature (Simonton, 2001; Ollis, MacPherson & Collins, 2006).

Talent development literature has continued to attempt to encapsulate the development of talent via linear pathways comprising developmental stages and phases (Bailey & Thomas, 2010).

Talent development involves athletes who are identified and invited to a higher competitive level such as a professional sporting club or sporting institute for further development.

In terms of talent development, Green and Oakley (2001) found the following factors that affect talent development to be common among the sport development systems that were analysed:

- The provision of sports services such as athlete support programmes creates an excellence culture in which all members of the team (athletes, coaches, managers and scientists) can interact with one another in formal and informal ways.
- The presentation of well-structured competitive programmes with ongoing international exposure.
- The presence of well-developed and specific facilities with priority access for elite athletes.
- The formulation of comprehensive planning for each sports need.
- Recognition of the fact that excellence requires significant financial resources, with appropriate funding for infrastructure and people.
- An athletic lifestyle support system and preparation for life after sport.

2.3.5 TALENT SELECTION

Finally, talent selection involves the ongoing process of identifying players at various stages who demonstrate pre-requisite levels of performance for inclusion in a given squad or team. Selection involves choosing the most appropriate individual or group of individuals to carry out the task within a specific context (Borms, 1994).

It is particularly pertinent in soccer, rugby and netball, since players can be selected to play at any time. Talent selection is not the focus of the research.

2.3.6 TALENT RETENTION

Talent retention is screening young players in sport using experienced coaches and physical and skills tests in order to identify those most likely to succeed in that sport (Williams & Reilly, 2000). Athletes with potential are retained in their choice of sport and developed further and offered continuous sociological, physiological, tactical and technical assessments (Williams & Reilly, 2000). However the concept of talent retention is not the focus of the research.

In this section various talent development concepts used interchangeably in the study are discussed and defined.

2.4 THE 10-YEAR RULE

When discussing talent development in sport, it is important to determine the time and effort a player has to dedicate to attain an elite level of performance. One of the first research studies on the effects of practice and training on talent development and learning was conducted by Simon and Chase (as cited in Baker & Horton, 2004). These two authors propose that performance differences between individuals can be explained by the “quantity and quality of training” (Baker, 2003). They advocate an early specialisation approach to sport talent development. The 10-year rule proposes that a 10-year commitment to high levels of quality training is the minimum requirement to attain an elite level of expertise (Baker & Horton, 2004). Bailey and Morley (2006) state that the 10-year rule and the need for 10 000 hours of training are applicable to a wide range of activities including science, sport and music. The role of practice in high-level performance has been well documented. Williams and Hodges (2005) conducted a study among 16-year-old soccer players at English Premier League Academies and discovered that the players who were offered full-time employment contracts had been involved in competitive sport for more than 10 years. The selected players spent “an average of around 15 hours per week”, 700 hours per year and a total of 7 000 hours in specific practice activities designed to enhance performance. This implies that players who have been selected to make a first appearance in the English Premier League have accumulated at least 10 years – or 10 000 hours – of training. Helsen *et al.* (2000) had similar findings in soccer. Bailey and Morley (2006) and Baker and

Horton(2004) conclude that 10 years of dedicated practice are necessary before selection in soccer.

The 10-year rule forms the evidence to support early specialisation in sport. In its application to soccer, the 10-year rule suggests that the development of talent and elite performance is dependent on the player's genetic factors, the correct environmental factors such as coaching and access to training, and the player's commitment and motivation to practise (Williams & Hodges, 2005). This adds further support to a wide range of factors being considered in talent identification and development programmes. The 10-year rule questions the validity of identifying only physical or physiological predictors of elite performance. It recommends that the "dedication and commitment to spend hours and hours practising and refining skills" are also determinants in elite performance (Williams & Reilly, 2000). It is evident that the 10-year rule further compounds the complex interaction of physical, physiological and psychological factors that are involved in talent development.

From an early specialisation perspective, the 10-year rule implies that talented junior soccer players should limit their sport participation to soccer only for at least 10 years before the attainment of elite performance can be expected. The amount of practice required suggests that there is limited or no time available for competitive participation in other sports (Williams & Reilly, 2000). However, Baker (2003) suggests that non-participation in other sports is one of the negative features of the 10-year rule and early specialisation. This is a significant concern in soccer talent development, especially when it is considered that studies have shown a negative correlation between the hours of sport-specific training required to reach international expertise and the number of prior sporting activities experienced (Football Federation Australia, 2006).

This suggests the need for sport diversification. Brown (2001) stresses that participation in other sports assists in overall sports-skill development at a young age and that pressure situations are also transferable to other sports. Moreover, the practice data for soccer indicates that important career decisions are made 10 years into a player's career. Consequently, competitive involvement in other sports such as soccer and rugby may be considered up to this stage (Helsen *et al.*, 2000).

Despite the difficulties in predicting long-term success in young players, talent identification and development programmes are currently growing rapidly in professional soccer clubs and national associations (Reilly *et al.*, 2000).

2.5 MODELS OF SPORT DEVELOPMENT

Talent development models are part of the scientific evidence that has been used to identify and nurture talent and potential elite performance in sport. This study focuses on the following three talent development models: that of (1) Bloom, (2) Gagné's Differentiated Model of Giftedness and (3) Talent (DMGT) and the model of Balyi's Long Term Athlete Development (LTAD).

2.5.1 BLOOM'S MODEL

In 1985 **Bloom** (Morgan & Giacobbi, 2006) investigated the talent development of 120 individuals. These included artists, academics, musicians, swimmers and tennis players. Bloom's findings are frequently referred to in sport research, due to their conclusion that elite performers progress through definitive stages of development. Bloom outlined three critical stages of talent development for the realisation of elite performance: the first is the Romance Phase. This occurs in the early years of development. The features of the Romance Phase are: exploration of the activity, development of love for the activity, receiving encouragement from significant others, having fun and being successful (Gould & Carson, 2004). Parents have a significant role in this phase as they offer socio-emotional and financial support and act as role models for disciplined independence (Hedstrom & Gould, 2004). Subotnik, Olszewski-Kubilius and Arnold (2003) state that Bloom's model illustrates that "at the most fundamental level, parents provide two critical resources: money and time".

Precision is the second phase. In this stage the focus is on skill development and technical mastery from the ages of 8 to 12 (Gould & Carson, 2004). Thus, during these years, the coach or mentor promotes long-term systematic skills learning in the talented individual. Hence, there is considerable exposure to domain-specific content. Wolfenden and Holt (2005) state that practice time increases during the Precision Phase and competition is used to measure progress. The incorporation of competition suggests that the talented individual becomes more achievement-orientated and shows more dedication to succeed.

The final phase is the Integration Phase from 12–16, in which the talented individual continues to work with the coach or mentor with greater commitment and personal responsibility. The talented individual has to practise for many hours to attain optimal performance through training and the development of technical skills. Other activities are sacrificed for the sake of the main activity. There is a realisation that the activity is significant in the sportsperson's life (Gould & Carson, 2004).

2.5.2 GAGNE'S DIFFERENTIATED MODEL OF GIFTEDNESS AND TALENT

The next model of development is that of Gagné's DMGT presented in 1985. It offers a continuum that shows the development of aptitudes or gifts into talents within specific domains (Tranckle & Cushion, 2006). Gagné's DGMT is rooted in the educational field but its evaluation of the talent development process is applicable in diverse fields such as the arts, academia and sport. At the centre of Gagné's model is the distinction between giftedness and talent.

Giftedness designates the possession and use of untrained and spontaneously expressed natural abilities (called outstanding aptitudes or gifts), in at least one ability domain, to a degree that places an individual at least among the top 10% of age peers (Gagné, 2004).

Talent designates the outstanding mastery of systematically developed abilities (or skills) and knowledge in at least one field of human activity to a degree that places an individual at least among the top 10% of age peers who are or have been active in that field or fields (Gagné, 2004).

Based on this model, it may be proposed that "giftedness" is a term that can be used to describe individuals who are endowed with a natural potential to achieve that is distinctly above average in one or more aptitude domains. In Gagné's model, the aptitudes that constitute giftedness underlie the development of talents (Callahan, 1997). Furthermore, Gagné (2004) contends that giftedness is, in fact, potential talent and giftedness is implicitly recognised through exceptional talent. This would suggest that giftedness is the beginning of the learning process and talent represents the achievement of a specific level of performance, as well as being the result of careful long-term development.

Aptitudes are innate or natural human abilities that can be observed in young children before they undergo any systematic training or practice. According to McPherson (1997:66), while “aptitudes have a significant genetic component, their growth is by no means controlled solely by maturational processes; environmental stimulation plays an equally important role through daily use and information training”. The identified aptitudes in Gagné’s (2004) model are found in the intellectual, creative, socio-affective and sensorimotor domains. It is the interaction of these aptitudes that shapes individual differences and leads to the development of different talents. For example, a child with high aptitude in the sensorimotor domain may have the fine visual perception and physical reflexes required to develop as a soccer goalkeeper. If the child is further gifted in the socio-affective domain, he or she may also possess the necessary influence and empathy to develop outstanding talent as a team captain (Gagné’s, 2004)

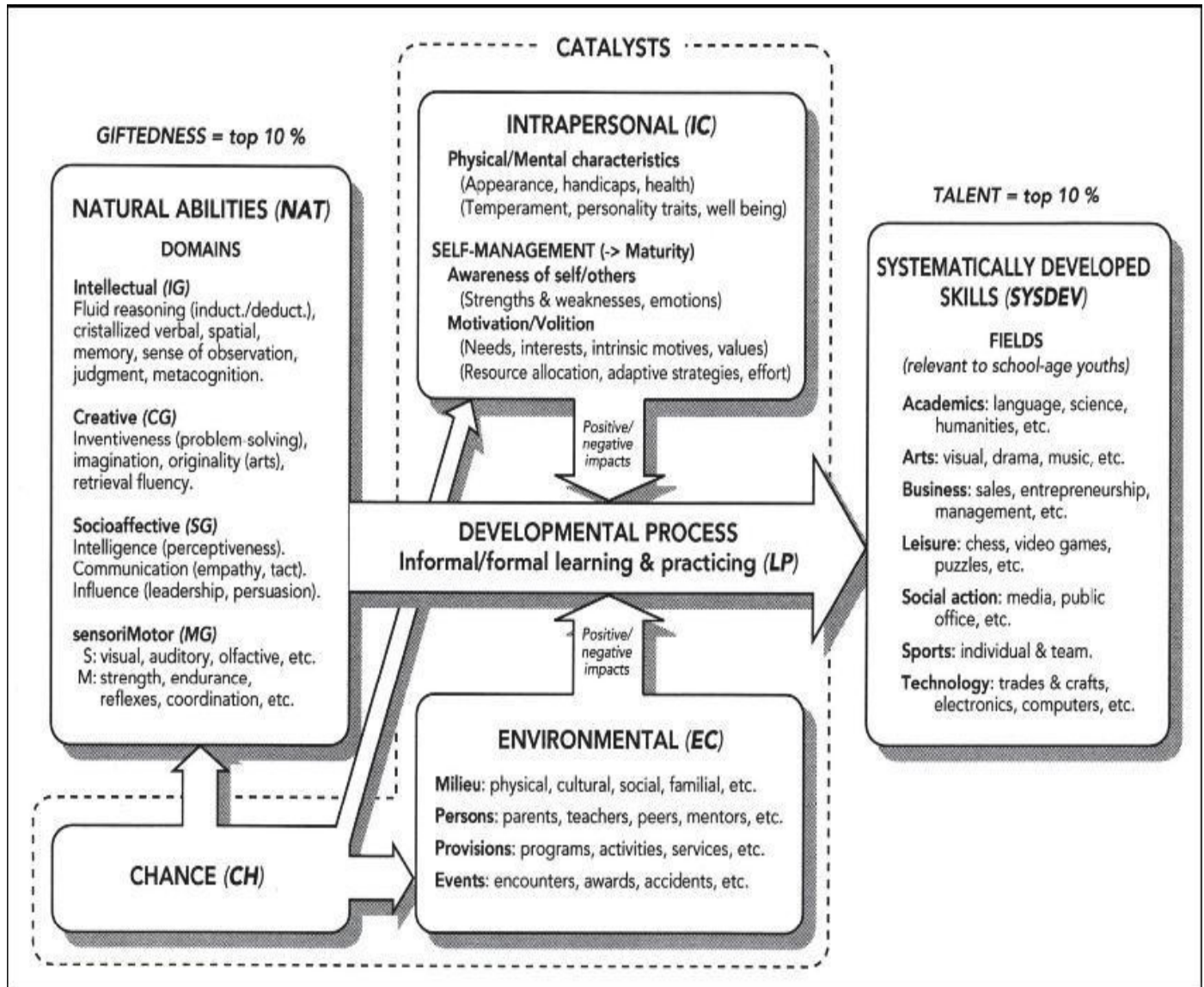


FIGURE 1: GAGNE'S DIFFERENTIATED MODEL OF GIFTEDNESS AND TALENT (McPherson, 1997:66)

According to Gagné's (2004) model, three components that influence the learning and practice process that change natural abilities into systematically developed skills or talents, namely intrapersonal catalysts, environmental catalysts and chance, can have positive or negative effects on the developmental process. As illustrated in Figure 1, intrapersonal catalysts (IC) include physical and mental characteristics, motivation/volition and self-management. Environmental catalysts (EC) include milieu, persons, provisions and events (McPherson, 1997).

Chance (CH) is linked to natural abilities (NAT) and IC and EC. The influence of chance is a significant assertion in the model, especially the link between chance and natural abilities, which relates to the view that gifts are genetically determined. In the same manner, “the link between intrapersonal catalysts, chance and the developmental process relates to the suitability of the individual to the field of expertise in which they are trying to develop skills” (Tranckle & Cushion, 2006:268).

It has been noted that while the researchers have advocated the relevance of the model for sports as well as other fields, Gagné’s DMGT has received limited recognition in sports research and sports talent literature (Tranckle & Cushion, 2006). However, recently the Football Federation of Australia (2006) has used Gagné’s DMGT to formulate its talent development programme. Gagné’s DMGT is noteworthy due to its emphasis on the value of both nature and nurture in talent development. “Without an innate ability no amount of training will create a top elite player, and without the appropriate quantity and quality of training a player will not develop into a top elite player” (Football Federation Australia, 2006).

2.5.3 BALYI’S LONG-TERM ATHLETE DEVELOPMENT

The third model for talent development is Long-term Athlete Development (LTAD), proposed by Balyi (2001), which is a generic and conceptual framework for athletes (England Hockey, 2005). The LTAD model explains the stages of sporting ability and establishes a link between the development of players and their physical and psychological growth. According to Balyi (2001), sport can be categorised as early-specialisation or late-specialisation. Early-specialisation sports, such as diving and gymnastics, require early sport-specific specialisation in training (Balyi, 2001). All team sports may be classified as late specialisation sports that require a more generalised approach to early training.

In terms of Balyi’s LTAD model, early-specialisation models require a four-stage model, while late-specialisation sports require a six-stage model (Balyi & Hamilton, 2003). The four-stage and six-stage models are shown in Table 1. For the late-specialisation sports, the emphasis during the first two phases of training should be on the development of general motor and technical skills with support from parents and coaches (Football Association of Ireland, 2004).

TABLE 1: BALYI’S EARLY SPECIALISATION AND LATE SPECIALISATION LTAD MODEL

EARLY SPECIALISATION MODEL	LATE SPECIALISATION MODEL
1. Training to Train Stage	1. FUNdamental stage
2. Training to Compete	2. Learning to Train
3. Training to Win	3. Training to Train
4. Retirement/Retainment	4. Training to Compete
	5. Training to Win
	6. Retirement

Balyi’s six-stage LTAD model is generic in nature and requires adjustment on a sport-specific basis (Balyi, 2001:2). In soccer, Balyi’s model has been used in the talent development programmes of the Football Association of Ireland and the Canadian Soccer Association (Balyi & Hamilton, 2003). The ages (6–8 and 7–9 years) specified in the various stages of the six-stage LTAD model are the indicative chronological ages. Ideally, developmental maturity should be used to determine the most appropriate developmental stage and the emphasis of an individual’s training (England Hockey, 2005).

In the **late specialisation** the first stage of Balyi’s model (2001) is the FUNdamental stage with the objective of learning all fundamental movement skills and building overall motor skills. The capitalisation of the letters “FUN” also reflects the emphasis on fun and enjoyment. With the encouragement of parents and significant others, fundamental movement skills should be

practised and mastered before any sport-specific skills are introduced. There is no formal competition, although all the activities should be structured and monitored. The development of these skills, using a positive and fun approach, will contribute significantly to future athletic achievements. Balyi's six-stage model is based on the 10-year rule and on an early start to participation in a wide range of sports during the FUNDamental stage (ages 6–8 and 7–9 for boys) (Balyi & Hamilton, 2003). This emphasis on motor development will produce athletes who have a better trainability for long-term and sport-specific development (Balyi, 2001).

The second “learning to train” stage involves learning all fundamental sports skills. During this period, there is an accelerated adaptation to motor co-ordination. **Early specialisation** may be detrimental to later stages of skill development and to the refinement of the fundamental sport skills (Balyi & Hamilton, 2003). The effect of the role model is very important at this stage, as the young player begins to identify with famous players and successful teams (Canadian Soccer Association, 2007).

The third stage (“training to train”) typically occurs during the ages of 12–16 years in males and 11–15 years in females (England Hockey, 2005). The emphasis is on building the aerobic base, building strength towards the end of the phase and further developing sport-specific skills. During this phase, the coach assumes greater importance in the athlete's future development. The player is dependent on the coach, as technical instruction introduces more advanced techniques, and the tactical skills are presented in a more complex environment with a position-specific emphasis (Football Association of Ireland, 2004). The fourth “training to compete” stage optimises fitness preparation and sport, individual and position-specific skills and performance (Balyi & Hamilton, 2003). This phase of development is introduced after the goals and objectives of the “training to train” stage have been achieved. There is an equal emphasis on competition and on the competition-specific training ratio (Balyi & Hamilton, 2003). The fulfilment of each player's potential depends on his or her own efforts, the support of team-mates and the guidance of the coach (Canadian Soccer Association, 2007).

Maguire and Pearton (2000) assert that talent development in sport depends on a wide range of factors and elements. The focus and efficiency of sport organisations, the availability and identification of human resources, the methods of coaching and training, and the application of

sports medicine and sport sciences are all elements that may be measured and analysed to understand an athlete's talent development process (Maguire & Pearton, 2000).

It seems likely that a significant number of children never fulfil their early promise due to developmental and maturational factors and an inadequate or inappropriate social environment. Bailey and Morley (2006) state that young athletes deprived of the necessary factors associated with talent development “will struggle to become aware of whatever talents they might possess”. As such, it is important to identify the factors associated with successful talent development, as concluded by researchers.

According to Baker and Horton (2004), there are numerous factors that can influence the acquisition and manifestation of high levels of performance. In order to analyse their influence, factors can be divided into variables that have a primary influence on expertise and variables that have only a secondary influence through their interaction with other variables. Primary influences are genetic, training and psychological factors while secondary influences include socio-cultural and contextual elements. Genetic factors involve the blending of physical and mental faculties into appropriate actions. There is a large amount of literature on the hereditary nature of specific physiological and cognitive characteristics that are relevant to sport performance (Baker & Horton, 2004). In addition studies of hereditary characteristics are essentially interested in how a person's genetic makeup (genotype) influences the expression of specific behaviours or capacities (phenotype). Research findings indicate that significant amounts of inter-individual variation in cardiorespiratory function can be attributed to the presence or absence of genes. It is also suggested that the level of attainment, in activities where these factors are important, can be affected by having an advantageous genotype.

The researchers examining differences between experts and non-experts in the cognitive aspects of sport have revealed no differences in stable physical abilities such as reaction time. However, experts and non-experts do differ on information-processing strategies that can be influenced through training. It is in this way that training factors affect the talent development process (Ericsson, Krampe & Tesch-Romer, 1993). As advocated by the 10-year rule and the theory of “deliberate practice”, Baker and Horton (2004) state that increases in sport performance are positively influenced by the adaptations to task constraints that take place through training or

practice. “By continually modifying the level of task difficulty, future experts can prevent learning plateaus and perpetuate adaptation to higher amounts of training stress” (Baker and Horton, 2004).

It is difficult to examine the psychological factors that affect talent development, due to the unique requirements of the different sports. Baker and Horton (2004) propose that there are common mental characteristics that are essential to high levels of performance in any sport. These psychological factors can be divided into those characteristics necessary for the acquisition of expertise and those necessary for the manifestation of such expertise (Baker & Horton, 2004). A high level of motivation is necessary for the acquisition of expertise – without the proper motivational disposition, it is unlikely that an athlete would be capable of attaining any significant level of proficiency.

Situational psychological requirements, such as self-confidence and concentration, were identified as being necessary for the manifestation of expertise.

The role of primary influences is influenced by secondary factors relevant to the sport performed. The socio-cultural context is important in determining an athlete’s development. Individual cultures may value different sports and may provide more societal resources to promote increased involvement and the development of higher levels of skill in that sport Baker & Horton, 2004). Societal support leads to greater extrinsic motivation for continued involvement, leading to a greater ease of training, which in turn facilitates the accumulation of practice hours in that sport. If there is no societal support or endorsement, this may lead to a decreased quality of available resources and support. This makes the athlete’s development path to expertise and elite performance even more difficult.

Cultural importance, instructional resources and familial support as socio-cultural factors have an influence on talent development as do contextual factors. It may be assumed that in sports that are relatively new or less developed, expertise can be attained with less training and deliberate practice. The number of active competitors in a sport and the depth of competition also influence the ease with which one can realise elite performance (Baker & Horton, 2004).

In the case of soccer, there is a worldwide base of competitors and this makes elite performance more difficult to attain. The sport development systems within a country also determine the athlete's development pathway, as well as those factors that have a bearing on the achievement of elite performance. Green and Oakley (2001) analysed the literature on aspects that are common to successful elite sport development systems. This study compared the sport development systems of Eastern Bloc states and Western countries. In the opinion of the researchers, all the countries were at various stages in the development of their elite sport systems, yet a number of approach similarities could be identified (Green & Oakley, 2001).

In line with the analysis of a country's sport development system to identify factors affecting talent development, Gibbons, McConnell, Forster, Riewald and Peterson (2003) studied the factors affecting the development of a US Olympian. Gibbons *et al.* (2003) acknowledge that the successful development of a US Olympian is the result of a long-term process that requires high levels of training and support. The research study was based on the administration of the "Talent Identification and Development (TID) Questionnaire" to approximately 2 100 US Olympians who competed in the Winter and Summer Olympic Games from 1984 to 1988.

According to Gibbons *et al.* (2003), two questionnaire items asked the respondents to list the five factors which they believed had contributed the most to their success. The respondents also had to list the five most significant obstacles they had to overcome in order to achieve success in their sport.

The factors that were listed as a **success factors** are dedication and persistence, support of family and friends, excellent coaches, love of sport, excellent training programmes and facilities, natural talent, competitiveness, focus, work ethics and financial support. Those listed as being **obstacles** are the lack of financial support, conflict with roles in life, lack of coaching expertise or support, lack of support from the US Olympic Committee and national governing body, mental obstacles, lack of training/competition, lack of social support, physical limitations and failure.

A lack of financial support was the primary obstacle to overcome and the US Olympians reported having financial support as being one of the top 10 factors of success (Gibbons *et al.* 2003). "Greatest financial hardships were experienced at the national and international competitive phases and the better the performance level, the more they perceived a lack of

financial support as an obstacle” (Gibbons *et al.*, 2003:20). As the respondents had already participated in a wide range of sport codes, the provision of these factors should be prioritised in any sport in which elite performance is desired. Wolfenden and Holt (2005) conducted a study in which they examined players’, parents’ and coaches’ perceptions of talent development in tennis. The results from the semi-structured interviews revealed six categories associated with adult influence on talent development in tennis: emotional support, tangible support, informational support, sacrifices, pressure and relationship with coaches (Wolfenden & Holt, 2005).

Emotional support is the ability to turn to others for comfort and security during times of stress (Wolfenden & Holt, 2005). The study revealed that both parents provided emotional support, but coaches were not cited as being a source of emotional support. Tangible support is concrete assistance given to a person to help him or her cope with stressful events. Parents were identified as a source of tangible support through the provision of financial support and transportation to training events (Wolfenden & Holt, 2005). Informational support identified significant others who provided the talented athlete with advice or guidance on the possible solutions to problems. Coaches were the main source of tennis-specific advice, whereas parents provided more general advice relating to tennis participation (Wolfenden & Holt, 2005).

Notable sacrifices were made by elite junior tennis players (Wolfenden & Holt, 2005). Sacrifices made by players, mothers and siblings were identified as being crucial to the players’ talent development (Wolfenden & Holt, 2005). Participation in elite junior tennis involved some degree of pressure and stress. Players had to overcome the pressure created through parental over-involvement as well as parental and coach expectations in order to attain elite performance levels (Wolfenden & Holt, 2005).

Hedstrom and Gould (2004:26) state that “the feedback and behaviour of a parent can affect how long a child stays involved in a sport as well as how a child perceives his or her abilities”. In terms of relationships with coaches, generally positive relationships between player and coach are required for optimal talent development and the parents reported a positive perception of their child’s coach (Wolfenden & Holt, 2005). This study contributes to the literature by providing information on the specific nature of the social context in which talent development in tennis occurs. In addition, its generic findings can be applied to other sport codes.

Baker *et al.* (2003) also examined the training and environmental factors that influence the acquisition of sport expertise. The environmental factors associated with the attainment of sport expertise include maturation factors, parental influences, cultural factors and coaching and instruction. Maturation factors are the “relative age effect”. These factors can lead to training inequalities and reduce the opportunities for younger children to excel.

The roles of coaching and instruction should also be prioritised in talent development. In the early stages of development athletes require primarily technical instruction to develop proper fundamentals, along with a high degree of support and praise to encourage participation commitment. “The ability of the coach to devise an environment that fosters optimal learning thus becomes one of the most significant keys to athlete development” (Baker, 2003: 4). Coaches with a significant tactical knowledge of the later part of an athlete’s development are required in the later stages of talent development. The practice structure and domain-specific knowledge of coaches are highly relevant to the progression and development of athletes in sport.

Baker *et al.* (2003) relied on the research done by Bloom and Côté to justify the importance of parental influences in talent development. Bloom’s stages of talent development and Côté’s stage model of sport participation illustrate how parental support helps elite athletes deal with the demands of the sustained deliberate practice necessary to reach an expert level of performance. There is an evolving role for parents as the athlete’s development progresses. Athletes who are unable to access emotional and financial resources face a more difficult pathway to elite performance.

Cultural factors are classified as a significant, but often overlooked, component of athlete talent development. Athletes who compete in sports that are considered to be an integral component of the national identity are more likely to receive support, training and opportunities.

In South Africa, limited research has been conducted to explain the talent development process and performance environment in the various sports in which participation takes place at an elite level. Nortje, Coopoo and Lazarus (2005) did, however, postulate that certain core factors influence the attainment of sporting excellence in South Africa.

2.6 AN APPLICATION OF RELATED CONCEPTS OF SPORT DEVELOPMENT TO THE SPORTING CODES UNDER INVESTIGATION

2.6.1 SOCCER

The nature of the related concepts of development was discussed above but in order to understand them it is necessary to describe their practical manifestation in the sporting codes under investigation.

For talent development in soccer, Williams and Reilly (2000) state that sociological research places greater emphasis on the importance of environmental factors in nurturing talent. Familial influences, injury, facilities, practice and the role of the coach have all been noted as vital sociological factors in soccer talent development. In general, parents introduce children to participation in organised soccer, whereas friends, leaders and coaches may also be responsible for the young player's continued commitment to the sport.

The researchers suggest that social class has a significant effect on soccer participation. Children from middle-class backgrounds are usually advantaged as a result of their parents' increased financial support, greater mobility and flexibility in transporting their children to various activities and provision of more supportive encouragement for the child's involvement. On a larger scale, Hoffmann, Ging and Ramasamy (2002) also noted that economic, demographic and cultural factors are important variables that influence a country's performance in international soccer games.

Facilities, practice and the role of the coach are other factors to take in consideration in a soccer player's talent development pathway. The behaviour of coaches and their involvement with a child are more important in the development of talent than early initial ability. If there is a negative relationship and a lack of common goals between the coach and the player, the player may not give his or her best effort and may even drop out of the sport.

Consistent with the theory of deliberate practice, Williams and Reilly (2000) suggest that "a supportive learning environment, effective practice and high quality coaching can help overcome

perceived shortcomings in initial ability”. Ultimately, a player’s potential to succeed may be determined in part by their susceptibility to injury. It is for this reason that emphasis on the prevention and detection of sports injuries should be a central issue in soccer talent development.

In soccer, SAFA (2009) has adopted a strategy of organising regional and national competitions at junior level, in order to further develop any players who are spotted in their talent identification programmes. This strategy involves sponsored programmes for every level of junior football, providing regional and national competitions, coaching, talent identification, a Soccer School of Excellence and national squads with their own training camps and international competition schedules.

Historically, SAFA has been involved in the development of school leagues such as the Under-12 and Under-14, which are the youngest level of competition that SAFA organises at school level. They are sponsored by various private companies with the aim of identifying and developing athletes. The competitions include the “Chappies little league” and “Simba young lions”, which take place at a district and provincial level respectively. Athletes at this stage also participate internationally after winning the provincial championship, with the aim of exposing South African talent to competition against other countries. At the Under-14 group the Transnet Tournament is played at provincial level and internationally players participate in the Nike International Cup (SAFA, 2009). The objective of these competitions is to nurture talent from an early age at school level and ensure that the talent identified from these programmes is incubated and channelled into various programmes of the associations and its talent pathways SAFA (2009).

The tournaments for male players have been organised by SAFA at the various 16 age-group levels as a part of its talent development programme. At the Under-12 level, there are currently 11 development centres (with 28 full-time coaches) throughout South Africa (SAFA, 2009). Each centre provides coaching for 60 talented players, many of whom move to SAFA’s Soccer School of Excellence once they turn 13 (SAFA, 2009). Each development programme centre and the Soccer School of Excellence are funded by the various companies who sponsor the age-group leagues and the tournaments.

Internationally, there is regular competition starting at the Under-17 and Under-20 level, with qualifiers for FIFA-sanctioned regional and global tournaments. All the other tournaments including the Under-17 level are by invitation only.

The need for youth programmes and talent development has also been experienced by the professional soccer clubs competing in the South African soccer leagues. The clubs are interested in finding talented young players from among the millions of children who play soccer in South Africa. The South African professional clubs conduct these programmes, with the aim and hope of discovering their next brilliant striker or exceptional defender.

Moreover, all the clubs in the ABSA PSL league are obligated to institute youth and talent development programmes. Some of the requirements for receiving a monthly R1 million grant include co-ordinating youth academies, maintaining development structures, improving club facilities and ensuring that coaches at all levels have the minimum required coaching qualifications (Alfred, 2007).

Ericsson *et al.* (1993) propose that performance improvements in sport, or in any other domain, are a direct result of training and other deliberate efforts to improve. Consequently, it is important to assess the time and effort that are required for expertise and elite performance to be developed. In soccer, it has also been noted that a player's birth month can have a significant effect on his or her perceived ability and performance when the players are grouped by age. Players are sometimes regarded as being more talented simply because they are more mature (Glamsner & Vincent, 2004). However, this maturity may be mistaken for ability. Age-advantaged players are encouraged to participate, while those disadvantaged by age may drop out of the sport and therefore never realise their full potential. These issues are discussed as the 10-year rule, the theory of "deliberate practice" and "the relative age effect".

Soccer is arguably an early specialisation sport from the fundamental stage of under 6 to 9. In primary schools soccer starts from the ages of 6–14. The objective at this stage is to learn all elementary movement skills by building overall motor skills (Balyi & Hamilton, 2004).

During the fundamental stage an opportunity occurs for a lifelong turn-on to the game. At this stage the aim of the coach is to keep the soccer experience fun and enjoyable and to foster a

desire to play. Individual and small-group play, especially pairs, is essential for both touches on the ball and learning at their own pace (Fleck & John, 2002). The components are as follows:

Components for the **Under-8** soccer players include:

- Fitness: Introduce the idea of how players warm-up and basic motor skills.
- Balance, walking, running, how to start and stop, jumping, hopping, rolling, skipping, changing direction, bending, twisting and reaching.
- Technique: Dribbling (stop and start) and shooting. Experiment with the qualities of a rolling ball.
- Psychology: Sharing and fair play.

The learning to train stage covers ages 8 to 12. In the **U-10**age group the objective is to learn all the fundamental soccer skills, building overall sports skills. In this stage, children gradually begin to change from self-centred to self-critical and develop the need for group games. The components of the game for the U-10age group include:

- Fitness: Factors are endurance, range of motion flexibility, rhythm exercises and running mechanics. Any fitness activities must be done with the ball. Introduce body resistance exercises and the idea of cool-down (www.usyouthsoccer.org.za).
- Tactics: 1vs1 defending; roles of first attacker and defender; 2 v 1 attacking; what it means to get goal-side; small-group shape in pairs and threes (emphasising support on both attack and defence); playing on and around the ball as a group with purpose; playing a variety of positions to develop the complete player; introducing the principles of attack and set plays (Snow & Thomas, 2009).
- Psychology: Keep soccer enjoyable to foster a desire to play using self-motivation. Working in groups of three, four or five, stay focused for one entire half. There is an increase in responsibility, sensitivity, awareness of how to win or lose gracefully, fair play, parental involvement, how to play, communication and emotional management (SAFA, 2012).

The **U-12** age group is a transitional time. The objective is to learn all of the fundamental soccer skills (build overall sports skills). The components of the game for the U-12 age group are:

- **Technique:** moving throw-in, mastering the qualities of a bouncing spinning ball. Experiment with the qualities of a flighted ball; feints with the ball; receiving bouncing and air balls with the thigh and chest; first touch receiving; heading to score goals and for clearances while standing or jumping; outside-of-foot passing; receiving with either foot; short passing with both feet; bending shots; crossing to near-post space and penalty spot space; and heel and flick passing. Introduce half-volley and volley shooting, chipping to pass and slide tackle (www.usyouthsoccer.org.za)
- **Tactics:** 2v1 defending; 2v2 attacking and defending; roles of second attacker and defender; man-to-man defence; combination passing; playing on and around the ball as a group with purpose; verbal and visual communication for all positions; halftime analysis; general work on all restarts (Snow & Thomas, 2009).
- **Psychology:** Keep it fun and enjoyable to foster a desire to play; self-motivation. Focus on teamwork; confidence; desire; mental skills; handling distress; how to learn from each match; fair play; parental involvement and emotional management (discipline).
- **Fitness:** Fitness work continues to be done with the ball. Strength can be improved with body resistance and aerobic exercises. Also focus on agility at speed (sharp turns); acceleration; deceleration; reaction speed; range of motion exercises; proper warm-up and cool-down (include static stretching in the cool-down) are highly recommended now (SAFA, 2012).

The training to train stage covers ages 11 to 16. The objectives are to build the aerobic base, strength toward the end of the phase and further develop soccer-specific skills (build the engine and consolidate sport-specific skills). The components of the game for the **U-14** age group are:

- **Technique:** Experiment with the qualities of a flighted ball, i.e. spin; swerve; chipping to pass; bending passes and driving crosses to the far post and top of the penalty area. Also practice half volley and volley shooting; slide tackles; heading to pass; flick headers; diving headers; receiving with the outside of the instep; outside of foot shot; receiving

bouncing and air balls with the head; dummy the ball; and shoulder charge. Introduce chipping to shoot.

- Psychology: assertiveness; tension control; self and team discipline; able to stay focused for an entire match; sportsmanship; parental involvement; how to play; mental focusing techniques; emotional management and self-regulation.
- Tactics: individual and group tactics including delay; and depth and balance in defence.
- Fitness: acceleration; speed; anaerobic exercise; cardiorespiratory and cardiovascular training; flexibility – static stretching (particularly in the cool-down); lateral movement; and all fitness work with the ball. Continue player education about nutrition and introduce the concept of rest for recovery (www.usyouthsoccer.org.za).

2.5.2 NETBALL

Netball is an action-packed team sport enjoyed by players of all ages and abilities, from junior players to highly skilled elite athletes (Davis & Davis, 2006). It is an intermittent game that requires explosive movements such as short, fast sprints, quick stops and changes in direction (Ryan, 2009). In netball, as in any other sport, many players strive for success. Success in sport often begins at a very young age through selection into representatives teams. Interestingly, the identification of factors that predispose an athlete to success and representative team selection across a variety of sports has become an increasingly important and widespread research topic (Netball South Africa LTPD, 2011). The game of netball involves a variety of ways of passing the ball successfully from one team member to another, so that a goal may be scored from within the shooting circle by throwing the ball through the ring (Netball South Africa LTPD, 2011). There are seven players in a team who have an equal part to play in defending and attacking. This obviously demands a variety of skills and the ability of each player to be selective in the use of them.

According to the Netball South Africa LTPD (2011), players need to be quick-thinking as they are required to make speedy and accurate decisions on the situations presented to them. The skills needed in netball include landing, pivoting, changing direction, stopping, starting, throwing, catching, getting free, marking, intercepting and shooting (Netball South Africa LTPD, 2011).

Furthermore netball skills are divided into two categories: primary and secondary skills. Primary skills include footwork, catching and throwing and secondary skills are getting free, marking, shooting and throw-up. Primary skills should be learnt first and players should be competent in them before progressing to the secondary skills (Netball South Africa LTPD, 2011).

It is vital that children learn the full range of basic movement skills that underpin netball-specific skills. Through physical literacy the child will be able to pursue two different pathways: lifelong participation in a number of sports and improved performance.

In netball motor skills development is applied in a different systematic process starting from the age of 5. Specific to the studies under investigation, the research focuses on the fundamental stages of ages 5/6 and 11, learning to train (11–13 years of age) and train to train stage (14–16). These stages comprise the following essential activities.

- **Fundamental stage (5/6 to 11years)**

Between the age of 6–11 important motor skills behaviour is emphasised, which is essential for developing a higher level of physical literacy and basic sports skills in fun, well-structured programmes that concentrate on agility, balance and proper coordination (the ABCs), basic netball skills such as passing, throwing the ball by catching and using a shoulder pass, defending and jumping (Netball South Africa LTPD, 2011).

The sports should also be played between five and six times per week with minimal effort. The game strategy in this stage involves introducing minor games and giving all athletes an opportunity to experience different positional play (IFNA, 2008).

- **Learning to train (11–13 years)**

This stage, which takes place between the ages of 11–13, is also vital for developing athletes' sport-specific skills and physical literacy through core stability, endurance, speed and strength and netball-specific skills such as throwing, defending, attacking and jumping. Athletes at this stage should be able to train according to their level of growth and maturity. At least four to six sports sessions should be participated in per week, two or three netball sessions or other sports (IFNA, 2008).

Coaches should focus on key strategic skills such as movement skills, ball handling, attacking and cognitive skills. Movement skills include sprinting and stopping and side steps, which enhance coordination and reaction time. In ball-handling skills athletes learn to use the ball through chest passes, bounce passes, shoulder passes and the introduction of one-hand control. Attacking skills include a change of direction with the ball (www.Englandnetball.co.uk).

- **Training to train (14–16 years)**

Between the ages of 14–16 years it is important to develop netball-specific fitness and physical literacy through core stability, endurance, strength, structured training programmes and technical and mental preparation. At this stage six to seven sport sessions should be participated in per week, four of them netball sessions. Each session should be a maximum of two hours in length. Movement skills at this stage include change of direction, footwork speed and sprinting technique, while ball handling comprises chest passes and overhead passes. In attacking skills the athlete will practice sprinting, change of direction and pace and communication skills. The last skill focuses on the cognitive abilities of the athlete, such as practising space awareness in movement on or off the ball, timing of movement in relation to court situations and vision or awareness of players in relation to the ball and situations (Netball South Africa LTPD, 2011).

2.5.3 RUGBY

In **rugby** the players are exposed to three key successive motor development stages. However the research focuses only on two stages for the purpose of the age groups of players in primary level.

a) 6–8 years: Fundamental movement skills

Children have to participate in as many sports as possible and if possible three or four times per week. General physical literacy develops the ABCs of movement, agility, balance, coordination and speed athleticism in running and throwing.

Technical skills: ball acquaintance, passing, catching, evading

Tactical skills: coaches should encourage fun games that develop spatial awareness and working together as a team.

Mental skills: there should be an introduction to the laws of the game, the rules of modified versions and the ethics of playing sport. Competition should be minimal in training and playing to the appropriate rules should be emphasised. Involvement in sport should be at least five hours per week (SARFU, 2001).

b) Learning to train stage U12–15

Emphasis in this stage is on the maintenance and refinement of the athlete’s physical capacities, fundamental movement skills and acquisition of rugby-specific skills. Physical literacy and rugby-related fitness should be developed, progressing to individual programmes for the more talented (SARFU, 2001). The core skills of passing, catching, running, evading, tackling and kicking should also be developed. Rugby-specific games to introduce are “Go forward”, support and continuity and pressure. Players should understand the laws of the game and the ethics of playing sport. Coaches should encourage children to play according to the appropriate rules. Involvement in the sporting code should be 3.5 rugby-specific hours plus other physical education in and out of school (SARFU, 2001).

2.7 CONCLUSION

The literature reviewed the multiple determinants of the nature of sport, talent, talent detection, identification and development. Theoretical concepts, models such as Bloom’s model, Gagné’s DMGT and Balyi’s early specialisation and late specialisation, long-term athlete development, deliberate practice and the 10-year rule also need to be considered when detecting, identifying and developing athletes in sport. It is also applicable to relate the theoretical concepts in the application of motor and fundamental skills and stages from the under-6 to under-14 age groups in rugby, soccer and netball. This chapter aimed to provide coaches and sport practitioners with insight into the theoretical framework and how it relates to methods of detecting, identifying and developing athletes in rugby, soccer and netball.

CHAPTER THREE

MOTOR BEHAVIOUR IN SPORT – A THEORETICAL FRAME OF REFERENCE

3.1 INTRODUCTION

Motor behaviour is an umbrella term for motor development and the process of acquiring a capability for producing skilled actions (Haibach *et al.*, 2011). It occurs as a direct result of practice, is not due to maturation or physiological changes and cannot be observed directly (Haibach *et al.*, 2011). Key successive motor behaviour stages start at six years of age.

3.2 MOTOR BEHAVIOUR AND DEVELOPMENT AND RELATED THEORETICAL CONSTRAINTS

3.2.1 Defining motor behaviour and development

Motor behaviour is the scientific focus of talent detection, identification and development. Athletes participate in fundamental skills that consist of stability and bodily movement (catching, throwing, balancing) and locomotor skills (jumping and running and moving the body through space) (Payne & Isaacs, 2008). Motor behaviour is an important aspect of a coaching environment; coaches should be able to teach specific and fundamental skills at the right age, and understand how athletes develop physically and socially and the influence of the environment.

Motor behaviour is the key aspect of children's total development and wellbeing that must be addressed during the early years of development (Pienaar, 2009). Haywood and Getchell (2005) define motor development as a continuous process of change in functional capacity. It is age-related, has interacting constraints in the individual and the environmental and requires tasks that drive these changes. Gregory and Isaacs (2005) define motor development as the changes that occur in our ability to move and our movement in general as we proceed through life. Development is attaining and transitioning through a series of stages, and generally requires children to progress through an orderly, predictable sequence of development stages that lead to one another (Cheatum & Hammond, 2000). Erasmus (2009) elaborates further that development

takes place between birth, adolescence and adulthood in which specific development processes take place during particular sensitive periods in the brain's development.

Development also happens as a result of interactions between an individual and his or her environment, thus each child is unique and progresses through the stages of development at different times and adapts differently to changes during the development process (Davids *et al.*, 2008).

3.2.2 Theoretical constructs in motor behaviour

Children learn physical motor skills that allow them to participate in and enjoy physical activity throughout their adult years. Quality physical education programmes enhance motor learning and the development of both competence and confidence to perform motor skills (Graham, Holt/Hale & Parker, 2001).

In motor behaviour there are three theoretical constructs that are developed during the early part of the process-oriented period. The three processes can be identified as 1) the information processing approach, 2) the ecological approach and 3) the dynamic systems theory.

3.2.2.1 Information-processing approach

In the information approach the brain acts like a computer, processing and outputting movement. This perspective or approach emphasises concepts such as formulation of stimulus/response bonds, feedback and knowledge of results (Schmidt & Wrisberg, 2000). The generalised motor programme is defined as the pattern in which the movements that are modifiable to produce a movement outcome and provides with an explanation for the production of skilled movement for the information processing approach (Schmidt & Wrisberg, 2000). An example is displayed when an individual performs the skill and retrieves the information, which can be transferred to the necessary muscles. A motor programme is also dependent on the complexity of the task and time (Haibach *et al.*, 2011).

The generalised motor programme also has some variant features, which are variables that can be modified. These variant features include sequence of actions, timing and force (Schmidt & Wrisberg, 2000). An example in this case would be kicking a ball, as there is application of force.

These features can also be modified during the execution of a movement pattern; they are then called parameters. The three parameters can be identified as muscle action, overall duration and overall force (Haibach *et al.*, 2009).

3.2.2.2 Ecological Approach

The ecological approach describes the relationship between individual, environment and task (Haywood & Getchell, 2005). It is also important to consider interaction constraints such as body type, motivation, temperature and ball size in order to understand the motor skills. The ecological approach is divided into two branches: motor control and coordination and perception. An individual has perceptions of movement actions (Haywood & Getchell, 2005). The perception and action are one and the same, whilst perceiving and acting are guided by body scale ratios. For example the leg length of an individual affects how the person climbs stairs. The ecological approach rejects the idea that there is a need to search for memory (Haibach *et al.*, 2011).

3.2.2.3 Dynamic Systems Theory

The interacting constraints within the body act together as a functional unit. In this approach movement emerges from the interaction between constraints (individual, environment and task) (Haywood & Getchell, 2005). Dynamic systems theory emphasises that movements are controlled by more than the central nervous system; they are also controlled by interactions within various body systems and with the environment. The dynamic systems theory characterises movements as a self-organising process, which is the system's ability to change states of a pattern (Haibach *et al.*, 2011).

The system is consistently looking for stable states. A description of a stable state might be the occurrence of an injury. Basic development phases such as sitting, creeping and crawling can also be viewed as states. This can be demonstrated when an infant learns how to walk, as he or she will switch back to their more comfortable state of crawling.

Control parameters are the variables that induce a shift to a new attractive state. Speed, injuries, weight and force can be identified as control parameters that can limit the performance. When

this occurs it is known as a rate limiter, which causes a disturbance in the movement pattern. Fear and injury are examples of rate limiters.

Movement can also be constrained by boundaries that limit movement possibilities; these boundaries are termed constraints. Individual constraints involve structure (height, weight, gender) and function, which includes psychological and cognitive variables such as motivation, arousal and intellect. Task constraints include the goals of the movement, rules and equipment, whereas environmental constraints are external to the mover and can be either physical or socio-cultural, which includes norms and pressure.

3.3 DEVELOPMENT PHASES

Motor development consists of different phases that occur from birth to childhood. They are reflexive, rudimentary, fundamental and sport-specific skills (Gallahue & Ozmun, 2002; Pienaar, 2009).

The first phase of motor development is the reflexive phase, which begins during foetal development and continues until birth. At this stage movements occur as reflexes and are controlled subconsciously; examples in this phase include sucking (Pienaar, 2009).

The reflexive phase develops simultaneously with the first phase of movement, which is the characteristic of infancy and toddlerhood (Gallahue & Donnelly, 2003).

The second phase of motor development is the rudimentary phase, which begins after birth and continues to the age of two years. Locomotor skills, such as crawling and walking, and manipulative skills such as reaching and grabbing and sitting now start to develop. Both the reflexive and rudimentary phases are characteristic of the baby and toddler years and are critical to the foundation of the fundamental and more specialised movement phases that occur during toddlerhood and early childhood years (Gallahue & Donnelly, 2003:62; Pienaar, 2009).

The fundamental movement phase is the third phase of motor development and occurs between the early childhood years of two and seven. This phase requires the mastery of basic motor skills, which are defined by stability, locomotor and manipulative skills. These originate during the first two years of life and are developed and refined during the fundamental phase (Gallahue &

Donnely, 2003:62; Pienaar, 2009). The performance of the fundamental skills can be subdivided into initial, elementary and mature phases. The initial phase is characterised by movements that are relatively crude and un-co-ordinated and which occur at an early age of two to three years. In the elementary phase, coordination and rhythm improve with greater movement control at the age of four to five years, and lastly the mature stage displays skills that are characterised as well-co-ordinated, mechanically correct and having a smooth execution. They occur at the six to seven years of age (Gallahue & Donnely, 2003; Pienaar, 2012).

The fourth stage of motor development is the specialised movement or sport-related movement. This phase is subdivided into three further phases, which include the general specific and the specialisation phases (Gallahue & Donnely, 2003; Pienaar, 2012). Children in grades 1–3, between the ages of 10 years fall in the general phase, which is characterised by refinement of motor skills.

In soccer, netball and rugby children start by playing for fun and enjoyment. As they play they acquire generic motor skills such as hand/eye coordination when throwing the ball and mobility. Through a structured programme such as practising in a team in various age groups (6–14 years) basic motor skills such as balance, accuracy, passing, catching and running are practised. This study focuses on specialised or sport-related movement.

3.4 MOTOR SKILL RELATED TO PHYSICAL FITNESS

Physical fitness is defined as having the energy and strength to perform daily activities vigorously and alertly without getting “run down”, and having energy left over to enjoy leisure-time activities and meet emergency demands (Sherrill, 1993). Efficiently working lungs and heart, general alertness, muscular strength, energy and stamina are the overall signs of physical fitness.

The components of motor skill-related physical fitness are called skill-related, because people who possess them find it easy to achieve high levels of performance in motor skills such as those required in sports and specific types of job (Corbin, Lindsey & Welk, 2000).

For the purpose of this research the following skills – agility, balance, coordination, speed and reaction time and accuracy – are important to execute the movements related to talent detection, identification and development in soccer, netball and rugby.

3.4.1 Agility

The ABCs of skill-related fitness are commonly referred to as the ability to change direction quickly and to move as efficiently as possible with minimal energy expenditure. These components can be improved by the use of developmental training programmes and specific exercises. Strength is the most important factor of agility, which allows the body to move with more ease and efficiency (Prentice, 1999).

3.4.2 Flexibility

Flexibility is another important component of balance and coordination. Flexibility increases one's range of motion. The most common motor skill used by coaches and physical educators that measures and demonstrate flexibility in rugby, soccer and netball is the sit and reach test (Cotton & O'Connor, 2012).

3.4.3 Speed

Speed is the ability to move the body as fast as possible from one point to another. Speed is the rate of movement or the amount of time taken for a body to travel between two points. Speed usually refers to running speed, as in the sprints in rugby, soccer and netball. However, speed can also be performed as leg speed in soccer as well as in rugby when kicking the ball, and arm speed in the throwing motion in netball (Corbin *et al.*, 2000).

3.4.4 Reaction Time

Reaction time is the time elapsed between stimulation and the beginning of reaction to that stimulation (Corbin *et al.*, 2000). It can also be defined as the amount of time between the presentation of an unanticipated stimulus and the start of a response. Reaction time can be said to be innate and is primarily affected by one's state of mental alertness. It adds to output especially in terms of running speed.

According to Kosinski (2005) the reaction to sound is faster than reaction to light. The author adds that reaction time to touch is intermediate. Differences in reaction time between these types of stimuli persist whether the subject is asked to make a simple or complex response. Kosinski (2005) also found that visual stimuli are longer in duration, elicit faster reaction times and get the same result for auditory stimuli. There also three major factors that typically occur when reaction time is measured. An example would be a subject being given a signal that alerts him or her that a stimulus signal will occur to which the subject must respond. The warning signal and the stimulus signal can be in any sensory modality. Sports provide with situations where athletes must react quickly and choose among a variety of stimuli, for example the soccer goalkeeper trying to anticipate where the shot will be taken (Kosinski, 2005).

Many sports require rapid decision making, for example defending against an opponent in soccer and rugby or intercepting a pass in netball. By deliberately increasing the number of stimulus/response alerts you present to your opponent you automatically delay his or her processing time (Kosinski, 2005).

Factors that influence reaction time are the nature and amount of practice. Practice does not greatly affect simple reaction time; but it can have a pronounced effect on reducing reaction time when there are large numbers of alternatives. Another factor that affects reaction time is the left and right hand hemispheres of the cerebrum. The left hemisphere is regarded as the verbal and logical brain and the right hemisphere is thought to govern creativity and spatial relations. It is found that left-handed people have an inherent reaction time advantage (Kosinski, 2005).

3.4.5 Accuracy

Throwing accuracy is applied in rugby, soccer and netball and is one of the simplest skills in the game. The athlete only performs one task, which involves kicking the ball using both legs in soccer and rugby and throwing the ball into the net in netball. Accuracy also involves working in conjunction with strength, where one controls the accuracy of the throw and the other controls the range of the throw depending on the weight of the subject. Gender differences have also been shown across many domains and motor skills are no exception. One of the findings is the advantages of men in targeting abilities. Moreno, Diaz, Campos-Romo & Fernandez-Ruiz

(2010) have shown that men throw better than women. It is possible that men and women have different vasomotor abilities and that such differences result in different gender accuracies.

3.4.6 Balance

The ability to establish and maintain one's balance has long been recognised as an important motor skill. Balance involves factors such as the general eye/motor factor, the general kinaesthetic response factor, general ampulator sensitivity, vertical semi-circular canal function, and tension-giving reinforcements. The complex quality called balance involves reflexes, vision, the inner ear, cerebellum and skeletal muscular system, which form a specific kind of coordination. The ability to maintain balance can be divided to two types, static and dynamic balance. Static balance involves the maintenance of equilibrium in a fixed position such as while standing on one foot on a narrow stick for a period of time. Dynamic balance on the other hand is when the equilibrium must be maintained while moving. Walking on a balance beam is an example of dynamic balance (Kosinski (2005)).

Balance development is dependent on visual reflex and kinaesthetic development and when these systems are fully functioning, a high level of balance development is possible. Success in certain activities depends on balance. In soccer and rugby tackling, pushing is the common factor that displays strength and athletes with good balance do not fall easily when in contact with an opponent. Furthermore, stability is also important in contact sport such as rugby. The basic factors that influence balance are the height of the centre of gravity, the size of the basic support and the line of gravity, although the basic principles that aid balance include:

- the lower the base, the greater the balance and stability
- the larger the base of support, the greater the balance and stability
- the nearer the line of gravity is to the centre of the base of support, the greater the stability

3.5 LEARNING AND MOVEMENT AWARENESS

Movement awareness is a knowledge base that allows the child to select movements that meet the demands of a specific task. They can also be divided into four categories: action, effort, space and relational awareness (Carson, 2001).

Action awareness according to Carson (2001) comprises three categories of movement actions that a child is able to perform: 1) travelling, 2) manipulation and 3) stabilising. Children should be allowed the maximum time to practise the basic components of awareness that are needed to develop in a predictable sequence, and competence in these depends on maximum appropriate practice of basic skills and actions. Practice opportunities allow children an opportunity to master basic skills and then refine and combine these skills into specialised actions.

Effort awareness is an understanding of how the body moves and that muscular effort is required to produce, maintain, stop and regulate movement and is related to the speed and rhythm of a particular movement. Children need to control the speed of movement in acceleration and deceleration.

Space awareness involves where and how the body should move, whilst relational awareness is understanding how the body creates a relationship with other segments or objects.

3.6 LEARNING MOTOR SKILLS

3.6.1 Learning Defined

Learning is defined as a process of acquiring the capability of producing skilled actions; it occurs as a direct result of practice or experience. Learning cannot be observed directly and is assumed to produce relatively permanent changes in the ability to perform skilled behaviour. Motor skills are defined into two categories: gross motor and fine motor (Schmid & Lee, 2005). These motor skills can further be divided into gross, fine, discrete, serial, continuous, open and closed skills.

3.6.2 Categories of motor skill

3.6.2.1 Gross motor skills

Gross motor skills are characterised as involving large musculature and a goal where the precision of movement is not as important to the successful execution of the skill. Fundamental skills belong under gross motor skills (Gregory & Isaacs, 2005).

3.6.2.2 Fine motor skills

These are the skills that require control of the small muscles of the body. These skills involve hand/eye coordination and require a high degree of precision of movement to perform the particular skill at a high level of accomplishment (Gregory & Isaacs, 2005).

3.6.2.3 Discrete motor skills

Discrete movements are recognisable as having a beginning and end; the performer must adhere to the beginning and end boundaries (Schmid & Lee, 2005.) Examples are throwing and striking.

3.6.2.4 Serial motor skills

A combination of discrete motor skills can be put together into a series, examples include gymnastics routines (Schmid & Lee, 2005).

3.6.2.5 Continuous motor skills

Continuous skills have arbitrary beginning and end points. The performer or some external agent, rather than the characteristics of the skill itself, determines the beginning and end points of the skill. Continuous skills require the person to repeat movements during the course of performing the skill. Good examples of continuous motor skills are swimming and running (Schmid & Lee, 2005).

3.6.2.6 Open motor skills

Open skills occur when the environment is constantly changing. The performer must act according to the behaviour of the object or the characteristics of the environment. Open skills are typically external and the performer cannot initiate action without an external force. Examples include wrestling (Schmid & Lee, 2005).

3.6.2.7 Closed skills

A closed skill is one that is not affected by anything that can be performed in a predictable and stable environment. It can be repeated exactly the same each time. It is self-paced and is not determined by the environment. When performing a closed skill athletes decide when to start and finish the action. Examples are a forward roll or a set shot in netball (Schmidt & Wrisberg, 2008).

3.7 STEPS OF MOTOR LEARNING

Before the development of sport-specific skills and large movement capacity, athletes must learn the fundamentals of movement skills. The age period for the development of fundamental skills is between two and seven years old (Hakkarainen, Timo, Kalaja, Lämsä, Nikander & Risk, 2009). Fundamental skills are balance, handling an instrument, and movement skills such as jumping, kicking and hitting (Autio, 2001). These fundamental movement skills are the foundations of sport-specific learning.

Usually a child learns these basic skills before he or she starts elementary school. When a child reaches the age of six, usually the nervous system is developed to 80–90% of its maximum. After this point the brain continues developing but this development is based on improvement between neural connections. Versatile motor stimulus should be emphasised until a child reaches the age of seven (Hakkarainen *et al.*, 2009). At the ages of seven to eight a child starts to learn specialised movements. This period lasts until the child reaches puberty, but it is still recommended to maintain and develop these abilities in terms of sport analysis after puberty (Hakkarainen *et al.*, 2009).

Motor skills vary from hard to easy although the learning process is similar. McNorris (2001) divided skill learning into three stages: cognitive, associative and autonomous. The cognitive stage represents the first portion of the continuum of the learning process and the learner is not able to move rapidly from stage to stage. According to Kempainen (2003), a learned skill stays in movement memory. So after a long time of not performing a particular skill, it is still easy for an individual to perform the skill.

The ability to learn a skill depends on several factors: capacity, coordination, attitude, like-mindedness, body type, cultural background, emotions, physical fitness, learning style, body's level of maturation, motivation, and previous physical and social experiences (Kemppinen, 2003). Properly used, feedback creates the belief in an athlete that he or she has the skills to successfully meet specific physical and mental challenges (Weinberg & Gould, 2007; Lampinen & Forsman, 2008; Wulf, 2007).

Teaching skills should be divided into sequences. The learner has to be able to transfer and apply learned information onto new information. Transfer of learning is generally defined as the influence of having previously practised skills transferred to the process of learning a new skill. A learner is able to apply a learned skill from one situation to another learning situation. It appears that this influence maybe positive, negative or neutral (Weinberg & Gould, 2007; Lampinen & Forsman, 2008; Wulf, 2007). Positive transfer occurs when learning in one context improves performance in some other context. Negative transfer occurs when learning in one context impacts negatively on performance in another, whereas the neutral transfer occurs when experience of a previous skill has no effect on the training of a new skill.

Motor skill learning happens from easy performances to the difficult performance. Learning a new skill begins with visualisation, which occurs when an athlete shapes an image of the procedures included in the new skill and especially of the objectives that these procedures aim to achieve (Lampinen & Forsman, 2008; Autio, 2001; Kemppinen, 1998). As learners begin to acquire a new skill, they confront some specific cognitive-oriented problems.

In motor learning there are three different key stages – 1) cognitive, 2) associative and 3) autonomous – that athletes need to acquire before practising new tactics and technical skills.

3.7.1 Cognitive stage

At the beginning of the learning process a learner shapes an image of the new skill. This stage is marked by a large number of errors. As a result of making mistakes and experimenting, different parts begin to fit each other and with these different parts the athlete starts to form continuous movement chains, which emphasise feedback when the learner makes mistakes. This stage is marked by performances that are highly variable (Lampinen & Forsman, 2008; Magill, 1993;

Schmid & Lee, 2005). The beginners may know that they are doing something wrong, but they are not able to improve their performance for the next time by themselves. It is also important for the coach to give positive feedback and demonstrate the right techniques that the learners need to enhance the skill correctly. At this stage teachers use instructions, models, augmented feedback and various other training techniques that are most effective during this stage (Lampinen & Forsman, 2008; Magill, 1993; Schmid & Lee, 2005).

3.7.2 Associative stage

Associative stage begins after the individual has determined the most effective way of doing the task. In this stage the errors are fewer, and the movements are more gradual and more consistent. This stage requires a lot of repetitions and the performance starts to work and develop. After countless correct repetitions performing the skill gets easier and gross errors start to disappear. The learners start to detect the errors by themselves, but their ability to locate the errors is not perfect (Lampinen & Forsman, 2008; Magill, 1993; Schmid & Lee, 2005).

3.7.3 Autonomous stage

The skill has to be automatic or habitual. The learner performs the skill without thinking of it at all. Skilled performers are able to detect their own errors, and are also able to make proper adjustments to correct them. This stage requires a tremendous amount of practice and countless repetitions. This stage allows the performers to produce the skill without having to concentrate on the entire movement. They are able to attend to other aspects, which will permit optimal performance (Lampinen & Forsman, 2008; Magill, 1993).

3.8 FUNDAMENTAL SKILLS IN CHILDHOOD DEVELOPMENT

Children are introduced to skill themes and concepts in grade 5 (6–8 years). They are encouraged and assisted to acquire fundamental competencies. In grades 6–8 the focus shifts from building a foundation to using skills and concepts in a variety of movement forms. Students are exposed to a variety of sports and physical activities designed to stimulate interest in health-enhancing lifetime activities. Athletes begin to discover which sporting code they are interested in and if they prefer group or individual sporting codes. At this age the goal is to introduce athletes to as

many different movement forms as possible and assist them to discover the types of activity that are enjoyable and meaningful to them (Graham *et al.*, 2003).

Locomotor skills have been described as movements that transport people from one physical location to another (Gabbard, 2008). This research focuses on the general locomotor skills of running, jumping, throwing, passing, kicking, catching and defending. These skills form the basics of assessing the coaches' ability to develop the athletes in their respective codes. The knowledge of skills and the manifestation thereof in the development of athletes is the challenge to the coach and is formulated according to the objectives of the study.

3.8.1 Running

Running has been characterised as an extension of walking and consists of a support and flight base, although there are differences between running and walking. Running does not have a double support base as there is a flight phase during which neither foot is in contact with the ground. In the running process changes take place over developmental time, resulting in a mature running pattern. Before walking children need to overcome difficulties such as exerting enough lower-limb strength to propel them through the air and to handle additional force; secondly they need motor coordination to control the rapidly moving legs (Gregory & Isaacs, 2005).

A running pattern can be characterised by three phases: 1) support, 2) flight and 3) recovery (Gregory & Isaacs, 2005). In the support phase the leg absorbs the impact of the striking foot, supports the foot and body and maintains forward motion while accelerating the body's centre of gravity as the leg provides thrust to propel the body forward. In the recovery phase the leg that has been projected backward must be brought forward to repeat its function in the running cycle.

Haywood and Getchell (2009) identify the following running stages that are executed at various ages: initial, elementary and mature stages. In the **initial stages**:

- The running movements executed by athletes are executed by the legs and feet.
- There is a minimal flight period.
- The feet remain flat.
- The legs are maintained with a base of support.

- The player's arms are moved to the middle and sides.

The **elementary stage** of running should be executed as follows:

- The hip, knee and ankle extension are increased at the take-off.
- There is increased height of the forward knee at the take-off.
- The length of the running stride is increased
- The speed of running is increased.
- The flight period is increased.
- Horizontal arm swings are increased.

The **mature stage** of running should be executed as follows:

- There is a narrow base of support in the legs.
- The length of the athlete's running stride increases further.
- There is great application of force.
- There is a slight forward lean of the trunk.
- The arms move in a large arc, in opposition to the leg movement.
- The arms are bent at the elbows at approximately 90 degrees.
- The recovery knee is raised high and swings forward quickly.
- The support leg bends slightly at contact and subsequently extends quickly and completely.

Application of running in the different sporting codes

Sporting Code: Soccer

In soccer running is vital and performed as an action that is divided into two stages: 1) swinging and 2) support (Williams & Reilly, 2003). As an application of running in soccer the following running movements are under investigation.

- Support begins at the point where the foot makes contact with the ground and ends at the point the foot leaves contact with the ground while the swing begins at the toe-off and ends at the foot strike.
- At the toe-off the swing leg is in a position of extension of the hip, extension of the knee and plantar flexion of the ankle.
- When a foot strike occurs, the hip is in flexion, the knee is in slight flexion and the ankle is dorsiflexed and slightly involved.

Sporting Code: Rugby

In rugby movement is characterised by quick running, turning and change of direction when attacking and defending. The Try Rugby Complete Skill and Drills Manual (2007) identified the following rugby running actions:

- The players must keep the head still and look forward.
- The shoulders and hands must be relaxed.
- Elbows must be at 90 degrees.
- The wrists must brush the hips.
- Players must maintain fast feet and fast elbows.
- When moving laterally they must push with the outside leg.

Sporting Code: Netball

According to the New South Wales Department of Education and Community (2012), in netball the application of running requires:

- Athletes must land on the ball of the foot.
- The non-support knee must bend at least 90 degrees during the recovery phase.
- Athletes must have high knees lifted.

- The head and trunk must be stable and the eyes focused forward.
- Elbows must be bent at 90 degrees.
- Arms must drive forward and back in opposition to the legs.

3.8.2 Jumping (Vertical)

Jumping is one of the most diverse and fundamental motor skills. Gabbard (2008) has identified various ways of jumping such as leaping and hopping. In this study the vertical jump is focused on, as the identified codes practise this movement.

During the **initial stage** the following jumping movement is performed:

- Form is variable and unpredictable.
- There is a limited and inconsistent preparatory crouch.
- The legs are not fully extended at take-off.
- There is very quick flexion of hips and knees.
- There is sideways elevation of the arms and shoulders.
- There is forward flexion of the head.

During the **elementary stage** a jumping movement is characterised by:

- Performing a preparatory crouch becomes deeper with increased knee bend.
- A two-foot take-off takes place.
- Arms are used to aid in flight and balance, but often unequally.
- The body does not extend completely during flight.

During the **mature stage** of jumping:

- Athletes perform a deep preparatory crouch with flexion of the hips, knees and ankles.
- Hips, knees and ankles must extend completely upon take-off.
- Athletes execute very quick flexion of hips and knees.
- Arms are swung forward and up.
- One hand continues up while the other comes down, resulting in an effective tipping of the shoulder girdle near the peak of the jump.
- There is backward dorsiflexion of the head.
- There is extension of the trunk at the crest of the reach.
- Landing is on the balls of the feet with the hip and knees flexed.

An application of jumping to the different sporting codes under investigation

Sporting Code: Soccer

In soccer Williams and Reilly (2003) propose that the application of jumping demonstrates the following:

- Jump from a standing position.
- Standing is usually performed from both feet and from one leg when using run-up.
- Trunk, hips and knees must flex and ankle must dorsiflex.
- The elbow and shoulders are extended.
- Arms are moved rapidly forward and upwards by flexion of shoulders and extension of elbows.

Sporting Code: Rugby

In rugby the Try Rugby Complete Skill and Drills Manual (2007) recommends:

- Crouch on bending knees with weight on the balls of the feet.
- Arms must be bent at chest level and fingers spread.
- Drive legs and arms and reach for the ball.
- Land on two feet and bend knees on landing.

Sporting Code: Netball

According to the New South Wales Department of Education and Community (2012), in order to perform the jumping movement:

- Eyes must be focused forward or upwards throughout the jump.
- Crouch with knees bent and arms behind the body.
- Use a forceful upward thrust of arms as the legs straighten to take-off.
- Legs must straighten in the air.
- Contact ground with front part of feet and knees to absorb the force of landing.
- Achieve a balanced landing with no more than one step in any direction.

3.8.3 Kicking/Passing

Kicking is distinctive in soccer and rugby, whereas in netball athletes use their hands to pass. Passing is used in soccer, netball and rugby.

To kick proficiently in both rugby and soccer the individual must have variables with eye/foot coordination. The kick chosen is based on how the ball is when contacted and the techniques that are applied (Gallahue & Ozmun, 2002). In both rugby and soccer a place kick is performed when the ball is either on the ground or on a kicking toe.

In the **initial stages** of kicking or passing the characteristics should be:

- a simple pushing of the ball with the feet
- straight pendular motion of kicking leg
- very limited range of motion, minimal backswing and follow-through
- no step forward with the non-kicking leg
- trunk upright with no rotation present and very limited movement of the upper body
- the knee of the kicking leg often bent at the contact
- arms held out to the sides to help maintain balance

The **elementary stage** of kicking or passing is characterised by:

- The range of motion of the kicking leg (backswing and follow-through) increases at the hip and knee.
- The kicker takes one or more deliberate steps while approaching the ball.
- The kicker tends to start further behind the ball and move his or her body forward into the kick.
- The support leg is placed slightly to the side of the ball.
- The kicking leg is in a cocked position and tends to remain bent throughout the kick.
- The kicking leg often retracts after completing the kick so that there is minimal follow-through
- There is an increase in compensatory trunk lean and arm opposition.

During the **mature stage** of kicking or passing movement is characterised by:

- Following one or more steps the kicker becomes airborne before contacting the ball.
- The trunk is rotated to the side and the knee of kicking leg is flexed.
- The knee of the kicking leg extends rapidly prior to contacting the ball.

- The arms are used in opposition to the legs during the kick.
- The trunk bends at the waist during follow-through.

An application of kicking to the different sporting codes under investigation

Sporting Code: Soccer

Passing is the ability to place the ball in a wanted destination both on the ground and in the air and to shoot as well as long distances (Carr, 2005). The ball is kicked with the inside of the foot using a pushing action. When passing the ball athletes should practise the following steps, which are recommended by the Aussie Sports Coaching Programme for Soccer (1987).

- Players must run towards the ball.
- Turn the kicking leg outward from the hip so that the inside of the foot is facing the target.
- Bring the non-kicking foot alongside the ball.
- Contact the middle of the ball so that it travels along the ground.
- Watch the ball as you make contact.
- Using a push rather than the kicking action.
- Follow through with your foot in the direction of your target.
- The area of contact should be the inside of the foot.

Sporting Code: Rugby

According to the Try Rugby Complete Skill and Drills Manual (2007), kicking the ball in rugby is characterised by:

- The hands and elbows are up and fingers spread.
- The ball is held outside the hip; player leans forward over the ball.

- Turn head quickly to look at the target.
- Transfer the ball across the body towards the target.
- Fingers point at target after the pass.

Sporting Code: Netball

The New South Wales Department of Education and Community (2012) requires that when performing two-handed passes the following must occur:

- Eyes are focused on the object throughout the pass.
- Contact the ball with the fingers not the whole hand.
- Hold the ball at the sides, thumbs down, fingers spread, elbows in.
- Bring the ball forward toward the chest area, then straighten the arms and push the ball away with the fingers.

3.8.4 Throwing

The overarm throw, also known as the overhand or overhead throw, and variations can be used in netball, soccer and rugby. In practising the overarm throw athletes go as follows stages.

During the **initial stage** of throwing the following characteristics should apply:

- A throw resembles a push. Movement is limited to the front of the body and only the elbow is used to push the object.
- The fingers are spread at the point of release.
- The body remains straight.
- The legs are straight and stationary.

The **elementary stage** of throwing is characterised by:

- During preparation, the trunk and shoulder rotate toward the throwing side.

- The foot on the same side as the throwing arm steps forward.
- During the throw, the arms swing high over shoulders with body leaning forward.
- The throwing arm reaches forwards and downward after the ball is released.

At the **mature stage** the following should apply:

- The throwing arm swings backward and upward.
- The elbow of the non-throwing arm is raised for balance.
- The elbow is bent at a right-angle.
- A forward step is taken by the foot opposite the throwing arm.
- During the throw, the body rotates to face forward and body weight transfers from back to front.
- The elbow straightens before release, with the throwing arm reaching forward and downward in follow-through.

An application of throwing to the different sporting codes under investigation

Sporting Code: Soccer

Throw-ins in soccer can be either overarm or underarm. The overarm throw allows the goalkeeper to cover a long distance. Correct overarm throwing includes holding the ball with the palm of the hand and fingers spread; the underarm throw is used to pass the ball to players outside the penalty box (Carr, 2005).

According to the Aussie Sports Coaching Programme for Soccer (1987) the following steps are performed in throw-ins:

- Hold the ball in both hands above your head. Swing it behind your head and lean back, arching your body.

- Bend your body forward and pull the ball forward using all the power in your hips and arms.
- Follow-through with your arms. Watch the flight of the ball.
- Both your feet must be on the ground when you release the ball.

Sporting Code: Netball

In netball, goal shooting demonstrates the throwing technique. The New South Wales Department of Educational Communities (2012) identified the key elements when throwing the ball:

- Rest the ball on the base of the fingers and thumbs.
- Hold the ball high above the head with two hands.
- The elbow points towards the target.
- Bend the knees and elbows and straighten arms in the direction of the target.

Sporting Code: Rugby

According to the Try Rugby Complete Skill and Drills Manual (2007), in rugby throwing the ball is demonstrated by having:

- The shoulder width apart face the target.
- Hands and elbows are high, fingers are spread wide.
- Elbows in, extend the arms forcefully toward the target, keeping the trunk still.
- Fingers point at the target after the throw.
- Throw for accuracy before distance.

3.8.5 Defending

Numerous skills are essential for the success of a team's defensive play. Defensive players must possess good running speed and must be able to move quickly to various locations on the field. Defensive players must be able to guard or mark opposing players to prevent easy passing and scoring opportunities, and should steal the ball from the opposition if given the chance. Defensive players must be adept at tackling, the action of using the feet to take the ball from an opposing player (Mielke, 2003).

During the **initial stage** of defending the following characteristics should apply:

- To be a good defender, an athlete needs to stay on his or her feet while defending.
- Position yourself between the attacking player and your goal, and then patiently wait for an opportune moment to block or steal the ball.
- If the ball is too far away to effectively block or steal, then you may choose to use the slide tackle.

During the **elementary stage** of defending the following characteristics should apply (Try Rugby Complete Skill and Drills Manual (2007):

- Players should be quick and get to the ball first.
- Players should send the ball as high as possible. If possible, it is best to clear the ball far downfield to initiate an attack.
- Often players can clear the ball with a volley or a header. They must not wait for the ball to drop and bounce before making a play.

During the **mature stage** of defending the following characteristics should apply:

- A good defensive player must be able to move quickly in any direction.
- To move effectively, push off the foot opposite the direction in which there is movement. For quickness, players should move their feet in rapid, short steps.

- An important skill to practise and perfect is the side-step or slide. This fundamental skill is widely used in many sports that require a player to shuffle sideways.
- A great way to practise the side step is to slide from the goal box line to the goal line, side stepping 10 times. Rest and do 10 more.

An application of defending to the different sporting codes under investigation

Sporting Code: Soccer

Carson (2001) identifies defending techniques as:

- Getting as close to the ball as possible to get a firm pull onto the ball
- Having the eye on the ball
- Maintaining distance between the defender and attacker
- Defender must back up for three metres from the goal (Luondo, 1996).

Sporting Code: Netball

Constant defensive pressure in netball will destroy the quality of opposition play. Forcing the attacking team to make quick decisions reduces their options. Good positioning of defensive players will limit the passing angles and deny space and speed to the opposition (International Federation of Netball Associations (IFNA, 2008). The following characteristics are important for defending in netball:

- Place the opposite foot to arm outstretched over ball forward.
- Same arm/foot forward
- Balance on both feet with both arms outstretched over the ball.
- Balance on both feet with one arm outstretched over ball.
- The other arm is used for balance and to cover a possible pass to the other shooter.

Sporting Code: Rugby

According to the Try Rugby Complete Skill and Drills Manual (2007), defending the ball in rugby is characterised by:

- Athletes should hold the ball in two hands.
- Elbows should be up and fingers spread; hold the ball outside the hip.
- Lean forward over the ball.
- Turn the head quickly to look at the target; transfer the ball across the body towards the target; fingers point at target after the pass.

3.8.6 Catching

Teaching catching to young players must be graduated from the ground to above head height so that their confidence and technique can improve before they deal with the difficult above-the-head ball (Snow & Thomas, 2009).

During the **initial stage** of catching the following characteristics should apply:

- Eyes must be focused on the ball throughout the catch.
- Preparatory position is with elbows bent and hands in front of the body.
- Hands move to meet the ball.

During the **elementary stage** of catching the following characteristics should apply:

- Hands and fingers move to meet the ball.
- Hands and fingers position correctly to catch the ball.

During the **mature stage** of catching the following characteristics should apply:

- Catch and control is done with hands only.
- Elbows bend to absorb force of the ball.

An application of catching to the different sporting codes under investigation

Sporting Code: Soccer

In soccer the correct technique required by goalkeepers in catching the ball is characterised by:

- Feet must be square to the body with shoulders square to the ball.
- Hands must always lead; keep the body moving forward.
- Be set before the shooter plants his or her non-kicking foot.
- Maintain a “W” or diamond shape with the hands to catch high balls.
- Keep hands together, fingers pointing towards the ground with pinkies together for low balls.

Sporting Code: Rugby

In rugby the correct technique required by players to catch the ball is characterised by:

- Head and eyes must be looking at the ball.
- Move quickly to the ball’s drop zone.
- Adjust your position to get under the ball, with hands up ready to take the ball.
- Turn the body for protection during contact and also to avoid a potential knock-on if the ball is dropped.
- Rise on one knee to protect yourself from any potential contact.
- As you land brace yourself for contact.

Sporting Code: Netball

According to the International Federation of Netball Associations (IFNA) (2008), the characteristics for catching in netball are:

- Having the athlete’s foot forward to arm outstretched over the ball
- Same arm or foot forward
- Balance on both feet with one arm outstretched over the ball
- Balance on both feet with one arm outstretched.

The researcher identified general motor skills (kicking, jumping, catching, defending, throw-ins and running) associated with soccer, netball and rugby. These skills are characterised into initial, elementary and matured stages of motor learning. For the purpose of this study the skills serves as the objectives of the study in order to identify whether coaches teach the skills according to the literature and identifying challenges for talent, detection, identification and development of athletes.

3.9 DIDACTIC FOUNDATIONS OF TEACHING AND LEARNING (DEVELOPMENT OF SKILLS) RELATED TO THE SPORTING CODES UNDER INVESTIGATION

3.9.1 Introduction

Coaching is dependent on a theoretical frame of reference, namely the “how” of the didactic situation. It means that in order to achieve success in coaching, certain standards of teaching and learning should be met if participants are to experience success as an outcome of the didactic process (Martens, 2004). Sport development is focused on the practical manifestation of teaching and learning. The art of teaching and learning (development) sport skills is a challenge to sport development and specifically to the abilities of the coach.

Didactic accountability should be the aim of a coach in practice. The didactic process is different in learning and teaching (Martens, 2004). These two processes aim to help athletes to learn and improve their skills and performance. In this chapter the focus is on teaching athletes technical and tactical skills.

3.9.2 The concept of learning skills

3.9.2.1 Phases of learning

Even though motor skills vary widely in type and complexity, the learning process that individuals go through when acquiring various motor skills is similar (Wulf, 2007). In learning the technical skills of the sport, athletes pass through three stages: mental blueprints, abstracting rules and a motor programme.

(a) Mental Blueprints

Athletes learn technical skills by repeating mental blueprints by repeated practice of the task. Highly complex techniques such as shooting in netball and soccer consist of many different responses of a similar type. Each mental blueprint is useful only under conditions identical to those under which it was developed (Martens, 2004).

(b) Abstracting Rules

Athletes learn complex technical skills in a different way. The process of abstracting information from specific experiences to create rules for guiding future behaviour is the way humans learn many things (Martens, 2004). An example is that when learning various skills you combine rules in order to learn a new set of skills. Each time athletes practise a technical skill their brains seek to abstract the four types of movement:

- the type of environment (playing field or the position of opposing players)
- the demands of the movement being performed, such as speed
- the consequences as perceived by the senses during and after movement
- comparison of the actual outcome with the intended outcome based on available feedback (Martens, 2004).

(c) Motor Programme

Motor programme is a complex set of rules that when called into action permits athletes to produce a movement. Once the movement is initiated the basic pattern of action is carried out, even though the wrong movement may have been selected (Martens, 2004). Minor adjustments can be made in the basic movement pattern as it is being executed, but the pattern itself cannot be changed. Coaches have a major responsibility to help athletes develop good motor programmes. Many factors affect the learning of motor programmes: talent, maturation level, motor and cognitive intelligence, capacity to pay attention and concentrate, and motivation (Martens, 2004).

3.9.2.2 Stages of learning

Everything we do requires awareness first, then learning and application, and then practice. As athletes practise they move through three stages of learning: the mental, practice and automatic stages (Martens, 2004).

(a) Mental Stage

In this stage an athlete starts learning a new skill and understanding what to do to perform the technique correctly. This requires a great deal of cognitive activity as the athlete searches for a mental plan of the correct technique, hence the beginning stage of learning is called the mental stage. During this stage the brain seeks connections with previous activities learned, looks for familiar movement patterns and begins to build new neural connections.

Characteristics of the mental stage:

- The first thing an athlete needs at this stage is the overall picture of the task, which is provided by demonstration and explanation.
- The goal when practising during this mental stage is to develop a good plan for what you need to do.

(b) Practice Stage

The second stage of learning is called the practice stage. The emphasis of the stage is on the quality of practice to refine the technique. The athlete will spend more time on the mental stage.

Characteristics of the practice stage:

- During this stage the mental energy required will be less and mental activity will shift from an emphasis on learning the sequence of movements to refining the timing and coordination.
- As athletes learn the basic fundamentals the errors decrease and the performance becomes more consistent.

- As the athlete begins practising the skill they will benefit from sensory feedback information.
- In the early stages of learning sensory feedback is often not enough information to optimise learning.
- Athletes need to receive constant feedback on errors.
- Offering positive reinforcement when senses tell you you're performing correctly can be helpful.

(c) Automatic Stage

As athletes repeatedly practise a new skill, the technique becomes more and more automatic. At this stage the athlete frees up more mental capacity, which can be used to focus on the more critical elements of the technique to achieve superior performance.

Characteristics of the automatic stage:

- The technique being practised is very reliable and when the athlete does make an error, he or she frequently knows what to do to correct it.
- In the automatic stage, over analysing technique is likely to hurt the athlete's performance. The skill is now so automatic that if it is analysed during execution, this disrupts performance.
- Developing a technical sport skill to the automatic stage is a wonderful feeling but the technique must be practised continually to keep fit in the automatic stage.

3.9.3 The concept of teaching skills

In chapters two and three the study focused on the different skills of development and motor development respectively. The researcher included these two chapters as they are related to the application of the technical and tactical skills of the respective codes under investigation.

3.9.3.1 Teaching technical skills

Technical skills include the coach's ability to teach athletes how to perform them, the flair to detect errors and correct them and the ability to recognise when those skills come into play in a

game (Martens, 2004). These are all things that will develop over time with the accumulation of experience (Martens, 2004).

In teaching the technical skills in sport the coach will introduce different steps, namely:

Step 1: Introduce the technical skills

Introduce the technical skill with enthusiasm expressed in action and words. Speak clearly and use language the athletes can understand. Be brief; avoid sarcasm, annoying mannerisms and abusive language as they create a negative learning environment. An introduction includes getting the team's attention, arranging the team, naming the technique and explaining how it is used in the game, practising and correcting the errors.

(a) Getting the team's attention

Develop a routine for starting each teaching session. Coaches should position themselves to face the team when they speak. If some athletes are inattentive, look directly at them, move closer to them and firmly address them by name (Martens, 2004).

(b) Arranging the team

Coaches must be sure to organise the athletes so they can see and hear the coach. Avoid any visual distractions or noise in the background and ensure that athletes are not facing the sun.

(c) Naming the technique and explaining how it is used in the game

Naming the technical skills is important so that the coach can make quick reference to them. If a skill is known by athletes, name that skill and provide a description title that is easy to remember.

STEP 2: Demonstrating and explain the technical skill

Demonstration and explanation are the primary ways to help athletes acquire a mental plan for a technique. Use someone who can do the demonstration and perform the technique proficiently. An effective demonstration and explanation consists of three steps: demonstrating and

explaining, relating the technique to previously learned techniques and checking for understanding.

(a) Demonstrate

The following demonstration guidelines are important when demonstrating any technique:

- Tell the athletes how the demonstration will be given and what to look for.
- Athletes must pay attention.
- Demonstrate the whole technique as it would be performed in a competitive situation.
- Demonstrate the technique several times, showing how to perform it from different angles.
- Perform the technique from all sides.
- If the technique is complex, demonstrate the major parts separately.
- If the technique is performed rapidly, demonstrate it at a slower speed.

(b) Follow these guidelines for your explanations:

- Before the demonstration point out one or two important things the athletes should pay attention to.
- Keep the explanations simple and brief.
- Ensure that the explanation agrees with what is being demonstrated.
- Time the explanation to either prepare the athletes for what they will see or to reinforce it.

(c) Relate the technique to previously learned techniques:

After the technique is initially demonstrated, relate it to any previously learned techniques. It is important to transfer some of the rules for movement to the new technique being learned.

(d) Check for understanding:

Athletes should be evaluated to see if they can perform the technique by asking questions. Keep the answers short and relevant.

STEP 3: Practise the technical

Athletes should practise the technique as soon as possible. The following are seven principles for technical skill practice:

(a) Principle 1: Have athletes practise the right technique.

Coaches should select techniques that will help athletes learn the technique needed to play the sport.

(b) Principle 2: Have athletes practice the technique in game-like conditions.

Have athletes practise what is relevant and pertinent when actually playing the sport. Athletes should practise the technique at the speed to be performed in competition, provided it can be executed safely and with a reasonable degree of accuracy. This produces more rapid and effective learning than does emphasising slow, accurate movements and gradually increasing speed.

(c) Principle 3: Keep practices short and frequent when teaching new techniques.

When athletes learn a new skill they often make mistakes, and should practise the technique frequently but not for too long. Practice should be interspersed with rest intervals in between sessions.

(d) Principle 4: Use practice time efficiently.

Coaches should identify time-wasters and find ways to make practices more efficient.

(e) Principle 5: Make optimal use of facilities and equipment.

Design practice activities to make efficient use of facilities, equipment and assistant coaches.

(f) Principle 6: Make sure athletes experience a reasonable amount of success at each practice.

An important way to build success into every practice is to select the right progressions for learning technical skills. If athletes are having difficulty in performing a technique correctly, they can take a break or practise some other aspect of the sport.

(g) Principle 7: Make practice fun.

Coaches can avoid boring sessions by making them more fun and interesting around a specific technical skill during practice. Creating a flexible training session such as changing training techniques regularly and engaging the team in the practice planning are some of the ways to make practice more interesting.

STEP 4: Correct errors

Coaches should provide athletes with information to correct errors in order for practice to be productive. The two types of information to correct errors are on how the completed performance compared with the desired performance and how to change an incorrect performance to more closely approximate the desired performance (Martens, 2004).

(a) Observe and evaluate performance

The process of correcting errors begins with the coach observing and evaluating the athlete's performances to determine the cause of the error. When athletes demonstrate good technique in practice but not in games they need help with mental skills, and if they demonstrate good skills in practice but display poor judgment in using those skills in games then coaches need to emphasise tactical skill learning (Martens, 2004). Experience is a vital tool in correcting errors. The use and application of technological sources of information for correcting errors and feedback include biomechanics and video analysis from which athletes can learn in order to correct their errors.

(b) Positive approach to correcting errors

Staying positive when athletes repeatedly perform a technical skill incorrectly or lack enthusiasm for learning can be a real challenge. It is normal at certain times for coaches to become frustrated when teaching skills. Part of successful coaching is controlling this frustration and continuing to search for a way to help the athletes. In a coaching environment athletes should be allowed to

make mistakes as a learning process that will allow the coaches to root out mistakes with patience and enthusiasm (Martens, 2004).

3.9.3.2 Teaching of tactical skills

Tactical decisions do not occur in a vacuum but are always made within the context of a particular competition. Equipping athletes with tactical knowledge will enhance the chances of their success in sport. In presenting the tactical skills the coach need to focus on the basic tactics at the beginning of the session. Memmert (2011) defines tactics as the behavioural level to the ability to find the ideal solution to a given problem in a specific situation in team ball sports.

From a tactical perspective sport consists of problem solving by the coaches and athletes. Making good tactical decisions to solve problems involves a complex set of tactical skills consisting of reading the play, acquiring the knowledge needed to make appropriate tactical decisions and applying one's decision-making skills to the problem. These three elements of tactical skills have the ability to create game sense (Lauder, 2001), the ability to use an understanding of the rules and strategy and the ability to solve problems.

Tactics also include the athlete's ability to make decisions and make use of various technical skills in certain situations of the game, such as an ability to dribble an opponent in soccer, rugby and netball. It also includes the ability to defend and attack in positions and planning strategies prior to the match. There are three triangles in tactics, namely: Triangle 1: Reading the situation; Triangle 2: Tactical knowledge; and Triangle 3: Tactical options.

(a) Triangle 1: Reading the situation

Athletes have to have an ability to detect and identify their problems. It is the role of the coaches to help athletes recognise the problems they face in a contest; in sport we call the ability of athletes to read the situations in games cognitive skills. These are the skills of greater perception, attention and concentration. Following this approach athletes are able to read the situation clearly and execute quicker reactions and selection of technical and tactical skills.

Furthermore, in reading the situations athletes are able to gather information from their senses – vision, audition, tactile and kinaesthetic– which require the sensors in the body that tell us about the location and movement. In addition allows athletes to assemble this information to give it meaning.

Perception is defined as a person’s ability to recognise and interpret sensory stimuli (Martens, 2004). In a fast-changing sport such as rugby there are an enormous amount of sensory stimuli to be processed by the brain. Skilful athletes learn to direct their attention to the important stimuli from a range of relevant and irrelevant cues when making decisions. Concentration is the ability to keep one’s attention on the relevant cues and not be distracted. Through practice and coaching, athletes become able to read situations more quickly and make the right responses (Martens, 2004).

(b) Triangle 2: Tactical knowledge

Athletes make better tactical decisions when they know: the rules of the game; strategic and game plans; playing conditions; opponent’s strength; and conditions and tactical options.

(i) Rules

Rules are the boundaries within which athletes are permitted to play so that the contest is equitable. The rules set limits on the tactics athletes can use (Martens, 2004). Athletes are able to learn rules in different ways, such watching and playing the sport. Coaches should follow the following guidelines to teach athletes the current rules of the sport:

- Teach rules during practice sessions by explaining the rules as they pertain to the technical and tactical skills.
- Review the rules that are infrequently applied in the sport.
- Encourage athletes to play to the rules.
- If the sporting codes have complex rules, such as soccer and rugby, consider buying players a copy of the rules.
- Make athletes aware of the criteria used by technical officials when awarding score points.

- Keep up to date with changes in the rules.

(ii) Strategic and game plans

Coaches should be aware of the strategies that need to be applied throughout the season. The strategies should be incorporated into a practice plan that is self-evident and frequently discussed. The team strategy should not be a secret to the athletes and everyone in the team should be involved in planning the strategy (Martens, 2004). Game plans should be formulated by analysing the strengths and weaknesses of the team and that of the opponents in order to identify what tactics to employ to give your team the advantage.

(iii) Opponents' strengths and weaknesses

Teams engage in scouting their opponent's strategies, strengths and weaknesses to determine the types of offence and defence the opponents use and their tendency to employ various tactics in specific situations. Coaches and athletes can also obtain information from their opponents by personally observing them play or by watching video tapes of previous games (Martens, 2004).

(iv) Self-knowledge

To solve the problems in their sports athletes must know not only the rules, strategies, game conditions and strength and weaknesses of their opponents, but also themselves. They need to know their technical, physical, and mental strengths and weaknesses.

(v) Triangle 3: Tactical options

Athletes need to know the tactical options for the various situations they encounter in their sport. In team sports more tactics are involved and the more quickly the situation changes the more demanding the decision making becomes. Players cannot choose what tactic to use until they know the options available to them (Martens, 2004).

As part of the coaches' responsibility, athletes should be taught how to apply tactical options in the sport. Teaching can be done in various situations but a large number of situations make this unfeasible. Coaches should teach tactical options that are applied in appropriate situations.

(c) Triangle 3: Decision Making Skills

The single best way to help athletes learn to make good and timely decisions is to have them play practice games. In some situations athletes may have lots of time to decide on the course of action. Vickers (1996) described six methods for teaching and decision making.

(i) Method 1: Teach the tactics in whole, then parts

Players develop better decision-making skills when they are asked to learn complex tactics than when they begin with simple tactics (Doane, Alderton, Sohn & Pelligrino, 1996). Once they understand the big picture of the sport they learn to make decisions on how to perform well. When teaching using the whole part, the bad news is that athletes perform worse than those who learn the parts. Determining how you want to present the whole part requires experience and judgment (Martens, 2004).

(ii) Method 2: Have athletes observe decision making in others

Coaches should observe games with players, directing their attention to the tactics being employed and the decisions being made. The goal should be to help athletes develop their own analytical skills as they observe the games. Athletes can be encouraged to watch television and video recordings (Martens, 2004). Observing highly skilled performers can help athletes learn the correct decisions to make and provide a positive image of what to aspire to. Observing peers helps athletes play the relevant game and provides a great opportunity to learn from the mistakes observed (Doane *et al.*, 1996).

(iii) Method 3: Have players observe themselves

Athletes can observe others and can observe their own play through video feedback. As with observing other athletes, athletes should initially observe their own performance with the coach guiding their observation (Martens, 2004). In this process the coach assists athletes to identify

the tactics being used by their opponents and tactical opportunities they missed during the game (Doane *et al.*, 1996).

(iv) Method 4: Variable practice

Variable practice assists by stimulating game conditions and helps athletes practice making decisions about how to respond to changing situations. Players cannot go on to higher levels of performance if they do not learn the decision-making skills they need. Athletes may struggle with variable practice because there is more to learn and thus learning takes longer.

The variability coaches use should build into practices and within a class of technical skills, among various technical skills and tactics. Variability within a class of skills could be kicking in rugby and soccer and throwing in netball.

Designing practices allows athletes an opportunity to practise deciding which technical skill from their repertoire they want to use in a particular situation. Examples are when soccer players decide to kick or head the ball or rugby players choose between passing or running with the ball (Doane *et al.*, 1996).

(v) Method 5: Control feedback

There are many benefits to providing feedback during and after sessions. Coaches should avoid providing too much feedback as it may disrupt the athletes' performances, concentration and flow. From a decision-making perspective, providing constant feedback denies the athletes an opportunity to learn to make their own decisions (Martens, 2004). More feedback is better than less feedback when athletes are first learning the skill, and less feedback is needed for more skilful players. Part of the art of coaching is knowing when to begin to reduce the amount of feedback and how to encourage athletes to identify their own problems as they perform and find solutions.

According to Vickers (1996), it is recommended that coaches identify a range of acceptable performances. When athletes perform within that range coaches need to provide feedback and also when athletes perform out of range. It is also important for the coach to reduce feedback by communicating with the athletes so that they can develop their own decision-making skills.

(i) Method 6: Ask questions

Coaches should constantly ask questions of the athletes learning tactical and technical skills. Asking questions is an important tool in developing the decision-making skills of all athletes once they have learned the rudiments of the sport.

Questions have two important purposes:

- They are probes for coaches to learn where the athletes need help.
- They help athletes think about their experiences to solve the problems they face.

It is also vital to have follow-up questions to see if they do understand and have sufficient knowledge to solve the problem (Doane *et al.*, 1996).

3.10 CONCLUSION

This chapter reviewed the literature on how coaches teach techniques and apply tactics in order to benefit the athletes' overall performance. Athletes learn technical skills by developing mental blueprints, learning the rules of the sport and applying a motor development programme. Furthermore as they practise their sporting codes they move through three stages of learning: the mental, practice and automatic stages (Martens, 2004). Coaches play a vital role in teaching technical skills, as the most essential methods to be applied when facilitate learning and coaching should apply the demonstration and explanations methods to help athletes acquire a mental plan for a technique.

The application of tactics varies from sport to sport. However the application of theory requires reading the play; acquiring the knowledge needed to make appropriate tactical decisions; and applying one's decision-making skills to the problem.

These three elements of tactical skill can create game sense (Lauder, 2001) and the ability to use an understanding of the rules, strategy and the ability to solve problems. In addition coaches use various tactical methods to help athletes make tactical decisions, such as video recordings, correcting errors, providing positive feedback, allowing athletes to make mistakes and finally

teaching the athletes how to develop better decision-making skills by teaching more complex tactics rather than simple tactics (Doane *et al.*, 1996).

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 INTRODUCTION

Research, according to Kerlinger and Lee (2000), is a systematic, controlled, empirical, moral, public and critical investigation of a natural phenomenon. It is guided by theory and hypotheses about the presumed relations among such phenomena.

Li, Pitts and Quarterman (2008) define research as an orderly investigative process that involves the purposeful and systematic collection, analysis and interpretation of data (units of information) to gain new knowledge or to verify existing knowledge within the specific domain.

A research methodology is simply what constitutes a research activity, utilises or is applicable to a model and therefore specifies concepts and related statements (Walliman, 2001). Experience, reasoning and research are actions that will contribute to the understanding of the environment.

Bryman (2008) described “methodology” as a method for collecting data; however choices of research method must be aligned with the specific research question being investigated. Pressley and Harris (2006) define research method as a developmental process by which problems can be solved through monitoring and fact-finding to address issues investigating relationships between variables in order to draw meaningful conclusions and contribute recommendations for further investigation.

This section encompasses matter related to the research methods, such as the techniques introduced in this study, information related to sampling, the collection and interpretation of the data and ethical considerations of the study.

4.2 RESEARCH DESIGN

Burns and Grove (2003: 195) define “research design” as:

“the blueprint for conducting a study with maximum control over factors that may interface with the validity of the findings”. Polit, Beck and Hungler (2001) define a research design as “answering the research question or testing the hypothesis”.

This study follows a qualitative research design. Creswell (2013) defines qualitative research as research exploring an issue or problem because an issue is in need of complex, detailed understanding. It is in essence phenomenological research, as it focuses on exploring a person’s subjective experiences concerning a phenomenon. In this study the aim is to gain insight into challenges coaches face that prevent sustainable soccer, netball and rugby talent detection, identification and development in the research focus area of Mamelodi primary schools. It seeks depth over breadth in an attempt to uncover subtle nuances of experiences (Whittemore, Chase & Mandle, 2001). Depth is obtained by structured interviews with a small sample of soccer, rugby and netball coaches in Mamelodi primary schools. The study also follows a descriptive approach that is in accordance with Creswell (2009) to establish the meaning of a phenomenon from the view of the participants.

4.2.1 Research instruments

Qualitative studies often rely on interviews and smaller sample sizes to collect data (Smith, 2010). The interview method is one of the most commonly recognised forms of qualitative research (Mason, 2002). According to Crouch and McKenzie (2006), structured interviews allow for the emergence of important themes that may not emerge from a structured format and may reveal insights into attitudes and behaviours that may not be apparent when potential responses are restricted. As the researcher aims to uncover the perceptions and opinions of the respondents, a structured interview is appropriate.

The researcher used a structured interview format to uncover challenges faced by coaches in the detection, identification and development of talent in selected sporting codes in Mamelodi primary schools. The interviews address themes, subthemes and segments.

The three themes identified under study are:

- Theme 1: reflecting on the background information of respondents

Subthemes are qualifications of respondents, coaching experience and a segment is the experience acquired coaching the code.

- Theme 2: concepts related to development

Subthemes are respondents' understanding of concepts such of detection and identification and the subtheme is motor skills such as running and jumping.

- Theme 3: focusing on the practical manifestation in structured lessons

The subthemes focus on the manifestation of development concepts in practical coaching environments. Subthemes include decision making, feedback applied in all respective codes, and segments include the athletes' cognitive ability.

The nature of the interview process is comprehensive as it focuses on three sporting codes and each code's specific elements. The researcher opted for structured interviews as they allow the respondents to give more precise closed-ended responses to a question than in an unstructured interview that may take time to analyse using the thematic analysis approach. This was indeed the case, as the interview questions were derived from related literature on talent detection, identification and development.

4.2.2 Research population

A research population is a clearly defined group of individuals that have some characteristics, relevant to the investigation, in common (Burns & Grove, 2003). In addition the population must be for a particular investigation and the entire group of people about whom the researcher desires to gain information. A population (also called the universe or census) refers to the entire group of units, elements or individuals to be studied. The makeup of the data may consist of the observations of events, places, individuals or groups (Liet *al.*, 2008).

The research population for this study is soccer, netball and rugby coaches involved in coaching athletes from 6–14 years of age in Mamelodi primary schools. The research aims to contribute to

unearthing talent in sport in previously disadvantaged schools. The researcher chose Mamelodi as there are a few primary schools that are faced with challenges such as coordinating sporting activities and lack of physical educators' involvement in and knowledge of the field of talent development.

4.2.3 Sample frame

Once the target population has been determined, it is recommended that a list be established that includes all those eligible to be utilised in the investigation (Churchill & Iacobucci, 2002). The sample frame consists of all those in the population that fit the profile determined by the investigator according to criteria set to limit the population.

For this study the sample frame includes the coaches of soccer, netball and rugby for age groups from 6–14 years of age in Mamelodi primary schools.

4.2.4 Research sample

The research population of coaches in a variety of sporting codes is too large to collect relevant data. The researcher therefore selected a part of the population rather than all the coaches involved. This procedure is referred to as sampling (Thomas, Nelson & Silverman, 2001). Research sampling is, according to Kumar (2011), dependent on the following variables: access to respondents and judgment that the respondents can provide relevant information needed for the research.

The researcher gathered a database of primary schools falling under the Tshwane District Education and selected a total of nine primary schools of the 34 from Mamelodi East and West that offered rugby, soccer and netball as sporting codes. The following schools offered all three sporting codes: Balebogeng primary school, Mogale primary school and Buladikgoro primary school. Three coaches of each sporting code were purposefully selected based on the criteria of offering all three sporting codes.

4.2.5 Sampling procedure

It is beneficial to select and identify a sample in a well-planned manner as this will have an impact on the research study by giving a reflection on the target population under study. It is

important that the sample procedure undertaken allows crucial reliable data analysis. There are 34 primary schools in Mamelodi. For this study a purposive sample (n=9) was selected representing three soccer coaches, three netball coaches and three rugby coaches at Mamelodi primary schools.

Criteria for inclusion in the purposive sample are:

- active involvement in coaching the selected sporting codes at primary school level for at least one year in a Mamelodi primary school
- male and female
- adults over the age of 18

Exclusion criteria are:

- active involvement in coaching of less than one year
- involvement in areas outside of Mamelodi primary schools

4.2.6 Sample size

In the process of interviewing, a researcher will experience a point of data saturation when no new information can be gathered (Creswell, 2009). The sample size was nine coaches representing three sporting codes. The number can be increased based on the researcher's discretion until the required information is gathered.

4.2.7 Data collection

4.2.7.1 Data collection process

The researcher conducted an in-depth literature study on talent identification, detection and development models in the selected sporting codes and on motor behaviour to collect data in order to achieve objective one.

Digital recording is undoubtedly the most common method of recording interview data because it has the obvious advantage of preserving the entire verbal part of the interview for later analysis (Thomas *et al.*, 2001).

Post-interview notes are used to reflect responses. These reflections are an adjunct to the interview data. This can also enable the researcher to reflect on the interview style and refine it. After an interview the researcher labels and identifies key words to be used for interpretation and analysis of the themes' segments (Gratton & Jones, 2004).

The researcher is familiar with the research population, language and cultural background of the respondents in the study. A structured interview method was used to collect data relevant to objective two of the study. Data collection took place during face-to-face structured interviews on the school premises. An informed consent letter was provided to all participants to explain the aims and objectives of the study. Permission to approach coaches was obtained from the Gauteng Department of Education (GDE) after approval of the research proposal. The GED requires this approval prior to their approval of the research to be done at Mamelodi primary schools.

The researcher developed guiding interview questions that are relevant to the research objectives. The researcher ensured that all participants expressed themselves in their answers and did not lead or direct the participants' responses (Martindale *et al.*, 2007). Much attention was placed on utilising non-leading questions for each participant in order to clarify uncertainties. Interviews were scheduled at the convenience of the respondents at the selected schools and were recorded with the informed consent of the participants. Participants were informed that the collected data would be stored for 15 years at the University of Pretoria.

4.2.7.2 Data analysis and interpretation

The researcher examined the in-depth interview questions to ensure their validity prior to data collection. Gerrish and Lacey (2006: 538) suggest that a pilot study should be used to identify potential problems and test the language and substance of questions that will guide the researcher on whether changes to the interview guide are needed. A pilot study with a coach representing each identified sporting code was conducted to test and review the interview schedule and make

any adjustments necessary. Feedback from the pilot study was integrated into the final semi-structured interview.

The method of analysing phenomenological data for this study is based on Creswell's (2007: 61,159) simplified version of the Stevick–Colaizzi–Keen method. The layout of this method is as follows:

- **Transcripts of all nine interviews in the exact words of the interviews as structured in the three themes, subthemes and related segments**

In this stage the investigator identified key words that related to the literature studies in the three themes, subthemes and segments.

- **Development of textual description of what the interviewee in each theme and each segment of a sporting code experienced by using verbatim examples**

The themes and segments were used to capture what the participants experienced in the study.

- **Interpretation of the interviewees' perceptions regarding each segment in the different sporting codes**

Each participant's segment responses from the respective codes under study were interpreted, analysed and summarised.

- **A conceptual description of a segment summary in all three sporting codes**

Each segment was given a theoretical background at the beginning of each section.

- **Composite description of a theme (executive summary)**

The three themes under study – background, talent-related concepts and practical manifestation of the sport – were summarised from the interpretation and analysis of each theme

4.3. Ethical considerations

The researcher honoured the following ethical considerations:

- Participants' information was treated as confidential following the interview.
- Informed consent forms were attached to ensure the procedures of the interview (Bryman, 2008).

- Participants were informed about the research topic's aims and objectives before they considered taking part in the research project.
- The anonymity of the participants was protected.
- The results serve as a report for a Master's degree that will be submitted to the University of Pretoria.
- The data will be stored for 15 years at the Department of Sport and Leisure Studies.
- This study was conducted in line with the ethical guidelines laid out by the University Of Pretoria Code of Ethics for Research (1999).
- Following ethical self-assessment by the researcher, ethical approval was also granted for the study by University of Pretoria Research Ethics Committee (ResEthics) of the Faculty of Humanities prior to the commencement of data collection.

4.4 CONCLUSION

This chapter provided a rationale for using structured interviews to collect data. The methods used to analyse and interpret data within the study were also discussed, especially in relation to the findings of the study. Finally, the ethical considerations were discussed. The next chapter discusses and evaluates the study's findings and identifies their implications for the process of talent detection, identification and development in soccer, rugby and netball.

CHAPTER FIVE

ANALYSIS AND INTERPRETATION OF RESULTS

5.1 INTRODUCTION

The specific aim of this study was to identify challenges in talent detection, identification and development in Mamelodi primary schools using coaches as participants. This chapter reports on the qualitative data analysis and the empirical findings of the study. More explicitly, effect is given to the research objectives (as stated in Chapter 1).

In order to commence analysis and interpretation of the data, the researcher needed to organise, manage, retrieve and identify key themes and patterns (Marshall & Rossman, 1999). The three important themes identified for the study are 1) background of respondents, 2) talented-related concepts and 3) practical manifestation of didactic concepts in a lesson plan. Each theme has a particular segment which is interpreted by the respondents in a form of responses to a structured interview and analysed by the researcher. The last process involves a summary of responses and an executive summary (refer to Chapter 1 and Chapter 4).

The aim of data analysis was to build an organising system of categories that emerged from the data and that represented how these coaches conceptualised detection, identification and development of young talented soccer, rugby and netball players (Strauss & Corbin, 1998).

The nine transcripts were analysed on a line-by-line basis by the researcher, who identified meaning units – text segments that reflected a coherent perception of an episode, idea or piece of information (Côté, Samela, Baria & Russell, 1993). Further content analysis included the abstraction of raw-data themes (i.e. categories) from the meaning units, which represent a particular emerging concept. Following this, the researchers discussed the emerging themes and consensus was employed to ensure which raw-data themes were used in the analysis.

The standardised approach used in this study consisted of a structured interview format. This chapter has three sections and the data analysis is organised into three themes. Theme one focuses on the respondents' background information regarding their level of understanding of the sporting code they are coaching. Theme two covers the talent-related theoretical concepts under study (talent, talent detection and development) and their application in sport; furthermore, motor fitness and skills required for the codes under study are investigated. Theme three covers the teaching of sport-related techniques and skills (see Appendix B).

This chapter outlines and investigates the themes that emerged from the analysis of the structured interviews. Quotes are used to illustrate the data and enable the reader to appreciate the context from which the themes emerged. The emergent themes are compared to previous research and theoretical frameworks related to talent detection, identification and development in soccer, rugby and netball. The challenges include the background knowledge of coaches, their knowledge and experience of talent-related concepts and practical manifestation of tactical and technical skills.

5.2 THEME 1: BACKGROUND INFORMATION OF RESPONDENTS

The researcher focused on the coaches' previous learning and participation in their respective sporting codes in order to compare its effect on talent detection, identification and development. Moreover, the background information provided the researcher with information on the coaches' level of understanding and practical manifestation of their knowledge and experience of their sporting codes.

The first section of the questionnaire focused on personal demographic information that contributed to the study because it offered insight into the coaches' coaching abilities (experience and knowledge).

5.2.1. Respondents' participation in the different sporting codes

Participation in sport is when a person or group subscribes to any structured or unstructured environment and their practical or active involvement (Gould & Carson, 2004). In evidence of this, coaches who have participated in sport and other structured voluntary activities during their

youth report higher rates of learning experiences and life skills gains than those who participate in regular schooling (Dworkin, Larson & Hansen, 2003).

Coaches who participated in sport will be able to assist athletes in using appropriate practices of talent development (Gould & Carson, 2004). Lyle (2002) states that coaches' involvement and participation in sport play a central role in promoting participation and enhancing the performance of athletes and teams.

The responses from the three interviewees in each code

Sporting Code: Rugby

Respondent A: "I am **currently participating** in rugby league in Mamelodi as a player."

Respondent B: "I **do not have** practical experience in rugby."

Respondent C: "I **do not have** any personal experience and I was exposed to rugby at the school and with the help of other coaches."

Interpretation:

Respondent A is currently participating in the game of rugby which has a positive impact on enhancing a player's performance. The finding supports and is in line with the evidence that coaches' involvement and practical knowledge in sport influences skills development and emotional reactions of young children and their ongoing participation in organised sport (Smith, Smoll & Cumming, 2007). Respondents B and C indicated they had not participated in rugby, which may have an effect on the progress and development of the athletes they coach (Almond, 2010).

Sporting Code: Soccer

In soccer the coaches' background and participation levels are as follows:

Respondent D: "**Yes I did participate** in soccer at junior level only."

Respondent E: "**I am currently** playing soccer full-time in a league and did also play at primary school level."

Respondent F: “**I am still participating** in soccer currently as I am playing in a Tshwane Soccer League.”

Interpretation:

Respondents D, E and F indicated they had participated in soccer. Through their participation they have acquired practical knowledge and skills. Furthermore, the responses concur with the literature (Larson, 2000), which states that participation in sport influences youth development, promotion of skills, and physical, social and psychological benefits.

Sporting code: Netball

Netball coaches responded as follows:

Respondent G: “**I have not participated** in netball and mostly I was not focusing on netball.”

Respondent H: “**No**, just a friendly where we never applied netball rules.”

Respondent I: “**Yes I did** participate and played as a centre.”

Interpretation:

Respondent I participated in netball and further emphasised a specific position, “centre”. The response is supported by Bloom (1985); Van Rossum (2001); and Baker and Horton (2004), emphasising the importance of coaches creating access and an enabling environment for athletes leading to higher-quality coaching. Whereas respondents G and H did not participate in or show any interest in learning the sport through participation, as they used the key words “not focusing” and “never applied rules”.

The respondents’ feedback does not conform to Martindale *et al.*(2010), who also alludes to the importance of a coach providing an athlete with the right support at the right time. This means a coach must have knowledge of an individual’s specific needs on an ongoing basis. Practical participation as source of coach knowledge was therefore limited to respondent I in netball, which may impair the development of athletes coached by this person.

Summary of participation in the respective codes

Participation in sport can be a life-changing experience. In fact, sports can be used to build many positive developmental assets that provide a strong foundation for positive growth and development (Larson, 2000). From the study, an average of five of the nine respondents indicated participating in sports during their playing years, which it may have an influence by encouraging children to participate in sport and physical activity. According to Lyle (2002), coaches who have participated in sport previously have a positive attitude and belief in a physically active lifestyle and are more likely to encourage learners to participate in sport and have the knowledge base to implement in coaching.

When coaches have had the experience of participating in sports they will have a holistic approach to player development by concentrating on the quantity and quality of training (Henriksen *et al.*, 2010). Practical experience is also beneficial for coaches in identifying key sport-specific elements necessary for talent detection, identification and development.

5.2.2 Coaching qualifications of respondents in different sporting codes

The South African Sport Confederation and Olympic Committee (SASCOC) (2011) emphasises the importance of acquiring formal qualifications and recognition of coaches in South Africa. Qualifications must align with the SASCOC Model for Long-term Coach Development (2011). Qualifications have a vital role to play, as coaches are able to nurture talented athletes so that they are able to master the technical and tactical abilities of their respective codes. Schools have a role in ensuring that coaches have sufficient educational tools and resources to fulfil their expected duties. As stated in Chapter 1, the lack of well-qualified teachers in previously disadvantaged schools and the seemingly un-co-ordinated and ad hoc approach to soccer, netball and rugby talent detection and identification, it becomes difficult to institutionalise these sporting codes optimally at school level.

The participants' responses regarding the sport qualifications they possess are:

Sporting Code: Rugby

Respondent A: “No, **I do not have** rugby qualifications and rely on the assistance of my coach at club level.”

Respondent B: “**No.**”

Respondent C: “**I do not** have.”

Interpretation:

Respondents A, B and C do not have qualifications in rugby, which may result in them being unable to teach and develop rugby-related skills. It means that coaches are more likely to choose and apply learning and teaching methods and techniques that are not didactically correct. In this process, as rugby is a contact sport, athletes may be prone to injuries. These findings are not congruent with past coaching education research (Blanchard, Amiot, Perreault, Vallerand & Provencher, 2009; Jowett & Chaundy, 2004; Smith & Smoll, 1997; Smoll & Smith, 1993), indicating that the coach’s qualification has been found to have direct effects on the sport experience and helps to keep athletes participating in sport (Chapter 1).

In addition they are more likely to use incorrect techniques and strategies they learned as players (Lemyre, Trudel & Durand-Bush, 2007; Zemper, 2010).

Sporting Code: Soccer

The coaches’ responses on their level of qualifications are:

Respondent D: “**I do not have** any soccer qualifications as I have the passion for the game.”

Respondent E: “**I only have coaching skills and experience.**”

Respondent F: “**I have SAFA introductory coaching course** and KNVB which is a German soccer certificate.”

Interpretation:

Respondent F has accredited SAFA and KNVB qualifications, which is in line with SAFA and FIFA as a prerequisite for coaching at primary school level. According to SAFA's Technical Master Plan (2012), coaches at grass roots level are not allowed to coach without any coaching qualifications.

Respondents D and E do not have soccer qualifications, which has an impact on athlete development and contradicts the views of De Sousa and Oslin (2008) who suggest that coaching can foster player engagement, better communication, improved competence and motivation to perform if coaches do have qualifications.

Sporting Code: Netball

The qualifications that each netball coach currently has and their responses:

Respondent G: "So far **I know the rules** and learn by observing."

Respondent H: "**None.**"

Respondent I: "**No** I do not."

Interpretation:

Respondents G, H and I do not have coaching qualifications. The respondents are not adequately qualified in teaching and developing netball skills. Furthermore, all responses contradict Nelson, Cushion, Potrac and Formal (2006), who suggest that coaches must have formal coaching education programmes that maintain a focus on technical and tactical knowledge and topics in sports science.

Coaching qualifications serve as a prerequisite for coaching at a primary phase when learning fundamental skills; these findings concur with the existing Netball South Africa LTPD (2011).

Summary of coaches' qualifications in the respective codes

From the interpretations, lack of training and development of coaches and teachers at a primary level is a major area of concern and a challenge, as coaches may not be able to detect, identify

and develop talent. This is supported by the fact that eight coaches of the nine do not have relevant sport qualifications. The researcher emphasises that even this extensive formal education has been considered as insufficient to allow teachers to gain the required professional knowledge for effective practice.

Lack of coaching qualifications has an impact on the learners' foundation in early skills development and the teaching of technical and tactical skills (Horton, Baker & Deakin, 2005). Furthermore, Sabock and Sabock (2008) indicate that coaching education can help prepare entry-level coaches to wear the multiple hats necessary for coaching.

5.2.3 Age groups coached by respondents

At primary school level the common age groups being coached start from under 8–14 years of age. The age groups being coached need to align with Balyi's LTAD (2001) model, which is generic in nurture and requires adjustment on a sport-specific basis. Soccer is classified as an early specialisation sport whereas rugby and netball are classified as late specialisation, which emphasises the development of gross motor and technical skills.

The following age groups are coached by the respondents:

Sporting Code: Rugby

Respondent A: "I coach **under-10 and 11** boys."

Respondent B: "Under **11 and 12.**"

Respondent C: "Under-**9 and 11.**"

Interpretation:

Respondents A, B and C coach an average group of under-11–12 years of age. The responses support SARFU's (2001) long term player development groups on coaching fundamental rugby skills at school from under 9–11 years. Furthermore, the focus age group focuses on the growth of specific training that is matched to a child's biological age for optimal development (Balyi & Hamilton, 2003). At primary school level children learn basic fundamental rugby skills such as passing, running, jumping and throwing (SARFU, 2001).

Sporting Code: Soccer

In soccer the coaches responded that they coached the following age groups:

Respondent D: “Under **10, 13 and 14.**”

Respondent E: “I coach under **11, 12 and 13.**”

Respondent F: “I coach under **11 and 13.**”

Interpretation:

Respondents D, E and F coach an average group of 11–13-year-old boys. This is aligned with SAFA’s Technical Master Plan (2012) player development. However, soccer is arguably an early specialisation sport. In primary schools soccer starts from the ages of 6–14. The objective in this stage is to learn all elementary movement skills by building overall motor skills (Balyi & Hamilton, 2004).

All respondents from the sample show a census on the age of specialisation in soccer. Similarly to the current findings, numerous authors (Falk, Lidor, Lander & Lang, 2004; Martindale *et al.*, 2005; Bailey *et al.*, 2010) note the difficulty in prescribing the exact age at which specialisation should occur in a sport, due to the sheer multitude of interpersonal and context-specific factors involved.

Sporting Code: Netball

The respondents answered the questions with the following responses:

Respondent G: “I coach **under-10 and 11.**”

Respondent H: “Between **11 and 13** years.”

Respondent I: “Normally I coach under-**11, 12, and 13.**”

Interpretation:

Respondents G, H and I coach the age category that is aligned with the Netball South Africa LTPD (2011) athlete development pathway. In addition netball is a late specialisation sport. As

the age groups range from 10–13 years during this stage, children are exposed to a wide variety of activities to ensure proper development of overall motor skills and sports skill.

Summary of age groups coached by respondents

All nine respondents' feedback is aligned with Balyi's (2001) LTPD model recommending coaches to teach fundamental skills suitable to learners ranging from the ages of 9–13 at primary school level, the focus being teaching basic rugby, soccer and netball motor skills, technical skills (passing, running) and tactical skills through small-sided games for fun and enjoyment and development skills.

5.2.4 Coaching experience

Sufficient coaching experience is a prerequisite for coaching any sporting code. When coaches have enough experience they are able to execute the technical and tactical nature of the sporting code. Coaching experience is acquired by coaches during their playing years, practical coaching, attending workshops, seminars and training courses in a formal (degree or certificate) and non-formal (coaching clinics, mentorship) learning programmes (Cote, Ericsson & Duffy, 2013). The importance of coaches having good-quality coaching experience is that the athletes can benefit from understanding, learning and executing the correct technique relevant to the sport. Athletes will have fun and enjoyment and will develop when coached by an experienced coach.

Coaches' responses about rugby coaching experience are as follows:

Sporting Code: Rugby

Respondent A: "I have **eight months** of coaching experience."

Respondent B: "I have been coaching rugby for the past three **weeks.**"

Respondent C: "I have attended **few induction courses** in the past which were elementary."

Interpretation:

Respondents A and B have insufficient coaching experience of three weeks and eight months respectively. Respondent C only attended a few induction courses. The responses are all against

the SASCOC Coaching Framework (2011), which requires coaches to have acquired at least 120 hours of coaching at primary school level. Inexperienced coaches will be faced with a number of challenges in the teaching of technical and tactical execution of rugby motor skills (Lemyre *et al.* 2007).

Sporting Code: Soccer

Soccer coaches' responses about their coaching experiences are:

Respondent D: "Have **4 years** of coaching experience."

Respondent E: "**1 year** coaching experience."

Respondent F: "I have six **years** of coaching experience."

Interpretation:

Respondents D, E and F have acquired adequate coaching experience; however respondents F and E have six and four years of coaching respectively, which will be beneficial for the athletes' development. The findings indicate that they conform to the SAFA Technical Master Plan (2012) requiring coaches to at least have a minimum of one year of experience coaching at a youth development programme.

Sporting Code: Netball

Netball respondents responded:

Respondent G: "Is **when I chose** and learn about the netball knowledge."

Respondent H: "**Two years**' coaching experience."

Respondent I: "It has been **two years** of coaching experience."

Interpretation:

Respondents H and I have sufficient experience and knowledge of the code (two years). The responses are in line with Netball South Africa LTPD (2001), requiring that coaches in any netball setting require one year and a minimum of 30 contact hours with 60 hours' work-integrated learning. Credit-bearing interventions that may carry a higher credit requirement with

duties such as assisting in the delivery of sessions or where more senior coaches are not present will lead the delivery of session, preferably with guidance.

Respondent G answered inappropriately by using the key word “choosing”, which is relevant not to coaching experience but to identification.

Summary of coaches’ years of experience in the respective codes

Soccer and netball coach respondents demonstrated coaching experience, but rugby coaches lacked coaching experience. The SASCOC (2011) Long-Term Coaches’ Framework recommends that coaches have one year or 60 hours of coaching experience when coaching at primary school level. In this regard coaches will gather both theoretical and practical knowledge and competency in the areas of athlete development such as motor learning, development perspective, psychological, physical, tactical and technical skills. Another area of concern is the failure to transform rugby in previously disadvantaged schools by offering coaching qualifications in rugby development, which results in coaches lacking the necessary experience to teach rugby skills.

From the respondents’ statements, there are numerous ways that coaches may also get coaching experience, such as: playing, current participation, formal education, trial experience and informal coach education experience.

5.2.5 Follow-up actions by respondents

Follow-up actions are a necessity in order for coaches to keep up to date with new coaching methodologies and scientific research, which may improve their knowledge and also benefit the development of athletes they coach. Follow-up actions involve coaches using extensive resources such as books, seminars and workshops to build a large store of knowledge of the technical and tactical requirements of the sport. Furthermore, during follow-up actions coaches gather knowledge about their sport and are able to keep abreast of new coaching trends, techniques, tactics and strategy to develop athletes’ learning areas in their respective sports. Moreover,

coaches can access information through journals, magazines and athletes' experiences: athletes have been identified as the coaches' sources of knowledge (Robyn, 2006).

The follow-up actions taken by rugby coaches are the following:

Sporting code: Rugby

Respondent A: "I was **attending a fundamental rugby coaching course** that focuses on teaching kids to play rugby."

Respondent B: "I regularly **attend workshops** offered by the district education department."

Respondent C: "We did **practical exercises** on how to introduce rugby at primary level and basics of rugby."

Interpretation:

Respondents A and B have attended both formal and theoretical coaching and educational courses in the form of courses and workshops, and respondent C has attended practicals. This finding has clear implications for coaches developing rugby players at primary school level, as players need proper guidance in practising the skills, techniques, tactics and psychological skills (Ericsson, 2007). All rugby coaches in this study demonstrated that training and development are vital in coaching knowledge and keeping up to date with the new trends of the game and rules.

Furthermore, coaches' extensive knowledge base provides them with an array of possibilities for presenting information in order to help athletes understand and develop skills (Bian, 2003). Resources most often used by the coaches to increase their knowledge and to develop new training drills were colleagues, televised rugby matches and attendance at live rugby matches.

Sporting Code: Soccer

The follow-up actions taken by soccer coaches in order to advance their soccer skills are:

Respondent D: "I **attend workshops.**"

Respondent E: "Once in a while the school sends us to **coaching courses.**"

Respondent F: “I do have improvement through networks that I have with other friends who coach other teams and the team that I am currently **asking advice** from my coach and do attend workshop and life skills.”

Interpretation:

Respondents D, E and F indicated having attended workshops and coaching courses and having networks they use to learn more about their codes. The research findings concur with the literature (Ward, Hodges, Williams & Starkes, 2004), which states that coaches must devote a considerable number of hours in their field to reach expert level.

Sporting Code: Netball

In netball the coaches indicated that they followed the netball trends by doing the following:

Respondent G: “Yes I have been to some other **coaching courses and coaching clinics.**”

Respondent H: “I have tried but the school **has not paid yet.**”

Respondent I: “Yes we do **have inductions** at the school and we do attend meetings and also go to the Department of Education.”

Interpretation:

Respondents G and I have been exposed to learning through attending “courses and inductions”, which conforms to Seefeldt’s (1996) that coaches should acquire education and certification in order to increase the opportunity for children to experience positive outcomes in youth sports. Respondent H currently has challenges in attending the courses.

Summary of follow-up actions in the respective codes

All nine respondents emphasised the importance of attending short courses in their respective codes. These findings are consistent with the literature (Williams & Reilly, 2000; Abbott, Collins, Martindale and Sowerby, 2002), which suggests that for long-term development programmes to be successful the coaches need to be autonomous and take increasing ownership and responsibility for their own development by attending courses, seminars and workshops.

From the findings, coaches agree with the importance of life-long learning development, consistent with Bloom (1985); Csikszentmihalyi, Rathunde & Whalen (1993); and Simonton (1999), who stipulate the importance of long-term coach development. Keeping up with the latest sporting developments is key and beneficial for athletes' development. Coaches need to attend coaching courses, seminars and workshops that are aligned with their scope of work. Learning opportunities need to be provided strategically by the schools and education departments.

Teaching and learning success are dependent on a sound knowledge base, qualifications and experience, and the ability to put theory into practice. A lack of coaching knowledge will negatively influence the outcomes of teaching and learning.

5.2.6 Executive Summary: Background information on the respondents

This section focused on coaches' challenges in participation, qualifications, experiences and follow-up actions and insights into their respective sporting codes. Five of the nine coaches participated in sports during their playing years, which may influence them to encourage children to participate in sport and physical activity. Coaches in this study demonstrated a lack of qualifications, which may affect the progress of the athletes they train. The age groups coached are aligned with Balyi's (2001) Long-Term Athlete Development of under 10–13 years of age. Both soccer and netball coaches demonstrated an ability to gain coaching experience; however, the rugby coaches lack coaching experience and all coaches from the study need education and training regularly. For follow-up actions all nine respondents emphasised the importance of attending short courses in their respective codes in order to keep themselves abreast of the new coaching trends in sport.

5.3 THEME 2: TALENT-RELATED CONCEPTS

Section two of the interviews focused on challenges the coaches faced in perceptions, insight and knowledge; detecting, identifying and developing talent in a practical situation; and applying motor fitness-related skills to their respective sporting codes.

5.3.1 Defining talent

Talent is guided by the contribution of nature and the genetic component and can be displayed and refined at an early age. Sports coaches are able to identify talent with the naked eye, but with the application of technology and scientific methods talent can be enhanced.

Talent can be defined as a special natural ability or success that can be displayed from early childhood to adulthood, depending on the athlete. Talent can be one-dimensional or multidimensional. One-dimensional talent is, for example, the ability to run in a straight line, whilst multidimensional talent is the ability to play a certain position in a team sport (Brown, 2001). Talent can also be influenced by environment and social support (Wolstencroft, 2004). According to Ommundsen (2009), talent is something you have, something you are, something you can be, or something you can develop.

As defined in Chapter 1, talent is a natural ability that is demonstrated from an early age (Brown, 2001). Talent is also defined as a superior mastery of systematically developed abilities or skills and knowledge in at least one field of human activity to a degree that places an individual at least amongst the top 10% of age peers who are or have been active in that field or fields (Oreck, 2005).

The three coaches defined talent as:

Sporting Code: Rugby

Respondent A: “Talent is something you **grow with.**”

Respondent B: “Is when learners excel and is the **gift from God.**”

Respondent C: “Talent is defined as a **natural ability** of the learner to perform in a certain sport.”

Interpretation:

Respondents A, B, C identified key themes and words to define and describe talent as “something you grow with”, “gift from God” and “natural ability” respectively. The three rugby respondents’ responses are all aligned with the literature (Ommundsen, 2009). Talent is a marked

innate ability defined as artistic accomplishment, natural endowment or ability of a superior type (Williams & Reilly, 2000).

Sporting Code: Soccer

Soccer respondents defined talent as:

Respondent D: “Talent is the **ability** for the child to **do anything they want to.**”

Respondent E: “It is what **you are born with**, everyone in this world has talent and God has given us talent to play in different sports.”

Respondent F: “Is when I **identify** the learners through the physique and knowledge on soccer.”

Interpretation:

Respondents D, E and F gave an explanation or description of talent by identifying key words such as “ability”, “anything they want to be”, “born with” and “identify” respectively.

All three respondents are familiar with talent and consequently the responses are in agreement with studies by Howe *et al.*(1998), as cited in Helsen *et al.* (2000:728),who proposed that talent in soccer and any other sport code is partly innate. Furthermore, Gagné (2004) defines talent as an outstanding performance in a specific activity that can be developed through learning and interactions with environmental influences.

Sporting Code: Netball

Netball coaches defined talent as:

Respondent G: “Something that you **have grown with** such as drawing skills.”

Respondent H: “**Ability** to be able to play netball and follow the rules and the steps in netball.”

Respondent I: “Talent can be defined as a **gift from God** and no **one can take it from you**, something that **you can do** and have the **ability and potential and ambition** that it will take you somewhere.”

Interpretation:

Respondents G, H and I used the following key words: “have grown with”, “ability” and “gift from God” to define talent. All responses are aligned with the talent definition described in chapter 1 as a special natural ability or success that can be displayed from early childhood to adulthood depending on the athlete.

Moreover, this finding strengthens the concept of talent exposure by encouraging athletes to display their talents through physical participation as emphasised by Respondent H. The role of the coach is to focus on athletes that do have the above-mentioned abilities. In practice this means that the coach has to comply with certain activities.

Summary of respondent knowledge and understanding of the concept “talent”

All nine respondents from the three respective codes in this study similarly identified talent-related key concepts such as ability, a gift from God and something they have grown with, which aligns with the literature studies. Furthermore it is evident that coaches are familiar with the theoretical framework of talent.

5.3.2 Talent detection

5.3.2.1 Defining talent detection

The concept of talent detection as described in Chapter 2 involves the discovery and mass screening of potential performers by conducting coaching clinics, programmes and trials where there are a number of participants having an interest in the sport. Furthermore, during detection athletes participate for fun, enjoyment and development. Talent detection can take place in structured or unstructured play. During structured play the nature of the sporting code, such as rules, technical and tactical requirements, is adhered to whereas in unstructured play children do not play under pressure and enjoy themselves by refining their fundamental skills.

In talent detection athletes are being given more opportunities to participate in as many sports as possible, which will ensure that they gain various motor skills that will be beneficial later when they select their sporting code. Cote (2014) encourages coaches to encourage deliberate play and says that players that are not screened or selected in the programmes should also be monitored

and encouraged to participate in sports, which ultimately leads to enhancement and refinement of their skills.

The concept of talent detection aims to discourage coaches and practitioners to select at an early age and increase mass participation (Cote, 2014).

The first question focused on the coaches' definition of talent detection. Their responses were:

Sporting Code: Rugby

Respondent A: "I use talent detection in a **form of conducting trials** and divide the kids according to their age groups."

Respondent B: "I detect by **offering opportunities** to all learners in the school play rugby."

Respondent C: "Is how quick the learner **adapts from not knowing** anything in a learning environment, the quicker the learner adapts indicate talent detection."

Interpretation:

Respondents A and B identified talent detection elements as a "form of conducting trials and offering opportunities", which is in agreement with the literature (Williams & Reilly, 2000) that defines talent detection as the discovery of potential participants by offering opportunities to all athletes in the school environment, which will enable athletes who have the necessary attributes to achieve excellence in a particular sporting code. However, Respondent C reply is irrelevant to talent detection concepts, as it is more aligned with a psychological perspective that focuses on the learner's ability to learn and to move from not knowing to knowing.

Sporting Code: Soccer

Soccer respondents defined talent detection as:

Respondent D: "Talent can be **detected through practice**, select the learners that perform the best, passion and commitment displayed during practice."

Respondent E: "Is when the player or learner comes to **training** and as a coach I can be able to see where the learner needs to work on. Is when players are on the field and I assess their abilities."

Respondent F: “It is through **training** when I see improvement in the session and progress through soccer.”

Interpretation:

Respondents D, E and F are all aligned with the concept of talent detection. The themes used to define talent detection were “detected through practice” and “training” respectively. The responses are in agreement with Brown (2001), who describes talent detection as when athletes are given more opportunities to participate in many sports as possible.

Sporting code: Netball

In netball respondents defined talent detection as:

Respondent G: “**How to spot a child** if ever they want to learn any sport they want to play.”

Respondent H: “In relation to netball is how players **learn to handle** the ball, stepping and balancing.”

Respondent I: “Athletes would **play against each other** and from there I will decide the athlete’s positions and if they are suitable in those positions.”

Interpretation:

Respondents G and I use “how to spot a child” and “play against each other” as words that define talent detection, which is in agreement with Cote (2014). Encourage deliberate play and those that are not screened or selected in the programmes should also be monitored and encouraged to participate in sports that ultimately lead to enhancement and refinement of their skills.

However, respondent H is focusing on techniques of identifying netball players, which is irrelevant to the subject matter.

Summary of definition of talent detection

Data analysis from all nine respondents indicates that only seven respondents’ talent detection definitions are in agreement with the literature (Brown, 2001; Williams & Reilly, 2000). It is also

advocated by Russell (1989) that talent detection is the discovery of potential performers who are currently not involved in the sport in question.

Despite this, the researcher can assume that the lack of knowledge of the concept of talent detection can create a challenge for coaches when they look for talent in younger athletes. Coaches may further screen only better athletes on that particular time and day, not taking into consideration any external factors that may have had an impact on their performance. The researcher believes detection is an ongoing process of offering learners an opportunity to play sport for fun and enjoyment.

5.3.2.2 Talent detection methods

Talent detection methods used in teams sports require athletes to display sport-specific skills and attain the target measures in the various test protocols: anthropometric, physiological, psychological, perceptual and technical contributions to performance (Hoare & Warr, 2000).

In order to detect talent in rugby the coaches use the following methods:

Sporting code: Rugby

Respondent A: “I give everyone the **chance to play and experience** and feel the love of rugby.”

Respondent B: “I look at the **ball-handling skills.**”

Respondent C: “**Basic rugby skills** such as ball handling, holding, throwing, running skills to be able to throw the ball according to the rugby rules.”

Interpretation:

Respondents A, B and C look at similar fundamental rugby skills to detect the ability to play rugby. Respondents identified talent detection methods “chance to play”, “ball-handling skills” and “basic rugby skills” in order to detect talent.

The findings from the three coaches support work by SARFU (2001) on the maintenance and refinement of the athlete’s physical capacities, fundamental movement skills and acquisition of rugby-specific skills.

Furthermore, Fisher (2008) states that protocols are required to be generic and as far as possible non-sport-specific and should include youngsters who aspire to elite performance from within and outside the sport.

Sporting Code: Soccer

In soccer the methods used to detect talent detection include:

Respondent D: “Training **through push-ups**, laps around the ground, passing and kicking ability.”

Respondent E: “**Basics**; when you can hold the ball and when you know what to do with the ball before it gets to you.”

Respondent F: “I do 7v7 in a **small-sided game** with small poles in a smaller pitch. In this process the kids are able to have more contact with the ball.”

Interpretation:

Respondents D, E and F identified relevant sport-specific rugby talent detection methods: “push-ups, basics skills and small-sided games”. The responses conform to the literature (SAFA, 2012) recommending athletes to learn the basics of passing, eye coordination, fun sessions, attacking and defending and strength. To support this one of the responses on how they detect talent was:

“I do 7v7 in a small-sided game with small poles in a smaller pitch. In this process the kids are able to have more contact with the ball.”

The three respondents identified that kicking and passing are the basics abilities they look for when identifying talented soccer players.

Sporting Code: Netball

Netball respondents detect talent as follows:

Respondent G: “I will put them in different age groups, **holding the ball and positioning** them in netball.”

Respondent H: “**Balance, steps and ball handling.**”

Respondent I: “I would identify that **through their positions.**”

Interpretation:

All three respondents demonstrated understanding of detecting netball talent using balance, steps and ball-handling skills, which conforms to the literature (Ryan, 2009) which suggests netball skills are divided into two categories: primary and secondary. Primary skills include footwork, catching and throwing and secondary skills are getting free, marking, shooting and throw-up. The findings also demonstrate that netball coaches’ knowledge of the game is hampered by their lack of coaching qualifications and experience, which may result in potential athletes going undetected if the performance criteria are overly netball-specific, and will exclude those whose netball-specific talent is critically undeveloped (Fisher, 2008).

Summary of methods used for talent detection

From the analysis all nine respondents demonstrated an understanding of their respective codes’ specific methods used to detect talent in athletes. Furthermore, all coaches’ responses form part of the technical perspective and meeting the basic prerequisites such as ball-handling skills in rugby, passing in soccer and balance in netball.

5.3.3 Talent identification

5.3.3.1 Defining talent identification

The talent identification process entails predicting performance over periods of time by measuring physical, physiological, psychological and social attributes as well as technical abilities, either separately or in combination (Reigner *et al.*, 1993). During the process of talent identification coaches may use a selection of tests of the physical, physiological and skills attributes related to the sporting code in order to identify those with potential for success (Hoare, 2000).

In rugby the coaches defined talent identification as:

Sporting Code: Rugby

Respondent A: “I **observe** learners.”

Respondent B: “Is when the athletes **excel** in sport and certain activities.”

Respondent C: “Are the **methods used to elicit some good play** and if they execute the exercises well that display talent identification.”

Interpretation:

All three respondents identified, explained and described talent identification key themes: “observe, excel and are methods used to elicit good play”. The responses are in agreement with Reigner *et al.*, 1993 who define talent identification as the process of recognising current participants with the potential to become elite athletes. According to Durant *et al.*(1993), talent identification involves making use of observation.

Sporting Code: Soccer

Soccer coaches defined talent identification as:

Respondent D: “Is when the player has the **potential** to do whatever they like.”

Respondent E: “Talent identification is when you **spot a player** who is playing well or not and teach him how to play well.”

Respondent F: “**I spot the learners** through communication and passing the ball.”

Interpretation:

The data analysis from the three soccer respondents indicates that respondents D and E’s responses, which identified talent identification elements as “spotting a player”, conform to Hoare’s (2000) definition of talent identification as screening children and adolescents using selected tests of physical, physiological and skill attributes in order to identify those with potential for success in a designated sport. However, respondent D’s response confuses talent concept with talent identification.

Coaches’ exposure to more recent trends in talent identification and its application to soccer. It is important and a priority for modern sport (Pienaar, Spamer & Steyn, 1998).

Sporting Code: Netball

Netball coaches defined talent identification as:

Respondent G: “Is whereby you **see the child and looking at the child in a position** of playing netball and others you can look at how far they can play netball.”

Respondent H: “I believe that every child has talent and **offering participation opportunities.**”

Respondent I: “I would **identify according to their positions** accordingly.”

Interpretation:

Respondents G, H and I’s definitions conform to the literature on talent identification (Davids *et al.*, 2000), which involves making a judgment about a performer’s qualities and offering that individual an opportunity to do something for which he or she is suited. Talented athletes must be identified on their ability to be the best athletes in the future, not their current abilities. This finding therefore has potentially crucial implications for TID programmes in netball in schools. From the current data it can be suggested that coaches should be trained in the concept of talent identification, which can benefit the athlete’s development pathway and assist sport organisations in the allocation of resources to netball talent identification programmes.

Summary of talent identification definition

The data analysis from the nine respondents indicates that only six respondents an understanding of the concept of talent identification, which conforms to existing studies (Pienaaretal., 1998; Hoare, 2000; Davids, Lees & Burtwitz, 2000). These authors see talent identification as a process that involves making a judgment about a performer’s qualities and offering that individual an opportunity to do something for which he or she is suited. Furthermore, other researchers in the field of sport sciences (Williams & Reilly, 2000) argue that talent identification programmes have significant roles and have become increasingly important in sport, due to the increase in the number of professional sport codes and the resultant greater competition for talented junior players.

Coaches in this study emphasised the importance of giving the learners an opportunity to play the sport. However, only two coaches showed understanding of talent identification. These findings suggest that the concept of talent identification is an important aspect of the development of learners and the nurturing of talent.

5.3.3.2 Methods used for identification of talented players

The identification of athletes at primary school level occurs in various seasons. Schools have different sporting seasons which occur quarterly throughout the school terms. At the beginning of each quarter athletes are recruited and encouraged to participate in sport and in this process coaches use games, matches and trials to identify talented athletes.

The first question focused on when the coaches identify talented players:

Sporting Code: Rugby

Respondent A: “**During** the season.”

Respondent B: “**Prior** to the rugby season.”

Respondent C: “We usually identify players at the **beginning** of the season.”

Interpretation:

In rugby all respondents identify players prior to and during the season. At this stage coaches have enough time to identify all athletes with potential who are interested in forming part of a team, and coaches are able to group them according to their age groups and positions.

Sporting Code: Soccer

Coaches’ responses to the timing of identifying soccer players are as follows:

Respondent D: “**During the practice** session.”

Respondent E: “Because we have **practice session** is where everything begins.”

Respondent: F. “I identify players **before** the season starts prior to the league.”

Interpretation:

The findings from the three respondents demonstrate that they all identify soccer players during the season as this has several advantages. Athletes can be given the opportunity to try other sports according to their abilities and teams can be formed according to the athletes' abilities. During this phase coaches have enough time to work with athletes throughout the season.

Sporting Code: Netball

Coaches responded:

Respondent G: "At school I am looking at their age groups especially grade 6 and 7 and identify them **through a mini session** or tournaments."

Respondent H: "**At the beginning** of the year we select the players."

Respondent I: "We do that normally **when they practice at the school** normally they practice on Tuesdays and Fridays."

Interpretation:

The three respondents indicated they identified players "during practice and at the beginning of the session". The importance of using practice sessions, mini-sessions and tournaments is that the coaches have an opportunity to build relationships with the athletes. In addition Martindale *et al.* (2010) allude to the importance of a coach providing an athlete with the right support at the right time.

Summary of methods used for identification of players

From the data analysis and findings, all nine coaches indicated the importance of identifying the athletes prior to, during and at the beginning of the season. This gives coaches enough time to continually monitor the athlete's level of performance throughout the season. During this process athletes will also participate in and try other sporting codes. The literature (Du Randt *et al.*,1993) reflects a clear talent identification systematic process and approach in an ideal school

environment that provides opportunities for children to develop optimally in respect of their physical-motor, psycho-social and cognitive abilities.

5.3.3.3 Priority elements used to identify talented players at primary school level

Coaches may use different sport-specific elements to identify talented athletes. According to the literature review, Du Randt *et al.*(1993) outline the systematic process of talent identification which involves various stages of identification. These stages include exposure to a balanced physical and motor development programme to identify talented athletes, which usually takes place at the ages of 8–10 in the form of mass screening, observations and field tests and evaluating general movement and physical ability. It also takes place 18–24 months later, usually at the ages of 11–12 years, using observation, field tests of performance and the rate of improvement.

In rugby the coaches look at the following elements when identifying players:

Sporting Code: Rugby

Respondent A: “I look at the **commitment** of the players.”

Respondent B: “They **pull-up** rope and tyres.”

Respondent C: “The first one will be on how they **hold and throw the ball**, running fast and **how fast they run**, how quick they pick up the ball and recover after losing the ball.”

Interpretation:

All three respondents answered differently. Respondents B and C identified strength in “pulling ropes and tyres” and basic rugby skills “running and throwing skills” respectively. The two respondents’ responses support SARFU (2001), which suggests that in rugby identifying talent uses a mixed approach of observation and scientific rugby attributes including catching, running, strength, condition, speed and video analysis of movement skills including change of direction in motion.

Respondent C focused on a psychological attribute, “commitment”, which is an essential element in rugby.

Sporting Code: Soccer

In soccer coaches identified the following elements:

Respondent D: “**Endurance**, football **technical skills** and **passing** ability.”

Respondent E: “The ball starts in the mind, quality **decisions** demonstrates that you know how to play soccer, **fitness** and when you fit you can do anything.”

Respondent F: “I look at the **interest, motivation and self-confidence.**”

Interpretation:

Respondent D identified essential elements in identifying talent, which include “technical skills such as passing, motor-related skills”, whilst respondent E identified “decision making” and Respondent F focused on psychological attributes of “interest, motivation and self-confidence”. All three respondents conform to the literature framework (Williams &Reilly, 2000), who suggests the generic criteria used in talent identification programmes in soccer include accurate passing, tackling, running and controlling the ball, defending the ball and ability to read the game. Other scientific tests are used such as flexibility, strength, explosive power, agility, jumping, height and weight. Respondent C’s response is aligned with SAFA’s (2012) Technical Master Plan, which identifies mental attributes essential for soccer such as mental fortitude, quick thinking, motivation and confidence.

Sporting Code: Netball

The coaches identify talented players as follows:

Respondent G: “Firstly looking at their **height and physique** if they can be able to play netball.”

Respondent H: “**Team work and communication** and ability to score goals.”

Respondent I: “Firstly you have to be fit, **run and defending** your partner and make sure that you always exercise.”

Interpretation:

Respondent G identified netball physiological attributes “height and physique of players”, respondent H mentioned mental attributes such as “team work and communication” and respondent I focused on technical skills “running and defending”.

All three responses are aligned with literature studies (www.netballsa.co.za), which states that the application of fundamental stage physiological attributes such as running, power, speed and endurance, body coordination, movement skills, body awareness and basic decision making are critical. From the age of 11–14 years the following skills can be added: good footwork and change of direction, ball skills such as acceleration and deceleration, balance and control without the ball, good basic handling skills, accuracy of passing, catching ability, attacking skills including ability to make appropriate decisions, effective use of space, timing and vision. In defending the coaches and selectors look for defending situations such as good one-on-one defending and defence passes, footwork to demonstrate efficient running technique, sprint and change direction and side-steps.

Summary of priority elements used to identify talented players

Analysis of data from the nine respondents identified sport-specific elements such as physiological attributes, technical skills, tactical skills, and mental attributes used to identify talented learners in their respective codes. The detection and identification in the respective codes requires complex criteria used to identify future possibility for excellence (Du Randt *et al.*, 1993). According to Fisher (2008), the potential will remain undetected if the performance criteria are overly specific, and will exclude those whose specific talent is critically undeveloped. This argues, therefore, for talent identification protocols to be generic and as far as possible non-sport-specific, and should include youngsters who aspire to elite performance from both within and outside the sport.

5.3.3.4 Identification of fitness related components

All the respective codes require the application of motor fitness skills. The sporting codes have similar fitness skills; netball requires explosive movements such as short, fast sprints, quick stops and many changes and direction (Ryan, 2009); in soccer SAFA (2012) has identified endurance,

strength, speed endurance, power, mobility and flexibility; and in rugby the coaches identified movement, agility, balance, coordination and speed athleticism in running and throwing (SARFU, 2001).

In the interviews the interviewer focused on flexibility, speed, power, strength and endurance.

(a) Identification of general fitness-related components

The coaches identified the fitness components as:

Sporting Code: Rugby

Respondent A: “**Endurance, speed and explosive power.**”

Respondent B: “I look at **speed, endurance and stamina** of the athletes.”

Respondent C: “Fitness is important to rugby, **speed, endurance, hand/eye coordination** is very important in rugby.”

Interpretation:

Respondents A, B and C identified similar rugby motor fitness components: “speed, endurance, explosive power and hand/eye coordination” respectively, which concurs with SARFU (2001) which mentions physiological testing that measures and analyses the performance of athletes such as flexibility tests, jumping, power, speed, height and weight and psychological performance such as anxiety, concentration and coping strategies. All three respondents identified the physical predictors of performance associated with rugby as: speed, endurance, hand–eye coordination.

Younger performers can identify with them, simply because they are aware that they are not alone in the amount of work they have to dedicate in the pursuit of excellence (Burland & Davidson, 2002).

Sporting Code: Soccer

The coaches gave the following responses regarding the fitness components:

Respondent D: “**Stamina, endurance and flexibility.**”

Respondent E: “For me I believe in **speed training, agility and endurance** in the field.”

Respondent F: “I spot athletes that **participate in athletics** before the pre-season phase.”

Interpretation:

Respondents D and E identified key motor fitness relevant to soccer as “stamina, endurance, speed, agility and endurance”, which contribute to athletic performance. The responses are aligned with Williams and Reilly (2000), who state that scientific fitness tests used in soccer are flexibility, strength, explosive power and agility. To further support the respondents, the SAFA Technical Master Plan (2012) identifies physical skills such speed, endurance, mobility, agility, speed endurance, strength endurance and explosiveness.

However, respondent F’s response is focused on identifying athletes, which is irrelevant to the motor fitness component for soccer.

Sporting Code: Netball

Netball coaches responded that the fitness components relevant to netball are:

Respondent G: “They must be able to have **speed, physical** tactics and be strong when holding the ball.”

Respondent H: “Athletes must be **energetic**, focused and handle pressure and able to play various position.”

Respondent I: “We select through fitness, **run, jump** and alertness because you always have to run around and be next to your partner.”

Interpretation:

Respondents G, H and I identified fitness components as “speed, physique, energetic, running and jumping” respectively. The three responses concur with Netball South Africa LTPD (2011), that during the fundamental stage physiological attributes such as running, power, speed and endurance, body coordination, movement skills, body awareness and basic decision making are critical.

Summary of identification of general fitness components in rugby, soccer and netball

The data analysis gives an indication that rugby coaches are all familiar with and use the motor fitness skills in their sessions to identify players. In soccer coaches demonstrated an ability to use the fitness testing protocols prescribed by SAFA (2012) and in netball the three respondents concurred with the existing literature.

From the findings the researcher acknowledges that most of the coaches interviewed have an understanding of fitness-related skills in their respective codes. The motor fitness skills required and used in all the sporting codes under study have similar requirements, such as speed, endurance, strength, power and agility.

(b) The knowledge and practical verification of the specific fitness-related components

(i) Flexibility

Flexibility is an important component of balance and coordination by increasing one's range of motion. The most commonly known motor skill that measures and demonstrate flexibility in rugby, soccer and netball used by coaches and physical educators is the sit and reach test.

Coaches responded that they assessed flexibility in the following manner:

Sporting code: Rugby

Respondent A: "I make them **run** and time the athletes' **speed**."

Respondent B: "Athletes do **dynamic** and **static stretching**."

Respondent C: "Before each and every game we **warm up, hop and jog** for a while and once done we do comprehensive exercises for them to be ready for the game."

Interpretation:

Respondent B assess flexibility through "dynamic and static stretching", whereas respondent C explained that prior to assessments an important element was conducting warm-up to avoid any injury by getting the muscles warm, hopping and jogging.

Respondents B and C responses are in agreement with Luger and Pook (2004), who suggest that flexibility improves rugby performance by allowing the athlete to sprint faster and change direction effectively and efficiently. The dynamic and unexpected movements performed in rugby are also less risky when flexibility is sound.

Respondent A focused on running and speed, which are not applicable to flexibility and contradict Apostolopoulos (2006) who suggests that stretching can lead to increased flexibility, improved muscle or athletic performance, improved running economy, injury prevention, promotion of healing and possibly decreased delayed-onset muscle soreness.

Sporting Code: Soccer

Coaches responded that they assessed athletes using the following methods:

Respondent D: “How they **play and pass.**”

Respondent E: “I take two players and put them in the midfield of the field and one player must be able to **catch** the other player for 30 seconds.”

Respondent F: “I make smaller games and I am able to look at how they are flexible. I **do dynamic and aerobic stretches.**”

Interpretation:

Respondent F measured flexibility by assessing dynamic and aerobic stretches, which conforms to the SAFA Technical Master Plan (2012) which recommends that flexibility assessment for the lower back/hamstring can be in the form of a modified sit and reach test and hip flexor complex, which is measured by the modified Thomas test. In this test the player subject sits on the edge of the end of the plinth. The player then rolls back on the plinth and pulls up both knees to the chest. This ensures that a flattened lumbar spine is achieved with a posterior rotated pelvis. The player holds the contralateral leg in flexion against the chest while lowering the test leg to the floor. The lower leg is allowed to hang freely so that the end position is obtained using gravity alone (Harvey, 1998).

However, respondents D and E’s responses are not aligned with SAFA’s (2012) Technical Master Plan.

Sporting Code: Netball

Coaches responded that they assess the level of flexibility as follows:

Respondent G: “I do allow them to **stretch before the session** and include **warm-up.**”

Respondent H: “By giving them a chance to play in positions 1 and 7.”

Respondent I: “With flexibility **they do stretches** and run laps and do push-ups.”

Interpretation:

Respondents G and I used key themes to assess flexibility in netball such as “stretching before the session” which conforms with Cotton and O’Connor (2012) suggestion that assessing flexibility in netball requires the athletes to sit on the ground with legs fully extended in front of them, feet slightly apart, toes pointed upwards and soles of the feet (no shoes) flat against the sit and reach box. The participant reaches forward slowly, one hand on top of the other, and pushes the slide along. The fingertips of both hands remain in contact with the slide at all times. Once the participant had reached their farthest extension point, the position is held for two seconds.

Respondent H’s response is in relation to a tactical game situation involving players playing against one another.

Summary of application on flexibility

The data analysis from rugby demonstrated with only two respondents assess flexibility in the form of stretching. In soccer one respondent assesses flexibility, which is required by SAFA (2012). In netball two respondents assess flexibility in the form of stretching; however there are other methods that can be used such as sit and reach, which is reliable in assessing and determining the individual’s norms and standards (Cotton & O’Connor, 2012).

(ii) Speed

Speed is the ability to move the body as fast as possible from one point to another. Speed is the rate of movement or the amount of time taken for a body to travel between two points.

Coaches measure speed using the following methods.

Sporting Code: Rugby

Respondent A: “**5m** sprint.”

Respondent B: “The athletes sprint for **100m.**”

Respondent C: “**50 and 60m.**”

Interpretation:

In rugby all three respondents measure speed from 5m, 100m and 50–60m in order to assess speed. The responses do not align with recent studies on rugby development. According to Duthie (2005), players’ speed should be tested between 20–40m, without the ball, from a standing start and with no changes of direction.

Furthermore, the Boksmart (2009) rugby training fitness testing manual for measuring speed suggests the use of an electronic sprint timer or stopwatch with cones that are set on the ground at 10m and 40m intervals from the start line. The player uses a crouched start 30cm from the start line (this line must be clearly marked). The first set of cones is placed at the start line, the second at 10m and the third at 40m. The player sprints maximally for 40m through the cones. The player completes two maximal effort runs separated by a minimum of five minutes’ recovery period. If photo-electric cells are unavailable, then a hand-held timer should be used. Record times for 10m and 40m.

Sporting Code: Soccer

Coaches measure speed as follows:

Respondent D: “I measure speed through a **100m, 150m and 200m.**”

Respondent E: “You need equipment to measure speed as I do not have the technological equipment by using my own eyes. The athletes run for **100m.**”

Respondent E: “I test speed for **20–60m** measuring time.”

Interpretation:

Only respondent E's speed test norm of "20–60m" is aligned with Gatz (2009), who suggests that coaches use an open field or running track of 100–120m, ensuring that the surface level is fine and free from any obstacles. Coaches should set a marker or cones at points 30m, 70m and 90m from the designated starting mark. Athletes should start with a warm-up in order to build speed. Athletes should sprint from the first marker to 30m to 70m zone by concentrating on a fast with arms and legs. Lastly athletes sprint from 70–90m to stop under control. Respondents D and E's speed measurements from "100–200m" contradict Williams and Reilly's (2000) recommended measuring distances of between 5–40m, as soccer requires athletes to cover short distances and the nature of the sport requires speed.

Sporting Code: Netball

Coaches responded that speed is measured in the following manner:

Respondent F: "I use a stopwatch and have some measurements to assess how **quick they sprint.**"

Respondent G: "The athletes sprint for at least **5m.**"

Respondent H: "They only **run.**"

Interpretation:

Respondent G identified measuring speed over 5m, which is in line with Ellis and Smith's (2000) speed protocol that is assessed from 5m, 10m and 20m. When the participant is ready, they sprint from the start marker in a straight line to the 20m marker. The time recorded from the participant's first movement through the beam is stopped when they pass through the 20m timing gate. Split times are taken at the 5m and 10m marker. Respondents F and H's responses are not specific to speed testing.

Summary of use of speed in rugby, soccer and netball

Speed and acceleration are essential requirements in rugby, soccer and netball, as players are often required to accelerate to reach a position nearby or sprint over an extended distance. The data analysis from rugby demonstrated respondents' inability to measure speed at a shorter

distance for athletes under the ages of 12–13. In soccer, only one respondent conformed to the SAFA Technical Master Plan (2012) for measuring speed. One respondent from netball was able to assess athletes' speed time for 5m, which conforms to the literature. From the data analysis, most coaches do not test the athletes' sprinting ability according to the required protocols.

(iii) Power

Power is the ability to complete maximal work in the shortest amount of time. Measurements of power attempt to describe a player's explosiveness (Boksmart, 2009). Power is another essential motor-fitness skill that can be easily measured by coaches. Power can be measured using vertical and leg broad jump tests which offer reliable results. Muscle power, which is a function of the interaction between the force of contraction and the speed of contraction, is associated with the explosiveness of the muscle. The relationship between force and speed of contraction and the subsequent point at which peak power occurs, varies between athletes (Jennings, Viljoen, Durandt & Lamber, 2005).

According to each coach, the power tests used are as follows:

Sporting Code: Rugby

Respondent A: "**Push-ups.**"

Respondent B: "I test the athlete's power by **jumping in pairs** from a shoulder to shoulder position."

Respondent C: "They do some **jumping for leg strength**, chest exercises and push-ups."

Interpretation:

Respondents B and C identified "jumping" as an important assessment criteria used in rugby. The responses are aligned with Duthie (2006), who requires rugby players to jump and lift in the lineout, during the initial push in the scrum, when tackling and for explosive acceleration. To measure leg power, vertical jump tests can be used reliably. Vertical jump height can be determined by using a platform connected to a digital timer, a vertec device, or chalk to mark the

highest point of a jump. A standard vertical jump test protocol with a standard counter-movement jump and an arm swing allowed can be used.

The Boksmart (2009) rugby training manual suggests that leg power in rugby is assessed by allowing the player to stand side on with the dominant shoulder facing the wall. The player then reaches up with the dominant arm and the standing height is measured at the point of the fingertips. The athlete is then ready to attempt the first jump. The player is allowed to bend (flex) the knees and swing the arms prior to the jump. The player is not allowed a run-up or a shuffle step prior to the jump. The player is allowed a maximum of two efforts after a thorough warm-up. At the highest point of the jump the player reaches up and touches the wall, making a chalk mark. The player's vertical jump score is measured as the distance between the standing height and the jump height.

Another method used to measure leg power is the standing broad jump. This test measures explosive leg power over a horizontal distance. The player jumps forward from a two-footed take-off position, flexing at the hip, knee and ankle joints prior to take-off.

Respondent C's response is not applicable to power but is used to measure athletes' muscular endurance by push-ups.

Sporting Code: Soccer

Coaches test and assess the athlete's power as follows:

Respondent D: "We take the balls to the playing grounds and **practise shooting at a distance of 20m** towards the goalpost."

Respondent E: "The athletes do **push-ups.**"

Respondent F: "Athletes **pick up a 2-litre** bucket full of water and carry equipment."

Interpretation:

All three respondents identified "practising shooting, push-ups and picking up objects". This contradicts the SAFA Technical Master Plan (2012), which requires testing to be measured using

isokinetic evaluations, while measuring other attributes and by means of a simple sprint or jump test. The correct procedure for measuring power in soccer suggested by Gatz (2009) includes the medicine ball throw.

The tests require a covered and protective ball filled with sand. The test is a functional means of evaluating the explosive strength and requires an open playing area free of obstacles. The athletes begin by standing behind a start line with the feet shoulder-width apart. Raising the medicine ball to chest height, athletes place the ball on the hands as if throwing a basketball chest pass. The athlete has to squat slightly, feeling the movement from the feet up through the hands as the ball is released. On the release of the ball, the athlete pushes the ball up and out as far as possible. Each throw is then measured from the starting line to the point where the ball hits the ground. The average score for females is 8m and for males is 11m.

Sporting Code: Netball

Coaches responded that they measure power by:

Respondent G: “I allow them to **jump** and see if they can play the ball higher and defend which requires jumping ability. I can also use this to put them into positions.”

Respondent H: “We **throw the ball** higher so that **they can jump higher** when catching the ball.”

Respondent I: “Yes they do pass the ball to each other in pairs and **pass it higher and see if they are able to jump higher.**”

Interpretation:

In netball all three respondents identified “jumping higher” as a measurement for power. The responses are in agreement with Cotton and O’Connor (2012), who require participants to stand with feet flat on the ground with their side against the wall. An initial assessment is taken with the participant reaching as high as possible with one arm extended upwards touching the wall. This measurement is known as the standing height. The participant then crouches down by bending their knees and swings their arms to jump as high as possible. At the highest point, the participant touches the wall. This measurement is recorded (known as the jumping height). The

jump height of the participant is the difference between the jumping height and standing height (Brown, 2007).

Summary of the use of power in rugby, soccer and netball

In rugby two respondents understand the leg power assessment, which is important for improving athletes' jumping ability. The results indicate that rugby coaches apply the testing of power. In soccer none of the respondents' responses conform to the existing literature, whereas in netball two respondents adhere to the power testing protocol. Four of the nine coaches identified key power assessments used to detect, identify and development talent.

(iv) Strength

Strength training is also an essential part of the conditioning phase of training in order to reduce injury risk and enable the muscles to train harder. Strength training at primary level should be of minimal intensity.

The coaches responded with the following as to how they measure strength:

Sporting Code: Rugby

Respondent A: "The athletes **pull and pick up one another.**"

Respondent B: "They **pull-up ropes** and tyres."

Respondent C: "They usually do **sit-up and stomach** exercises."

Interpretation:

Due to limited resources in the schools, respondents A and B demonstrated innovativeness by identifying strength assessments key themes "pull-ups using objects". The response is in agreement with Luger and Pook (2004) who identify the relevance of strength tests in sport situations such breaking a tackle, accelerating and scrumming situations in which a rugby player needs strength and power.

However other tests can be used to measure athletes' strength. Quarrie and Wilson (2000) suggest that grip strength is required for players to bind properly to each other in the scrum, so the assessment of grip strength would be a useful tool for training forwards. The protocol used in the grip strength test has been found to significantly affect the scores obtained (Innes, 1991). Performing the grip strength test while standing results in higher grip strength scores than when sitting using the same equipment (Balogun, Adenlola & Akinloye, 1991).

In addition a simple and inexpensive test such as forward lunge can also be used to measure the athletes' leg strength. In the test procedure given by Crill, Kolba and Chleboun (2004), the coach instructs the athlete to step forward with the dominant leg; the lunge leg should flex at the knee directly above the heel of the same leg. For scoring the coach should measure the distance between the toe of the stance leg and the heel of the lunge leg.

Respondent C's response is not aligned with the recommended strength test; however the tests identified "sit-ups" as more to do with muscular endurance testing.

Sporting Code: Soccer

The responses on strength assessments are as follows:

Respondent D: "Organise **friendly games with other schools to assess** their level of strength."

Respondent E: "When athletes have the ball in a compact [contact] situation I encourage them to **keep the ball on their feet** and not lose it."

Respondent F: "Strength goes **hand in hand with power.**"

Interpretation:

Soccer, like most sports, is played while moving off one leg onto the other when sprinting, heading, kicking and changing direction. The ability to control single movements and combine with strength is an advantage during the play (Gatz, 2009).

All three respondents' responses are more aligned with gauging and analysing athletes' technical and tactical skills against opponents in game situations, as a respondent mentioned "organise friendlies to assess players' strength, compact [contact] situation".

The responses do not conform to SAFA's Technical Master Plan (2012), which requires the use of isokinetic evaluation for knee flexion and extension and also the shoulder as part of an injury management process. Regular strength and general muscular function training should remain a staple item in both preparatory and competitive phases of the training regime and should be individually prescribed and controlled, relatively independent from rigid test procedures. In soccer the single leg squat and plank could be used for athletes who lack core body strength and maintain their posture as they relate to soccer performance.

The method used to assess the leg squat suggested by Gatz (2009) involves getting athletes to stand and balance on one leg on the line, with both hands on the hips. The athlete should hold the position without falling or touching the opposite foot to the ground. Bend the test leg at the ankle, knee and hip to get down to the lowest possible position.

During the plan test, the athlete should get down on the floor in a push-up position. Bend the arms at 90 degrees so that the elbows rest on the ground, directly under the shoulders. The feet should be flexed so that the contact points on the body are the toes. The coach should then evaluate and observe any dropping of the hips and shaking of the shoulders. Both tests can be used as core strength tests.

Sporting Code: Netball

Coaches responded that they measure strength using the following methods:

Respondent G: "In netball they do the normal **stretching of the arms and legs.**"

Respondent H: "Goalkeeper must be able to keep the **opponents towards the poles.**"

Respondent I: "They do **pull-ups** and abdominal exercises."

Interpretation:

Respondent I identified “pull-ups” as essential strength assessments. However respondents G and H responses’ are not specific to strength, as they used “stretching ad keeping opponents” which does not conform to the literature according to Cronin & Owen (2004). The participant sits on the floor, with her head, shoulders and lower back against the wall. She throws the netball as far as possible without the head, shoulders and hips moving from the wall. A tape measure is used to measure the distance from the wall to where the ball lands.

Summary of the use of strength in rugby, soccer and netball

Of all nine respondents, only four conform to the existing literature on how to test strength in each code. It is an area of concern, as athletes will be susceptible to injuries if coaches do not adhere to the strength testing protocol in each code.

(v) Muscular endurance

Muscle endurance is the ability of a specific muscle group to contract repetitively or to hold a single contraction to fatigue.

Sporting Code: Rugby

The coaches assess endurance in the sport as follows:

Respondent A: “They do **push-ups** and sit-ups of 15 reps each.”

Respondent B: “They **do push-ups.**”

Respondent C: “They do **basic push-ups** of 5–10 reps.”

Interpretation:

Respondents A, B and C identified muscular endurance assessments as “push-ups”, which conforms to the literature (Boksmart, 2009) that suggests the assessment of push-ups and sit-ups for measuring muscular endurance. The aim of this test is to measure the player’s upper body strength. The player assumes a position where his thumbs are 0–5cm wider than shoulder width.

Keeping the back and body straight, the player descends to the tester's fist, placed below the sternum, and then ascends until elbows are fully extended (straightened). If the player does not adhere to these specifications, the repetition is not counted. The number of push-ups performed in one minute is recorded.

Another test is used to assess the muscular endurance of the abdominal muscles and hip flexors. Sit-ups are performed with knees bent, feet fixed (on a sit-up bench or held by a partner). The hands should touch the ears and elbows should touch the knees at the end of the curl-up. The player should then descend in a controlled manner. The tester's hand is placed palm-side up on the bench, such that the wrist makes contact with the player's spine in line with the inferior border (bottom) of the scapulae (shoulder blades). If the hands are taken off the ears, the elbows do not touch the knees, or the back does not touch the tester's hand, the sit-up is not counted. The duration of the test depends on the age of the player. Players between the ages of 12–13 years complete sit-ups for one minute.

Sporting Code: Soccer

Coaches responded that they measure endurance as follows:

Respondent D: “**Push-ups.**”

Respondent E: “They do **push-ups** and a bit of **sit-ups** exercises.”

Respondent F: “I have markers 5m apart and they have to **run around the cones** and increase the intensity.”

Interpretation:

Muscular endurance uses the core muscles, which are the big and smaller muscles that connect and cross the centre of the body. This includes the muscles of the back and hip (Luger & Pook, 2004). The muscular endurance can be done seated, stationary or using apparatus. The study group used seated exercises to assess.

Respondents D and E identified “push-ups and sit-ups” as a measure of muscular endurance. The responses conform to SAFA's Technical Master Plan (2012) on the measurement of athletes' muscular endurance by use of sit-ups. In a sit-up, the athlete should lie facing upwards with the

knees bent; a partner should hold the lower legs down by sitting on them without applying much pressure. The athlete tested should start by flexing the waist whilst facing the partner at the top of the movement (Gatz, 2009).

Other core strength tests include V-ups, in which the athlete lies face up on the floor, with arms positioned over the head and legs fully extended on the floor. The athlete brings the arms and legs together by bending at the waist. The athlete then contracts through the midsection of the body so that the shoulders come off the ground as high as possible. Respondent F's response involves "running around the cones", which is not a motor-fitness skill relevant for assessing strength.

Sporting Code: Netball

Coaches responded that with regards to endurance assessment they do the following:

Respondent G: "For conditioning they do **abdominal exercises.**"

Respondent H: "We do **push-ups and sit-ups.**"

Respondent I: "**Abdominal exercises.**"

Interpretation:

In netball respondents G, H and I identified "push-ups and abdominal exercises" as a measure used to assess muscular endurance. The responses concur with the netball studies by Bangsbo, Iaiia & Krstrup (2008) that assess the players' endurance through sit-ups.

Summary of application of endurance in rugby, soccer and netball

The data analysis indicates that eight respondents conform to the existing literature by measuring muscular endurance using push-ups, sit-ups and abdominal exercises and shuttle runs. All sporting codes use similar testing protocols to measure athletes' endurance levels. Furthermore, the endurance assessment results can be used to determine the fatigue tolerance of a player involved in high-intensity repetitive work (SAFA Technical Master Plan, 2012).

5.3.3.5 IDENTIFICATION OF SPORTING CODE-RELATED SKILLS

(a) RUGBY-RELATED MOTOR SKILLS

The motor skills related to rugby include jumping movements, running, ball-handling skills, tackling, passing, throwing and kicking ability.

(i) Jumping

Rugby coaches responded that in jumping they identify the following skills:

Respondent A: “I look at their **leg position** and **back especially** when the athletes perform **scrum.**”

Respondent B: “They do **high jump.**”

Respondent C: “Our level is **not that intensive at primary level** as it is called tag rugby most of the technicalities in higher rugby level are not exhibited at this level.”

Interpretation:

Respondents A and B identified jumping and techniques for jumping as “leg position, high jump”. Both respondents’ responses are aligned with Winder (1990), who recommends that coaches look out for feet positions, arms relaxed and the conjunction of the legs and drive upwards when catching the ball. However, respondent C stated that the focus at primary school level is less intense as they do basic jumping skills.

In addition, the identification skills recommended by Try Rugby Complete Skill and Drills Manual (2007) in jumping focus on jumping by crouching; knees are bent and weight is on the balls of the feet, arms are bent at chest level and fingers spread. The player drives legs and arms and reaches for the ball and lands on two feet, bending knees on landing.

The data analysis indicates that rugby coaches’ use of jumping will result in identifying talent in the sport.

(ii) Running

In running coaches use the following assessment techniques:

Respondent A: “They **run straight.**”

Respondent B: “They **run in straight**, backward and sideways movement.”

Respondent C: “**Running at the same time** and looking at your teammates expecting the ball from you.”

Interpretation:

Respondents A, B and C identify athletes through a linear motion, but the responses do not conform to rugby techniques identified by the Try Rugby Complete Skill and Drills Manual (2007). This indicates that athletes should allow rugby running actions: keep head still, looking forward; shoulders and hands relaxed; elbows at 90 degrees; wrists to brush hips; maintain fast feet and fast elbows; when moving laterally push with the outside leg.

Furthermore, Winder (1990) suggests that the technique for running in rugby requires players to stand with the outside foot pointing in the intended direction; this enables the players to straighten the run. In addition, when the athlete runs with the ball the coach should observe the control and contact with both hands by spreading the fingers to cover the maximum surface area of the ball.

The running technique applied by the three respondents is not aligned with the recommended running technique suitable for rugby juniors. The researcher is of the view that not following the correct technique might result in athletes being susceptible to injuries and affect performance.

(iii) Ball control and handling

In rugby the respondents assess in ball and control skills by:

Respondent A: “Before you call the ball you must **raise your hands** in order to catch it.”

Respondent B: “They hold the ball **with one hand and use the other one for protecting the ball.**”

Respondent C: “Handling the ball at the **apex part of the ball, hold with forehands at the side of the body next to the weight and sideways at the wrist.**”

Interpretation:

From the analysis all three respondents' ball-handling techniques are in agreement with the literature. Respondents used the key themes "raise the hands, hold the ball with one hand and apex of the ball" for ball-handling techniques. The responses are in agreement with the Try Rugby Complete Skill and Drills Manual (2007), which suggests players hold the ball at the apex, with hands at the side of the body next to the waist and sideways at the wrist.

(iv) Defending/Tackling

The successful execution of the tackle can significantly alter the balance of a game; an example is a good tackle preventing an opponent from scoring a try and helping teammates to turn defence into attack. Tackling is a very important aspect of the game and a skill that can be improved with training and practice; is often neglected by coaches (Winder, 1990).

Coaches responded that in rugby the defending skills that they assess and look for are:

Respondent A: "They **go lower and grab their hands** with an aim of tackling."

Respondent B: "**You hold the ball on the hand.**"

Respondent C: "**Strength and hand-eye coordination, quickness of speed once tackled.**"

Interpretation:

Respondents A and B recommended athletes to "go lower and hold the ball with one hand" which conforms to the Try Rugby Complete Skill and Drills Manual (2007). This recommends that when defending the defenders should deny their opponents time and space by moving forward quickly, lowering the centre of gravity and approaching the target from the side, and looking forward at the target with hands up.

Respondent C used key visual mechanisms that are essential in performing the tackle: "hand-eye coordination". The response is aligned with Winder (1990) who recommends the correct technique and key features including tackling that the coach should look out for, including maintaining a good position and keeping the eyes open.

(v) Passing

Passing the ball is considered one of the rugby's basic techniques, as players are always looking for an opportunity to exploit some space during the game and this requires players to pass the ball to each other.

There are many different techniques and methods of transferring possession of the ball from one player to another. Each technique can be learned and practised in training.

Identification skills necessary for passing in rugby according to the coaches' responses are:

Respondent A: "We use a **dummy.**"

Respondent B: "I look at the accuracy of passing and they also play **long and short pass.**"

Respondent C: "The technique is that the ball must be **thrown to the front player and throw the ball sideways and quickness and hand-eye coordination.**"

Interpretation:

Respondents A and B used words such as "dummy, long and short pass" when performing the passing technique. The responses are in agreement with Winder (1990), who recommends the use of dummy, long and reverse passes.

According to respondent C, passing technique is a combination of "ball handling, quickness and hand and eye coordination". The Try Rugby Complete Skill & Drills Manual (2007) states: athletes should hold the ball in two hands; elbows should be up and fingers spread; hold the ball outside hip; lean forward over the ball; turn head quickly to look at the target; transfer the ball across the body towards the target; fingers point target after the pass (Try Rugby Complete Skill & Drills Manual, 2007).

(vi) Throwing

In rugby the player with the responsibility of throwing the ball must practise the technique regularly, for example, by hitting different targets such as a post (Winder, 1990).

The responses regarding the skills that are important in throwing the ball in rugby are:

Respondent A: “**We look at the ground** and decide if we do our planning and special move.”

Respondent B: “I look at the player’s **accuracy and throwing longer and use hands.**”

Respondent C: “The learners must be able to **anticipate where the ball will land** and must be quick enough and have hand–eye coordination.”

Interpretation:

Respondent B and C’s responses align with the literature by identifying the use of “accuracy and anticipation” in which fingers point at the target after the throw and throwing for accuracy before distance (Try Rugby Complete Skill and Drills Manual, 2007). To further support the response, Winder (1990) has identified the main passing criteria and techniques are accuracy and the ability of the intended receiver to see the ball and jump and catch it. Respondent C’s response is not in line with passing technique.

(vii) Kicking

Every player needs to be competent in kicking the ball. The kicking technique is also determined by the player’s position. Winder (1990) elaborates that the basic reason for kicking in rugby is to score points and start and restart the game.

The techniques used for kicking the ball in rugby are the following:

Respondent A: “**We kick the ball in our 22m** so that the opponents do not get the ball and we use a **drop kick with our instep of the foot.**”

Respondent B: “In a **form of penalty.**”

Respondent C: “At the moment there is little kicking in tag rugby as it involves throwing, **kicking up the ball** and once fallen the athletes run in order to score a try.”

Interpretation:

Respondent A and B’s views of kicking identified “drop kick using an instep of the foot and kicking the ball up”. The responses support the Try Rugby Complete Skill and Drills Manual (2007) which suggests that athletes should hold the ball in two hands, fingers spread, watch the

ball closely as they guide it onto the kicking foot, kick through the ball with a hard foot, extend the kicking leg forcefully towards the target, kick for accuracy before distance and practise with both feet.

(b) SOCCER-RELATED MOTOR SKILLS

(i) Jumping

Coaches teach jumping to improve performance and to reduce the possibility of knee injury. The jump can occur from a stationary position or while on the move. Jumping is used by all players to head the ball or for a goalkeeper to catch, punch or deflect the ball.

In jumping the coaches responded that the identification skills and techniques used are:

Respondent A: “Potential on **how they jump.**”

Respondent B: “First I look at their feet, athletes need to jump to **balance their legs** and **open your arms** to protect against oncoming players in aerial balls and when there is contact with the opponent.”

Respondent C: “Through heading I throw the ball higher and the athlete also has to **jump higher and meet the ball in the air.**”

Interpretation:

Only respondents B and C use the correct jumping technique that focuses on “balance of the legs and jumping higher to meet the ball in the air”. The responses support work by Williams and Reilly (2003) who suggest that jumping in soccer occurs from a standing position, standing is usually performed from both feet and from one leg when using run-up, trunk, hips and knees flex and ankle dorsiflex, elbows flex and shoulder extends, arms are moved rapidly forward and upwards by flexion of shoulders and extension of elbow. Furthermore, Snow and Thomas (2010) identified jumping techniques required for players as: press against the ground with the heel of the foot, straighten the trail leg; the body weight is transferred onto the lead leg which is slightly bent at the knee; the legs should be held in a lunge position.

Respondent A’s response focused on the “potential for jumping”, which is not a recommended technique.

(ii) Running

Basic running must be taught and reinforced as a basic skill that can also be emphasised during warm-up and cool-down activities (Snow & Thomas, 2010).

The coaches' responses to the running technique include:

Respondent A: "Correct technique is to start with the **hands and balance with both feet.**"

Respondent B: "There is a time to be speedy and using the same pace you have to **start slow and finish on a high.**"

Respondent C: "The distance to be covered from 20–60m. There are two types of running in soccer; athletic and football running and I also **focus on high knees.**"

Interpretation:

The responses of all three respondents support studies by Williams and Reilly (2003) in soccer, as they use the words "hands and balance with both feet, start slow and finish high and high knees". The findings are in agreement with Williams and Reilly (2003) who recommend that the athlete's foot makes contact with the ground and ends point the foot leaves contact with the ground while the swing begins at the toe-off and ends at the foot strike. At the toe-off the swing leg is in a position of extension of the hip, extension of the knee and plantar flexion of the ankle. When foot strikes occur, the hip is in flexion, the knee is in slight flexion and the ankle is dorsiflexed and slightly involved.

(iii) Dribbling

Dribbling a soccer ball is both easy and difficult. It can be one of the easiest and most natural skills to perform. This is why young children like to play soccer so that they can run freely while kicking the ball. Young players must be taught the correct way to dribble against opponents. Dribbling the soccer ball is one of the most important skills that children need to play soccer effectively. Players in possession of the ball are subjective to a tremendous amount of pressure.

The dribbling techniques used in soccer are:

Respondent A: “**Quickness in dribbling** and reading and analysing movement of the opponents.”

Respondent B: “I always tell the players to **not lose the ball when they dribble**; I put cones around and let players dribble around the cones (slalom dribbling).”

Respondent C: “I play video clips and in order to know they should apply it and with the under 11 players they **push the ball** till they get to the poles and **change direction while dribbling.**”

Interpretation:

All three respondents mentioned “quickness, not losing the ball and change direction whilst dribbling” which are the important techniques for dribbling.

The responses are in aligned with Hargreaves and Bate (1990: 25), who state that “the most important skill in soccer is the ability to control the ball”. Snow and Thomas (2009) say the correct technique for dribbling in soccer requires the athlete to stay on the balls of the feet with knees slightly bent; lean a little forward at the waist; hold the arms out somewhat for balance; keep the head steady and glance up to see the dribbling path. There are four types of dribbling technique. Luondo (1996) identifies dribbling as pushing the ball using the outside or inside of the foot. LaPrath (2009) states that “shielding is most often used when players run out of room to dribble and are tightly marked”.

(iv) Defending

Defensive measures must always be ingrained into each player, as the game of soccer is a combination of both attacking and defending at the same time. Defensive awareness is a necessary skill that must be taught to all players; simply put all players must learn to be defenders. When the other team has the ball, the whole team is on the defence and each player must constantly be reminded to mark person to person.

In defending the respondents look for the following skills and techniques:

Respondent A: “Athletes must be strong, tall, be quick when attacking and **closing and interception of the ball.**”

Respondent B: “There is an old-fashioned defending through kicking the ball away whereas the **modern defending** allows you to **pass the ball to your teammates.**”

Respondent C: “With defending I focus on 2v1 or 1vs1 and with the under-11 they do 1vs1, defenders should **guide the opponents** towards the goal flags or **make them turn backwards.**”

Interpretation:

In coaching defending respondents mentioned “interception of the ball, modern defending, guides the opponents”. Supporting these responses, Carr (2005) states that the correct defence technique requires athletes to get as close to the ball as possible to get a firm pull onto the ball and have their eye on the ball. In addition the correct defending procedures and skills require players to maintain distance between the defender and attacker; the defender must back up for 3m from goal (Luondo, 1996).

(v) Passing

Passing is what the game of soccer is all about. It requires the ability to move the ball from one player to another at various distances without the ball being intercepted (Carr, 2005). If players cannot pass the ball, they cannot play the game.

Passing in soccer requires the following skills and techniques:

Respondent A: “**Accurate passing** and able to open up the space.”

Respondent B: “When you pass the **leg must be open** and **use the inside of the foot** used for passing.”

Respondent C: “Golf pass, passing with the **inside foot that is direct** and have **eye coordination.**”

Interpretation:

All soccer respondents used “accurate passing, leg must be open, use inside foot and maintain eye coordination”, which is in agreement with Luondo (1996) who says the ball should be passed to a nearby player using a push pass.

The ball is pushed inside the foot at the same point as is used in the inside of the foot trap, and kicked with the inside of the foot using a pushing action (Hargreaves & Bate, 2009).

Furthermore, according to the Australian Council for Health, Physical Education and Recreation (1987), athletes should run towards the ball, turn the kicking leg outward from the hip so that the inside of the foot is facing the target, bring the non-kicking foot alongside the ball, contact the middle of the ball so that it travels along the ground, watch the ball as they make contact, use a push rather than the kicking action, and follow through with the foot in the direction of the target.

The respondents seek to understand the importance of passing the ball in soccer, as it is one of the fundamental and basic tools of the sport.

(vi) Throwing

Throw-ins in soccer are easy to execute as players use both hands to throw the ball.

The throwing skills required are:

Respondent A: “Players must be able to **direct the ball.**”

Respondent B: “**Legs must not touch the line** when throwing the ball and players must **bend their back.**”

Respondent C: “With the under-11 they do not throw the ball as they put on the ground and start the play. I only introduce throwing the ball athletes from 12 years. The athlete’s **legs must be in contact with the ground** and throw the ball in contact with the ground and **throw the ball behind the head.**”

Interpretation:

In throw-ins, respondents B and C focused on the kinematics of throwing by identifying and explaining that “legs must not touch the line, bend the backs and throw the ball behind the legs”. The response is in agreement with the Australian Council for Health, Physical Education and Recreation (1987), which requires the athletes to hold the ball in both hands above the head, swing it behind the head and lean back, arching the body.

Respondent C focused on “accuracy by directing the ball” which includes holding the ball with the palm of the hand and fingers spread (Hargreaves & Bate 2009).

The data from the three respondents demonstrates the importance of using the correct throwing technique in soccer to avoid or minimise any risk of shoulder injuries.

(vii) Catching

In soccer catching is mainly done by goalkeepers. Catching situations occur when balls are kicked or headed. When going for the ball the goalkeeper must position him- or herself to avoid any risks such as the ball slipping through the hands (Luondo, 1996).

With catching, the coaches responded that goalkeepers use the following skills:

Respondent A: “Communication with the players and have the **ability to read the game and situation.**”

Respondent B: “In a **seating position** the goalkeeper is thrown the ball sideways.”

Respondent C: “They throw the eggs to each other and alternatively they throw the ball and **thumbs must be open wide** so that the ball does not go out easily.”

Interpretation:

Only respondents B and C are aligned with the literature, as they used “seating position and thumbs must be wide”. The responses support Snow and Thomas (2009); according to these authors the hands come down to meet the ball with the fingers pointed to the ground; the outside edges of the little fingers should just touch together; and the fingers should be spread wide apart as the ball comes into the hands in order to cover as much surface of the ball as possible.

Balancing the angle from both sides of the poles, from goal kicks the goalkeeper should stand on the goal line (Luondo, 1996).

Respondent C’s response focused on the tactics of the code by using “ability to read the game and situation”, which is not relevant to throwing.

(viii) Shooting

The technique necessary for shooting in soccer requires the athletes to do the following:

Respondent A: “We need someone who is very **fast in shooting.**”

Respondent B: “**We have not yet practised** shooting yet.”

Respondent C: “Midfielders shoot from **long range** and athletes compete against each other.”

Interpretation:

In kicking respondent C identified shooting from a “long range” as the correct technique. In supporting this view Snow and Thomas (2009) suggest that the toes of the plant foot should be pointed toward the target, which must be in line with the ball. Respondent B used “fast in shooting”, which requires practice and emphasis on the basic shooting technique. According to respondent C the athletes “have not yet been taught shooting”, which is a prerequisite in soccer vital for creating scoring opportunities.

The researcher is of the view that coaches lack the technical ability to teach shooting techniques and more emphasis should be placed on teaching learners these skills at the right age.

(b) NETBALL-RELATED MOTOR SKILLS

(i) **Jumping**

Netball requires a lot of jumping throughout the entire game. Jumping movements happen more in scoring and defending. It is thus important for netball players to learn the jumping techniques required to execute those skills.

The identification of jumping skills used by coaches in netball is done as follows:

Respondent A: “I look at their **balancing and steps** when they land. I also measure their jumping height by conducting a vertical jump test.”

Respondent B: “We look at their **hands and legs** and when they land they must be able to **balance.**”

Respondent C: “We look at **their legs.**”

Interpretation:

Respondents A, B and C mentioned what constitutes correct jumping skills in netball: “We look at their hands and legs and when they land they must be able to balance.”

The findings from the study concur with those of the New South Wales Department of Education and Community (2012), which states that athletes’ eyes must be focused forward or upwards throughout the jump and there should be a balanced landing with no more than one step in any direction.

Foreweather (2010) identifies netball jumping techniques as by getting the eyes legs straighten in the air; contact the ground with the front part of the feet and bend the knees to absorb the force of landing; achieve a balanced landing with no more than one step in any direction.

Training improves an athlete’s ability to jump higher and score goals in netball.

(ii) Running

The correct running techniques required in netball are:

Respondent A: “I look at the pace and **short sprint.**”

Respondent B: “Athletes must be able to **balance while running** in a straight line.”

Respondent C: “They must **run faster** and when they run they must stand still as it might be a foot-fault, **stepping** or might slip and is one of the faults we try and coach in netball.”

Interpretation:

The three respondents used key running techniques: “short sprint, balance while running and run faster.” These responses agree that arms must drive forward and back in opposition to the legs (New South Wales Department of Education and Community,2012).This view is further supported by Foreweather (2010) who suggests athletes should conduct a sprint run for 30m by landing on the balls of the feet.

The findings indicate that coaches apply talent identification protocols in running techniques that improve athlete's performance.

(iii) Attacking/Dribbling

According to the International Federation of Netball Association (IFNA) (2008), the team is on the attack when they have possession of the ball. All seven players on court must develop appropriate attacking skills to competently bring the ball down the court to the shooters. Effective attacking play comes from the player's ability to catch and throw whilst moving, combined with changes of speed and timing of movement. Good attackers also find the right spaces in which to move. By using various methods to get free, the attacking player aims to lose their immediate opponent before catching and passing (IFNA, 2008).

In dribbling the opponent in netball, the coaches look for the following:

Respondent A: "I am looking at the **formation** and how to play the ball around and passing to teammates."

Respondent B: "They **use short passes to dribble the ball.**"

Respondent C: "They must make sure that the **opponents must not get the ball** and find a way to dribble them."

Interpretation:

All three respondents' responses are in line with the required techniques for attacking in netball by identifying dribbling elements: "use of short passes to dribble the ball, creating space and make sure that opponents do not get it".

These findings support research by IFNA (2008) suggesting that in order for coaches and athletes to achieve the correct attacking techniques athletes have to have accurate and consistent catching and passing skills; good vision; awareness of how to create space; ability to use a variety of methods of getting free; and capacity to select and instigate appropriate timing of the movement with changes of pace. Building on earlier work, Netball Australia (2005) proposed the netball

attacking skills for the 11–13 year olds as straightening the lead; performing as single dodge; changing direction; and combining into simple movements on court.

At younger ages the emphasis should therefore be on players' attacking skills, especially as the data in this study suggests that netball is not an early specialisation sport and early diversification should be encouraged. Coaches can enhance players' abilities by providing practices that show progression and have court relevance.

(iii) Defending

A defending team is waiting for mistakes to occur. It may at the same time actively encourage the opposing team to make them. Constant defensive pressure will destroy the quality of opposition play. By forcing the attacking team to make quick decisions, their options will be reduced (IFNA, 2008).

The coaches responded that athletes have to defend in the following manner:

Respondent A: "I condition their side steps, **movement and agility.**"

Respondent B: "We look at the athlete's strength and speed and being able to **stand up against the opponents.**"

Respondent C: "In defending I particularly look at the height and the **person taller can be able to defend.**"

Interpretation:

Respondents B and C identify defending by looking at an athlete's height, which is an essential component in netball. In netball defenders have to be taller in order to block opponents' attack. The responses are in agreement with French, Wheeler and Galsworthy (2014) who suggest that the defending skills used in netball consist of keeping the athlete between opponent and ball, close but not touching and turning the head sideways so that both opponent and ball can be seen. The Australian Sports Commission (2007) recommends that athletes should defend by guarding a player who may or may not have the ball. One-on-one defending techniques include defending in front (shadowing), from the side or from behind. Consistent with previous research, Netball Australia (2005) strengthened the netball defending techniques for 11–13-year-olds by adding

techniques such as shadowing getting the hands over the ball, three feet (0.9m) recovery, defending the shot, and combining simple movements into defending positions.

In addition respondent C identified that “movement and agility” are vital for defending, which is supported by the requirement that athletes must be ready to turn the body quickly to change direction (French *et al.*, 2014).

(v) Passing

Netball is a game that uses a variety of passing techniques. The player’s ability to pass accurate and well-timed throws will determine the success of the team. Players need to master the basic skills of each of the throwing techniques as well as balance, timing and control. The player must learn when and where to pass the ball and which pass to use (IFNA, 2008). The objective of passing in netball is to complete a successful passage of the ball from the hands of one player to the hands of the predetermined teammate.

Passing skills assessed in netball to identify players with potential are the following:

Respondent A: “I am looking at the **accuracy of the ball.**”

Respondent B: “We use **short passes.**”

Respondent C: “There is a **chest passing** where the **ball comes out of the chest** and pass it to the next player, passing that goes up from your chest and there is also a bounce where they bounce the ball and pass it to the next player.”

Interpretation:

Data analysis indicated that all three respondents’ responses are in agreement with the literature on identification skills.

Respondents B and C identified types of pass: “short passes and chest passing”.

Netball Australia (2005) identifies different types of passing applied from the age of 11–13 years as shoulder pass, chest pass, bounce pass and lob pass, and also the introduction of one-hand control. According to the State of New South Wales through the NSW Department of Education and Communities (2012), in the chest pass the two hands must be behind the ball with thumbs

and fingers in a “W” shape; the ball is held close to chest; the elbows are bent and relaxed by the side; the wrist and fingers direct and control the ball; the player steps forward into the pass; the weight is transferred onto the front foot; the player follows through with arms and fingers in the direction of the pass. As the player steps forward she must ensure feet are in a balanced position (IFNA, 2008).

In the bounce pass the technique recommended by State of New South Wales through the NSW Department of Education and Communities (2012) requires flexing the elbows to draw the ball towards the chest; transferring the weight forward onto the opposite foot; maintaining low body position throughout the action; leading front foot towards the target; transferring the ball to one hand; and extending the arm so the ball is placed into the space two-thirds of the way to the target.

During the lob pass, with the arm back behind the shoulder weight is transferred forward as the throwing arm moves through and the hips, shoulders and leading foot rotate towards the target. To achieve accurate delivery of the pass, the ball is released at its highest point.

Respondent A identified the “accuracy of the ball”, which is in support of the New South Wales Department of Education and Community (2012), which recommends that eyes to be focused on the object throughout the pass.

If players can throw these four passes with accuracy they will have a very sound grounding for more advanced passes as their netball skills develop.

(vi) Catching

Catching in the early stages of learning should be done with both hands in order to further improve catching ability. The players should attempt to increase the distance, which forces acts such as reaching out for the ball in the air and pulling the ball back (Australian Sports Commission, 2007). Once players master the ability to catch and throw-in the stationary position,

the progression is to do it whilst on the move. Players need to be able to put it all together when on the move (IFNA, 2008).

Assessing catching skills in netball requires the athletes to do the following:

Respondent A: “I am looking at the athlete’s **hand–eye coordination.**”

Respondent B: “We look at **hand–eye coordination.**”

Respondent C: “Hold the ball and **stand still** and make sure you do not do any mistakes with your legs and immediately your leg shakes it will be a fault.”

Interpretation:

None of the respondents’ responses conform to the literature for catching the ball by identifying catching elements: “hand–eye coordination and leg position”. The New South Wales Department of Education and Community (2012) prescribes that athletes cup their hands and relax their fingers; move to the ball; watch the object move into their hands; point their fingers up for a high ball; point their fingers down for a low ball; and bend their elbows to absorb the force of the object.

Furthermore, Foreweather (2010) identified the following catching techniques: move the feet to put the body in line with the object; move the hands to meet ball; position hands and fingers correctly to catch the ball; catch and control the ball with hands only (well-timed closure); bend elbows to absorb the force of the ball.

The IFNA (2008) emphasises balance on the landing; being in control of the body; applying the same catching and throwing techniques as when in the stationary position; and the ability to make quick decisions.

These results contradict the correct technique for catching the ball. The information gathered demonstrates the coaches’ inability to execute fundamental skills, which may hamper an athlete’s technical ability.

(vii) Shooting

Regardless of which country netball is played in, the techniques of shooting for goal remain very similar. Shooting is all about balance, rhythm and feel for the shot. Shooting for goal should be an automatic, well-sequenced skill (IFNA, 2008). The objective of shooting is to complete the accurate displacement of the ball from the hands of the shooter through the ring net (Australian Sports Commission, 2007). Being an accurate shooter takes many extra hours of practice, shooting above and beyond the team's normal training sessions. Shooters should aim to practise every day to gain accuracy.

In shooting the techniques that are necessary for identification of talented athletes are:

Respondent A: “They must know how to **spot the target** and **shoot from a distance.**”

Respondent B: “**Balance** is very important.”

Respondent C: “In shooting you have to **catch the ball, aim at the pole**, make sure the pole that you have **aimed for is correctly directed to the ball** and be able to score.”

Interpretation:

The data analysis from the sample indicated that all respondents used “spot the target, shoot from a distance, maintain balance and aim at the pole”.

The findings agree with the existing literature which suggests that the identification skills required when shooting are: athletes must place two hands on the ball; hold the ball high above the head; keep the eyes on the target; bend the elbows and then straighten the arms in the direction of the target (New South Wales Department of Education and Community, 2012). From the data it could be determined that coaches have an understanding of teaching correct techniques for shooting in netball.

IFNA (2008) recommends shooters should always try to be balanced and in line with the post before they attempt to shoot. Feet, hips, body, shoulders and elbows should all be “square” to the post. This will give the ball every opportunity to travel in a straight line to the ring. Shooters

should always look at the same aim point every time they shoot; start at the base; and look at what the feet and legs do when shooting for goal. The shooter's feet should be parallel, approximately shoulder-width apart in a comfortable stance.

In addition, the Australian Sports Commission (2007) suggests that when shooting the athlete's base should be static; the ball must be held in two hands with the wrist is cocked and ball supported on the base of fingers; the fingers should be well spread on the rear of the ball. The focus of attention should be on the ring, and the shooter commences the shot with a flexion of the knees.

Lastly, Netball Australia (2005) recommends training shooting from 11–13 years includes the basic shooting action and introduces working together and rebounding.

5.3.4 TALENT DEVELOPMENT

5.3.4.1 Defining talent development

Talent development requires offering the athletes access to sport facilities and quality coaching and enhancing their level of performance. Talent development occurs via linear pathways comprising developmental stages and phases (Bailey *et al.*, 2010). Furthermore, emphasis is placed on acquiring basic motor and psychological skills rather than on innate capacities, and focuses on the quantity and quality of training needed to reach top-level performance that is complex, multi-factorial and dynamic in nature (Simonton, 2001; Ollis *et al.*, 2006).

Sporting Code: Rugby

The coaches defined talent development as:

Respondent A: “I look at the **basic skills of rugby such as speed, communication and mental strength.**”

Respondent B: “Is whereby I **offer training and promote the athletes talent.**”

Respondent C: “Is the identification of talent at a young age and **nurturing** it according to the required skills as the player grows in difficulty.”

Interpretation:

Respondents A, B and C defined and identified talent development using the words “basic skills, promote athletes’ talent and nurturing.”

The responses conform to Durand-Bush & Salmela (2013). Defining talent development implies that participants are provided with a suitable learning environment that includes facilities, equipment and coaching support in order to realise their potential.

Sporting Code: Soccer

The coaches defined talent development as:

Respondent D: “Talent development is when the player is able to **acquire football skills** and demonstrate teamwork.”

Respondent E: “Talent development is when **you look for talent from young age** and teaching kids how to play soccer and knowing how to play soccer mentally and physically.”

Respondent F: “The child from an early age of nine is introduced to the sport and **I let children play and develop their skills.**”

Interpretation:

All three respondents identified talent development as “acquiring football skills, look for talent, children play and develop skills”. Coaches emphasised the importance of developing talent at an early age through fundamental skills. This occurs from the age of nine as they are introduced to the sport and allowed to play and develop their skills (SAFA, 2009).

The definition conforms to the existing literature in soccer. SAFA (2009) has adopted a strategy of organising regional and national competitions at junior level, in order to further develop any players who are identified in their talent identification programmes.

Sporting Code: Netball

Netball coaches defined talent development as follows:

Respondent G: “We look at different girls that know how to play and **develop** and mix age groups so that they can play and **develop their skills.**”

Respondent H: “We develop athletes through **nurturing their talent.**”

Respondent I: “The talent that is developed is the talent that you have and is being **nurtured and developed.**”

Interpretation:

The three respondents used words such as “develop and nurture”, which conform to the definitions of talent development. According to Simonton (2001) and Ollis *et al.*(2006), talent development emphasises acquiring the basic motor and psychological skills rather than innate capacity and focuses on the quantity and quality of training needed to reach top-level performance that is complex, multi-factorial and dynamic in nature.

Summary of definition of talent development

The three rugby respondents demonstrated an understanding of the theoretical concept of talent development. In soccer, respondents emphasised the importance of developing athletes at a young age through the talent development pathways. The development is vital for athletes’ skills enhancement, better execution of technique and building confidence. The three netball respondents emphasised the nurturing and development of athletes’ understanding in talent development.

5.3.4.2 Methods for talent development

(a) Jumping

Jumping is one of the essential motor skills. Jumping ability is a crucial part of the game and is thus vital for players’ performance. All the sporting codes researched require jumping ability.

Sporting Code: Rugby

The development of jumping in rugby according to the coaches focuses on:

Respondent A: “We do **star jump or leg broad jump assessments** on measuring how high they jump between two cones.”

Respondent B: “Through **vertical jump** movements.”

Respondent C: “**Basic jumping** by jumping an obstacle.”

Interpretation:

The three rugby respondents develop jumping skills by doing “star jump, leg broad jump assessments, vertical and basic jumping”, which is in agreement with Rugby Canada (www.rugbycanada.ca). They suggest the following proper jumping procedures: three corner flags should be held as hurdles, at an appropriate height off the ground to suit the jumpers, by three pairs of players. The corner flags should be held parallel to the ground on top of open, upturned palms and be 1m apart or at a distance to suit the jumpers. The two jumpers, working singly or as a pair, should jump sideways off both feet over the hurdles, extending their arms fully, moving along the three hurdles and back again as required.

Sporting Code: Soccer

In soccer the respondents develop the jumping ability of athletes as follows:

Respondent D: “When they jump I **throw the ball in the air and players will head the ball using their forehead.**”

Respondent E: “I **put hurdles** and let the **players run and jump** through the hurdles.”

Respondent F: “I use skipping rope, athletes pair themselves and **jump for a minute** and rotate.”

Interpretation:

The three respondents emphasised the importance of jumping by conducting exercises that allow the athletes to jump by “throwing the ball in the air, players run and jump.”

However, in the literature relating to soccer, according to Snow & Thomas(2009),the jump can occur from a stationary position or while on the move. The approach run should be made in the direction from which the player intends to receive the ball or propel the ball towards. The player should lengthen the final stride and lower the centre of gravity somewhat; press against the ground with the heel of the foot of the take-off (drive) leg; straighten the trail leg and transfer the body weight onto the lead leg, which is slightly bent at the knee; when bending towards the ground the athlete should be in a lunge position.

The findings from the three coaches demonstrate their understanding and application of jumping in soccer, as they use exercises that enhance jumping. When players jump in a soccer match they hurdle over another player on the ground, to avoid a tackle, to receive or strike the ball, to head the ball or for a goalkeeper to catch, punch or deflect the ball.

Sporting Code: Netball

The coaches in netball develop jumping procedures as follows:

Respondent G: “During the session they practise on how to **jump high, landing and balancing.**”

Respondent H.: “When it comes to jumping we put them into a **position** that makes them jump.”

Respondent I: “We develop jumping by **throwing the ball higher** so that the players can be to jump and catch it.”

Interpretation:

The respondents identified jumping techniques in netball as “jumping higher, landing and balance, position and throwing the ball higher.”

Children develop their jumping skills by practising jumping for height and distance, jumping to a rhythm and jumping over ropes and obstacles. The findings from netball coaches give an indication that the jumping ability of the athletes is well developed. The coaches emphasised the

importance of jumping higher, landing and balancing (Netball South Africa LTPD, 2011). The coaches also use jumping methods in their training sessions.

Summary of jumping procedures used in rugby, soccer and netball

Data analysis from the nine coaches demonstrated their ability to understand and apply the jumping techniques required in the respective codes. In rugby athletes do broad jumping, vertical jumps and basic jumping movements which enhance their leg power, whereas in soccer athletes perform jumping by heading the ball, jumping through the hurdles and using a skipping rope. In netball athletes practise the techniques of landing and balancing. The findings indicate that the coaches develop the jumping abilities of athletes in rugby, soccer and netball.

(b) Defending/Tackling

In defending tackling is a core skill that allows defenders to regain the ball for their team. In soccer athletes must maintain contact the ball with the inside of the foot, in rugby athletes pull the opens with both hands from behind and in netball defenders jump for the ball in the air and prevent opponents from scoring.

According to the respondents the methods and procedures used to develop defending are:

Sporting Code: Rugby

Respondent A: “We have to do a **defensive line.**”

Respondent B: “They **run with the ball in a sideways movement.**”

Respondent C: “Players must be strong, agile, quick, follow the **approaching opposition players quicker and must use strength to tackle.**”

Interpretation:

Respondents A, B and C are in agreement with the suggested development of defending as maintaining a “defensive line, sideways movement and strength for tackling.”

All three respondents' responses demonstrated an understanding of tackling in rugby that requires athletes to defend from a defensive line.

In addition the literature on tackling and defence in rugby requires athletes to place pressure towards the opposition. However, in tackling, the athletes should take space, keep the feet moving, stay tall, keep the hands up, sight the target, dip from the knees and hips, keep the lead foot close, target below the hips, shoulders on, hit and stick, drive the legs, keep the chin up, and squeeze the arms on feet and at ball (www.saschoolssports.co.za).

Sporting Code: Soccer

Soccer requires the following defending methods and procedures:

Respondent D: “We have three strikers against two defenders (**3vs2**) situation where the two **defenders have to defend against the three strikers.**”

Respondent E: “When you defend is about making sure you pass the ball to each other. I **select two teams and let the other teams defend whilst the others attack.** I always teach defenders to close down the opponents.”

Respondent F: “Through **small-sided games** are used to assess the defenders.”

Interpretation:

In soccer defending is practised through “3vs2, 2vs2 situations and small-sided games” where there are defenders and attackers at the same time.

existing studies (Snow & Thomas, 2009) suggest that defending and tackling include: get near the opponent; time the tackle when the ball is away from the opponent; make contact; use the foot furthest away from the opponent to push the ball away using the instep; regain footing to reposition as necessary.

Sporting Code: Netball

In netball the procedures used for defending the ball and preventing opponents from scoring are:

Respondent G: “They must know how to communicate and **defend quicker.**”

Respondent H: “We put athletes in **1v1 situation** between a shooter and a defender.”

Respondent I: “In defending we have players **wide and have one in the middle** to try and defend and catch the ball.”

Interpretation:

Only respondent H and I conform to New South Wales Department of Education and Community (2012) requirements for defending in netball by suggesting athletes defend in 1vs1 and in a form of defender and attacker. When defending they indicated that they put players one–one between a defender and attacker. In addition respondent I indicated that they practise defending in a game situation.

Summary of methods used for defending in rugby, soccer and netball

Data analysis from the nine coaches indicates that six coaches from the sample understand and apply the correct technique for defending. Defending is an important part of not allowing the opposition to score goals; the technique required for defending in the three codes emphasises the importance of practising defending in a game situation.

(c) Passing

To pass proficiently in soccer, netball and rugby the individual must have variables in eye, foot and hand co-ordination. Passing in soccer requires firm contact of the ankle with the ground; in rugby and netball it is done using both hands and maintaining hand–eye coordination.

The three coaches use the following methods to develop passing in rugby:

Sporting Code: Rugby

Respondent: A. “I start with the **forward pass** while the players are in motion they pass the ball in a forward direction.”

Respondent: B. “**Accuracy** of the ball.”

Respondent: C. “Players practise passing according to the **required skills.**”

Interpretation:

Only respondents A and B demonstrated the ability to practise the correct passing technique, which requires the athlete to start with the “forward pass while the players are in motion they pass the ball in a forward direction”.

According to www.saschoolssports.co.za, passing in rugby is practised by short passes to forward running options (inside and out), pull passes in narrow channels, and developing quick hands to gain space and advantage.

Sporting Code: Soccer

The skills development and methods used to develop passing in soccer are:

Respondent D: “I make players pass the ball to their teammates that are free using an **instep of the foot and firm ankle.**”

Respondent E: “During practice I put two cones in a square and **players pass the ball and run around the square.**”

Respondent F: “In pairs players pass the ball to each other and number of passes to be completed and **through 4vs4 they pass against the opponents** and count the number of passes completed.”

Interpretation:

The three respondents’ techniques for developing passing skills require athletes to use the “instep of the foot, firm ankle and pass against the opponents”. The responses conform with Snow and Thomas (2009) that the athletes’ approach to the ball is a straight line; the plant foot is beside the ball about 15cm away and the toes are pointed in the direction of the pass; the knee of the standing leg is bent; the hips face the direction of the pass; the kicking leg is turned outwards from the hip; the toes of the kicking foot point out and the sole of that foot should be parallel to the ground; the player leans a bit forward at the waist; keeps the head down with the eyes on the ball; holds the arms out for balance; and uses a medium backswing of the kicking leg.

Sporting Code: Netball

In netball passing abilities are developed through this manner:

Respondent F: “Players must use **direct passes** around.”

Respondent G: “We make them **pass the ball to each other in pairs.**”

Respondent I: “With passing they must be **alert and pass** it to their partners and avoid mistakes.”

Interpretation:

The practice and development of passing in netball requires athletes to “use direct passes, pass the ball to each other and always be alert”, which is in agreement with the New South Wales Department of Educational Communities (2012): athletes should pass the ball with two hands on the ball; hold the ball at chest height; keep the eyes focused on the target or person; keep thumbs down; step forward on the dominant foot towards the target and push the ball away from the body.

Summary of passing in the respective codes

The data from the three coaches indicates that rugby, soccer and netball players have accurate passing. The rugby coaches encourage athletes to be aggressive by applying pressure when competing for the ball; in soccer coaches emphasised the refinement of passing the ball to each other in pairs, whereas in netball in netball athletes use direct passes to each other.

(d) Scoring

Scoring requires good balance, eye coordination and footwork in soccer. In netball scoring requires a mastery of balancing the foot, whereas in rugby the ability to run with the ball allows athletes to score.

In rugby scoring ability is developed as follows:

Sporting Code: Rugby

Respondent A: “We only allow three players, numbers 9, 10 and 15 to do **drop kicks.**”

Respondent B: “Through **practising penalties.**”

Respondent C: “At the moment there is **little kicking in tag rugby.**”

Interpretation:

Only respondents A and B apply “drop kicks and practising penalties”. The responses are supported by the Try Rugby Complete Skill and Manual (2007) which suggests that kicking can be developed by carrying the ball with two hands; turning the foot when dribbling; locking out the foot when kicking; keeping hands up and focusing on the target.

Sporting Code: Soccer

According to the respondents scoring skills are developed as follows:

Respondent D: “I encourage players to **shoot** when they get close to the goalpost.”

Respondent E: “We have strikers to score. I like to put players in a **1vs3 pressure situation where one player defends against three players.**”

Respondent F: “Through a **4vs4 situation** athletes are able to score in a small-sided field.”

Interpretation:

Respondents E and F practise scoring by having players in a “1vs3 and 4vs4 situation” which conforms which Snow and Thomas (2009), who say that scoring nature must occur at every training session for the pre-adolescent age groups.

Furthermore according to www.soccerforbeginners.com, shooting is a balance between power and precision. Beginner soccer players tend to look at the goalkeeper when shooting at goal, which means that they tend to kick the ball straight at the keeper. However the key is to look for the space and keep the shot on target. Look around before collecting a pass, look where the goalkeeper is, look where the goal is and then aim the shot into the space that you see.

Sporting Code: Netball

The netball coaches develop the scoring ability of athletes by imparting the following skills:

Respondent G: “They must be good at scoring and **positioning themselves** to score goals.”

Respondent H: “We put the **poles higher** and make them jump and score.”

Respondent I: “They **stand in a line** and do scoring exercises by throwing the ball into the goalpost.”

Interpretation:

Only respondents H and I make athletes practise shooting in netball. Through this phase of teaching and refining shooting athletes are able to develop an ability to score goals from any distance. According to interviewee I they make athletes stand in a line and score by throwing the ball. In the technique for scoring in netball recommended by the New South Wales Department of Educational Communities (2012), the goal shooter and centre must place two hands on the ball; hold the ball high above the head; keep the eyes on the target; bend elbows and then straighten arms in the direction of the target.

Summary of procedures used for scoring in rugby, soccer and netball

Data from the nine samples demonstrates that coaches use different techniques for teaching scoring skills. In rugby two coaches demonstrated knowledge and application of scoring techniques. In soccer and netball coaches use practical sessions to allow athletes to score goals.

(e) Running

Running has been characterised as an extension of walking. It consists of support and flight base, although there are differences as running does not have a double support base as there is a flight phase during which neither foot is in contact with the ground. With respect to the running process changes take place over developmental time, resulting in a mature run pattern.

The first question focused on the development of running in rugby. Their responses are as follows:

Sporting Code: Rugby

Respondent A: “We allow them to **run according to positions** such as forwards.”

Respondent B: “They run for **100m.**”

Respondent C: “I encourage **basic running.**”

Interpretation:

The three rugby coaches’ response is not aligned with the Try Rugby Complete Skill and Manual (2007), which requires athletes to maintain good running mechanics by lowering their centre of gravity and maintaining footwork (speed) when changing direction by shortening stride length; they must carry the ball in two hands. Contradicting this, the three responses identified “running according to positions, 100m and basic running”.

Sporting Code: Soccer

The second question focused on the development of running in soccer. The responses are as follows:

Respondent D: “Running faster and **quickness.**”

Respondent E: “I make sure that players gain **endurance and agility.**”

Respondent F: “I let them run in the field and after **blowing the whistle they run.**”

Interpretation:

These running development techniques are opposed to the recommended literature for running in soccer. Respondents D and E identified the development of running in soccer as “quickness, endurance, agility”, which contradicts the correct running technique for soccer. Snow and Thomas (2005) suggest coaches must note that a player’s running style will change in the match when in contact with the ball or opposing players or when reacting to the movement of teammates or opponents. The basic running technique for soccer requires the athletes to maintain

a balanced and upright posture; control their speed by how much force is applied with each foot strike; and strive to get the feet on and off the ground as quickly as possible.

However, respondent F response is in agreement with the SAFA Technical Master Plan (2012) requiring players to have regular runs.

Sporting Code: Netball

The third question focused on the development of running in netball. The responses are as follows:

Respondent G: “They must **be quick** and know how to run and change their position while playing.”

Respondent H: “The athletes practise running **when they do warm-ups.**”

Respondent I: “They do the **laps around the field.**”

Interpretation:

The three netball respondents’ responses conform to the recommended development of running in netball. They identified essential elements in developing the running skills: “quickness, thorough warm-ups and laps around the field”. The suggested methodology for running in netball requires the athletes to lift their knees high; bring their heels close to the bottom; look ahead, by not letting the heels touching the ground; bend the elbows and swing the arms (New South Wales Department of Educational Communities, 2012).

Summary of running in selected codes

Running is an important basic motor skill taught at primary school level. The findings demonstrate a lack of rugby running development and lack of motor skills development to enhance running and fundamental running skills. In soccer only one coach indicated an ability to plan and teach the correct and required technique for running. The responses from netball indicate different running mechanisms being used to enhance the athletes’ running techniques.

5.3.4.3 Development of motor-fitness related skills

(a) Flexibility

Flexibility can be defined as the range of motion (ROM) at a single joint or series of joints, with the ROM reflecting the kinematic possibilities of the joints considered, depending on the surrounding musculatures' ability to be elongated within their structural abilities (Eston &Reilly, 1996).

As a component of physical fitness it is used to measure the joint's wide range of motion. Joint flexibility is an important factor in detecting, identifying and developing talent in rugby, soccer and netball. Furthermore, flexibility is important for screening for injury predisposition and injury prevention.

In rugby the respondents responded that they develop flexibility as follows:

Sporting Code: Rugby

Respondent A: “They **stretch before and after training** to allow the **elasticity of the muscles.**”

Respondent B: “**Stretching exercises.**”

Respondent C: “Once warm-up has been done we focus on **flexibility through stretching exercises.**”

Interpretation:

All three rugby respondents develop flexibility by “stretching exercises and warm-up”, which is in agreement with Apostolopoulos (2006).Chronic stretching can lead to increased flexibility, improved muscle or athletic performance, improved running economy, injury prevention, promotion of healing and possibly decreased delayed-onset muscle soreness. Furthermore, certain skills may be enhanced by increases in the range of movement (Holcomb, 2000). For example, although a tackle may initially be made in the acceptable range of movement of the

shoulder and elbow joints, the opponent's momentum may then move these joints through an excessive range of motion.

Sporting Code: Soccer

In soccer flexibility is developed by:

Respondent D: "They **stretch individually.**"

Respondent E: "I give players the ball and after receiving the ball, players must **dribble** without losing the ball."

Respondent F: "They must do **more stretching** and **aerobics to be flexible.**"

Interpretation:

Only respondents D and F develop flexibility by stretching and aerobics. The two soccer responses are consistent with the literature studies (Reilly & Stirling, 1993) that flexibility in the range of movements in the joint affords protection against injury.

Flexibility is vital in soccer, for injury prevention or remaining injury-free is crucial in any sport, but even more so in soccer as the fewer injuries that a team sustains during the course of a season the greater their chances of success, as observed in the study of Arnason, Sigurdsson, Gudmundsson, Holme, Engebretsen & Bahr (2004).

Respondent E identified "dribbling", which is not part of flexibility but is only used as a technique.

Other tests are identified by the ACSM's Resource Manual's Guidelines for Exercise Testing and Prescription (ACSM, 2001).

Sporting Code: Netball

In netball the coaches develop athletes' flexibility by doing the following:

Respondent G: "I do a **normal training session** and basic session on how to train."

Respondent H: "Athletes do **stretching exercises.**"

Respondent I: “They **stretch** and do jumping exercises.”

Interpretation:

Only respondents H and I recognised “stretching” as a key physical component in netball. This finding is consistent with Brown (2007) who states that flexibility in netball can be developed by getting athletes to sit on the ground with legs fully extended in front of them, feet slightly apart, toes pointed upwards and soles of the feet (no shoes) flat against the sit and reach box. The participant reaches forward slowly, one hand on top of the other, and pushes the slide along. The fingertips of both hands remain in contact with the slide at all times. Once the participant has reached their farthest extension point, the position is held for two seconds. Respondent G’s response suggests the development of flexibility is conducted through a “normal training session”.

Summary of flexibility methods used in the selected codes

The data analysis from seven of nine respondents recommended flexibility as an important physical fitness skill vital for injury prevention and important in increasing the athlete’s range of motion. The common method used for flexibility in all respective codes is the stretching of muscles before and after the session. The finding supports the importance of developing flexibility (Reilly & Stirling, 1993) and injury prevention.

The responses from the coaches indicated the importance and alignment of flexibility in their training sessions.

(b) Speed

Speed is important in accelerating the body during short movements, as athletes are frequently required to produce high-power outputs and sometimes to maintain it with only a brief respite for recovery (Reilly, 1996). Speed usually refers to running speed, as in the sprints in rugby, soccer and netball. However, speed can also be performed as leg speed in soccer and rugby when kicking the ball and arm speed in the throwing motion in netball.

Speed as a motor fitness-related skill in rugby is further developed by using the following methods and procedures:

Sporting Code: Rugby

Respondent A: “I use a stopwatch to time their **speed at various distances.**”

Respondent B: “Athletes practise **speed training.**”

Respondent C: “**Running.**”

Interpretation:

Speed is important in sports requiring short bursts of activity at high intensity. In rugby respondents A and B develop speed through “various distances and speed training”, which corresponds with Deutsch, Maw, Jenkins & Reaburn (1998) who suggest speed should be tested between 20–40m, without the ball, from a standing start and with no changes of direction. With limited resources respondents use a stopwatch to record athletes’ speed. Speed and acceleration are essential requirements of rugby union, as players are often required to accelerate to make a position nearby or sprint over an extended distance. Respondent C suggested speed be developed by “running”, which is not aligned with speed development.

Sporting Code: Soccer

In soccer speed development for athletes requires:

Respondent D: “**Athletes sprint individually and in pairs.**”

Respondent E: “It is all about running. Athletes run through the cones in a **forward, sideways and opposite direction.**”

Respondent F: “Athletes sprint for **20–60m** and the smaller distance they are able to run faster.”

Interpretation:

All three respondents recognised running speed as a key quality of talented soccer players: “athletes sprint individually, forward, sideways and opposite direction and for 20–60m”.

This finding is consistent with the literature, which identifies speed as an important variable for successful performance in soccer, particularly over distances ranging between 5–40m (e.g. Williams & Reilly, 2000). Respondent F emphasised that for shorter distances he observes acceleration whereas in 20–60m distance the focus is on speed.

According to a study by Dawson (2003), the large majority of sprints performed in a soccer match occur over short distances involving at least one change of direction, and it is often over these short distances that goals are scored and matches won or lost.

Sporting Code: Netball

Netball requires a lot of explosive power and the respondents develop speed by using the following methods:

Respondent G: “**Speed training** and sprinting from **one cone to the other.**”

Respondent H: “Through **running.**”

Respondent I: “They do laps and **run faster.**”

Interpretation:

Speed and acceleration have also been identified as important fitness components in intermittent sports (Baechle & Earle, 2008). The findings from respondents G and I: “speed training, running faster”, confirm with the findings in the wider literature, in that the ability to accelerate and change speed and direction are key factors in achieving success in netball (Davidson & Trewartha, 2008; Terblanche & Venter, 2009).

The coaches indicated that they develop speed by sprinting from one cone to the other and running faster through the field. Speed in netball is assessed in various distances from 5m, 10m and 20m. The equipment used to measure speed is a stop watch or timing gates for accuracy. During testing of speed timing gates were set up at the start and at the 5m, 10m and 20m markers. When the participant is ready, they sprint from the start marker in a straight line to the 20m marker. The time is recorded from the participant's first movement through the beam and stopped when they passed through the 20m timing gate. Split times are taken at the 5m and 10m markers (Ellis & Smith, 2000).

Summary of speed methods used in selected codes

Coaches reported that in rugby speed is important to accelerate to make a position nearby or sprint over an extended distance. In soccer the development of speed is conducted over a shorter distance of 20m which is vital for acceleration and change of direction (SAFA, 2012). In netball speed is important for change of direction and movement. The analysis from all nine respondents conforms to the existing literature in developing speed. Conducting speed training is an important element in sport and necessarily used as a key predictor of success in junior rugby, soccer and netball. The results of this study confirm the findings in the wider literature, in that the ability to accelerate and change speed and direction are key factors to achieving success in netball (Davidson & Trewartha, 2008; Terblanche & Venter, 2009).

(c) Power

Muscular power, defined as the rate of muscular force production throughout a range of motion, is a component of individual performance in many sports (Carlock *et al.*, 2004; Maulder & Cronin, 2005; Peterson Alvar & Rhea, 2006). An increase in power enables a given muscle to either produce a greater magnitude of work in the same time or the same amount of work in less time, both contributing to the importance and necessity of muscular power in sports (Peterson *et al.*, 2006). In the team sport environment, the role of jumping for height is based on the nature of the sport in focus (Young *et al.*, 1997), where superior vertical jump (VJ) ability provides team

sport athletes an advantage over their direct opponent (e.g. in a marking contest in netball or when heading the ball in soccer).

The methods and procedures used to develop power are:

Sporting Code: Rugby

Respondent A: “They practise **scrum.**”

Respondent B: “The athletes do **push-ups and sit-ups.**”

Respondent C: “Through **push-ups and sit-ups.**”

Interpretation:

Only respondent A (“practise scrum”) demonstrated ability in developing power by developing the scrum. The findings are consistent with the literature that has identified power in rugby as needed to jump and lift in the lineout, during the initial push in the scrum, for tackling and for explosive acceleration (Duthie *et al.*, 2006). To measure leg power, vertical jump tests can be used reliably. The player stands side on to a wall and reaches up with the hand closest to the wall. Keeping the feet flat on the ground, the point of the fingertips is marked or recorded. This is called the standing reach. The player then stands away from the wall, and jumps vertically as high as possible using both arms and legs to assist in projecting the body upwards. The player attempts to touch the wall at the highest point of the jump. The difference in distance between the standing reach height and the jump height is the score. The best of three attempts is recorded.

Respondents B and C indicated wrong application of power by “conducting push-ups and sit-ups” which is aligned with strength development.

Sporting Code: Soccer

Vertical jumping in the game of soccer is an essential component needed for the motor skill of heading (Svensson & Drust, 2005). The vertical jump test is employed to measure the players’ lower limb explosive strength.

The power skills developed by respondents in soccer are:

Respondent D: “I make them **jump with or without the ball.**”

Respondent E: “Power is developed through **push-ups and sit-ups.**”

Respondent F: “In pairs **athletes throw the ball to each other so that they jump** and head the ball in the air.”

Interpretation:

Respondents D and F emphasised the importance of developing power in soccer by “jumping with or without the ball”. In soccer the vertical jump height of a player is a good measure of specific muscular performance (leg power). The squat jump has been described as a measure of leg explosiveness under concentric-only conditions, whilst the countermovement jump (CMJ) assesses leg power under slow-stretch shorten cycle and low-stretch load conditions (Maulder & Cronin, 2005). Alternatively, the drop jump is suggested to measure fast-stretch cycle behaviour (Carlock *et al.*, 2004). Respondent E develops power by means of push-ups and sit-ups, which is aligned with strength development.

Sporting Code: Netball

In netball the respondents develop power by:

Respondent G: “I am looking at **their strength**, physique and how they handle injuries.”

Respondent H: “We make the **athletes jump higher explosively.**”

Respondent I: “By **passing** high balls from one player to another.”

Interpretation:

The responses from the three netball respondents indicate that only respondent H develops power by making the athletes “jump higher explosively”.

Leg power is important for netball players as it provides the basis for many common, dynamic actions executed on the netball court including jumping, rebounding, sprinting, and cutting across the court to take the ball (Faigenbaum & Westcott, 2000). Another test procedure used to

measure power has the netball players sitting on the floor, with their head, shoulders and lower back against the wall. They throw the netball as far as possible without the head, shoulders and hips moving from the wall. A tape measure is used to measure the distance from the wall to where the ball lands (Cronin & Owen, 2004).

Research suggests that upper body power is an important aspect for netballers as it facilitates throwing and catching the ball and aids in sprint technique (Chad & Steele, 1991; Nicholson, 2003). Respondents G and I's responses: "strength and passing" are not used to develop power in netball as recommended by the literature.

Summary of use of power in selected codes

Of the nine, only four respondents apply techniques that are sport-specific in power development; however the results are satisfactory. Good practice for power is vital for injury prevention and conditioning. The respondents practise power using jumping with or without the ball and heading. In netball only one coach develops power by making athletes jump higher. The overall findings indicate that coaches must be trained in the application of power-specific exercises and drills that may enhance the athlete's level of power in their respective codes.

(d) Strength

Muscle strength is defined as the amount of force or tension a muscle or muscle group exerts against a resistance during a maximal voluntary contraction (Bell & Wenger, 1992). Muscular strength has also been defined as the integrated result of one or several muscles undergoing contraction, either isometrically or dynamically, during a single voluntary effort of a defined task (Svensson & Drust, 2005).

Sporting Code: Rugby

In rugby the respondent's responses regarding strength development are:

Respondent A: "In pairs I let them **pick up one** another."

Respondent B: “They do **push-ups** and **sit-ups.**”

Respondent C: “They do **push-ups and sit-ups.**”

Interpretation:

All respondents recognised strength as an important physical fitness component. However there are various methods used to develop the athletes’ level of strength in rugby.

Respondents B and C conduct push-up and sit-up exercises, which can be used to develop the strength of the players. Due to limited resources and equipment in the schools, the coaches indicated that they use push-ups and sit-ups for strength and conditioning. Respondent A performs strength development by allowing players to “pickup one another”. the response is in agreement with Quarrie and Wilson (2000), who suggest grip strength is required for players to bind properly to each other in the scrum; thus the assessment of grip strength would be a useful tool for forwards.

Sporting Code: Soccer

Abdominal strength and endurance are important for core stability. A strong core is essential for the efficient transmission of force from the foot to upper body in the closed kinetic chain (Dominguez, 1983).

The development of strength in soccer requires athletes to do the following:

Respondent D: “They do **push-ups.**”

Respondent E: “**Push-ups and sit-ups.**”

Respondent F: “Each athlete **pulls up two tyres** for a distance of 60m with two reps.”

Interpretation:

Upper body muscle strength and endurance was measured using the one-minute press-up test.

All respondents develop strength training by conducting “push and sit-ups and pull-ups” in soccer. The activity pattern during a soccer match is forceful and explosive and includes rapid

turns, accelerations, tackling, side-stepping, and game-specific skills in which the power output is related to strength of the muscles involved in the movements (Reilly *et al.*, 2000).

These activities place great stress on the lower limbs and so the development of strength in soccer players is very important as the standard of play increases (Reilly & Doran, 2003). Thus it is essential for a soccer player to have a high degree of lower body muscular strength, which not only diminishes the risk of injury, but adequate strength training has been reported to improve kicking performance and the strength needed for match-specific actions.

Sporting Code: Netball

In netball the methods and procedures used for strength training according to the responses are:

Respondent G: “Through **conditioning**.”

Respondent H: “We use the **strongest defence** team that will play against the scorers in order to see how strong they are.”

Respondent I: “They do **push-ups**.”

Interpretation:

All netball coaches develop strength by doing push-ups. However the literature (Cronin & Owen, 2004) suggests that in order to develop strength the athletes should sit on the floor, with their head, shoulders and lower back against the wall. They throw the netball as far as possible without the head, shoulders and hips moving from the wall. A tape measure is used to measure the distance from the wall to where the ball lands.

Summary of use of strength in selected codes

All nine coaches’ responses in this study are in agreement with the development of basic motor learning and fitness components for athletes in primary school. The coaches identified basic strength exercises such as sit-ups and push-ups. They improvise equipment as in soccer coaches use tyres for strength. Strength is a key success factor for sustainable talent detection, identification and development in selected sporting codes.

(e) Cardiovascular endurance

Anaerobic endurance or anaerobic capacity reflects the maximal anaerobic energy production an individual can obtain in any exercise bout performed to exhaustion (Reilly *et al.*, 2000a). As a result of the nature of the game and the state of play the exercise in rugby, soccer and netball is intermittent, and performance is related to the players' ability to repeatedly perform intense exercise.

Sporting Code: Rugby

In endurance rugby players develop the following skills:

Respondent A: "By adding **additional time** towards their coaching session."

Respondent B: "**Push-ups and sit-ups.**"

Respondent C: "Athletes **run intertwined** with power and strength."

Interpretation:

Respondents A and C identified "additional time and running intertwined". Tomlin and Wenger (2001) state that during rugby competition, 85% of match play is spent in low-activity activities and recovering from high-intensity activity. This low-activity exercise derives energy predominantly from the aerobic energy system; furthermore, the higher the aerobic endurance of an individual the less recovery time is required.

This test involves continuous running between two lines 20m apart in time to recorded beeps (<http://www.defence.gov.au>).

Respondents B and C's responses contradict the recommended cardiovascular endurance using "push-ups and sit-ups" as a measure for strength.

Sporting code: Soccer

Soccer development skills for endurance are:

Respondent D: “**Push-ups and sit-ups.**”

Respondent E: “During practice I make sure that the players are **fit enough.**”

Respondent F: “They do the **abdominal curls.**”

Interpretation:

Higher aerobic capacity is an essential conditioning component in attaining success in the game of soccer.

To evaluate the players’ ability to repeatedly perform intense exercise and their ability to recover from intense exercise, the Yo-Yo intermittent recovery was developed for soccer players. The coaches’ responses regarding endurance do not conform to the literature (Bangsbo, 1994; Krusturp *et al.*, 2003; Krusturp *et al.*, 2006; Thomas *et al.*, 2006), which suggests that the Yo-Yo IR Level 1 (IR1) Test (designed for less trained individuals) involves the completion of repeated exercise bouts (20m shuttles; up and back) at progressively increasing speeds controlled by audio bleeps, interspersed with 10 active recovery periods that commonly last for 10–20 min.

Sporting Code: Netball

In netball endurance is developed as follows:

Respondent G: “**Increase the intensity** of the session.”

Respondent H: “We give them **additional time** into their practice session.”

Respondent I: “We **do not do any endurance.**”

Interpretation:

Respondents G and H confirmed that endurance is developed by increasing the “intensity of the sessions and adding time into the sessions”. Endurance has also been identified as a key predictor of success in intermittent sports (Gil *et al.*, 2007; Piennar & Spamer, 1996; Veale, Pearce, Cohen & Carlson, 2008). In endurance athletes must have lower body strength and as the nature of the sport requires repeated sprinting and jogging, the best way to develop the athletes’ endurance is by conducting the Yo-Yo recovery test.

Summary of use of strength in selected codes

Data analysis from all coaches demonstrated that all the codes require the development of endurance using an intermittent recovery test. In rugby only one coach emphasised the importance of adding more time to their sessions, whereas in soccer the responses do not conform to the literature; this which will result in coaches teaching and applying irrelevant endurance techniques and thus may result in injuries. In netball only two coaches demonstrated and emphasised that by adding intensity athletes are able to have better endurance.

All respective codes require athletes to perform intermittent intense exercises, and from the analysis the application of the intermittent recovery test (Yo-Yo) and 20 multi-shuttle tests is used to develop athletes' endurance.

5.3.4.4 Summary of talent-related concepts

The section focused on the respondents understanding of talent, talent detection, talent identification and development. The nine respondents were able to identify and explain key elements associated with the concepts; however the application of the concepts was a challenge, which may affect the sustainable talent pathways. Similar to the physiological motor-related fitness skills in identifying the use of the fitness skills such as flexibility and how they relate to the game itself was identified as challenge to enable coaches to train and use correct methodology in assessing athletes performance. The last section focused on the methods used in talent development, and the responses were aligned with the literature. This section indicates that respondents minimal knowledge of and exposure to learning the measurements or methods used in assessing athletes in rugby, soccer and netball.

5.4 THEME 3: THE TEACHING AND LEARNING OF TACTICAL AND TECHNICAL SPORTING SKILLS AS PRACTICAL MANIFESTATION OF DEVELOPMENT

5.4.1 Teaching technical skills

Learning occurs in a learning environment. Technical skills are skills used to execute the required tasks in sports and are fundamental skills developed from an early age, such as passing in soccer, tackling in rugby and throwing in netball.

5.4.1.1 Defining technical skills

The responses from rugby, soccer and netball defined technical skills as follows.

Sporting Code: Rugby

In rugby the respondents defined technical skills as:

Respondent A: “The **basics** of rugby and application of the mind and knowledge.”

Respondent B: “The **application and combination** of sport skills.”

Respondent C: “Technical skills are the skills necessary to **develop a fully-fledged rugby [player].**”

Interpretation:

All coaches reported that technical skills are “basics of rugby consisting of a combination of skills which are necessary in rugby”. The responses are in agreement with Martens (2004), who suggests that the execution of technical skills includes the coaches’ ability to teach athletes how to perform them, the flair to detect errors and correct them and the ability to recognise when those skills come into play in a game. These are all things that develop over time with the accumulation of experience. However the coaches did not identify the technical skills relevant to rugby. Some techniques can be generic and used across all sports such as running, throwing, jumping and catching.

Sporting Code: Soccer

The responses from soccer define technical skills as:

Respondent D: “It is the **combination of all skills such as passing, heading and running.**”

Respondent E: “The **basics** of soccer.”

Respondent F: “**Skills of passing, heading and jumping.**”

Interpretation:

The findings from the three respondents showed that a variety of technical skills are trained including “passing, heading, running and jumping”, which conforms to the literature on talent identification in soccer. Coaches include specific drills such as slalom dribbling tests, where this quality is measured without opponents (Reilly *et al.*, 2000). The findings suggest that coaches scout for technical skills such as passing, heading and jumping.

Sporting Code: Netball

The respondents from netball defined technical skills as:

Respondent G: “Is when the player is **ready to play** their code.”

Respondent H: “Execution of skills such as **passing, defending, dribbling** in netball.”

Respondent I: “When they play I look at the athletes **catching part** because they normally catch and then hold the ball twice which is a double touch and then look at their legs when they have the hold the ball with them they must not move and when it comes to **turning** when someone has the ball has to turn around accordingly and **pass the ball.**”

Interpretation:

From the findings only respondents H and I identified “passing, defending, dribbling, catching and turning”. The responses are consistent with Netball South Africa LTPD (2011) regarding under-9–13 years, which identifies defending, passing and shooting.

Summary of technical skills definition

The data analysis from rugby demonstrated an understanding of technical skills; however the relevant technical skills required for the sport were not identified. In soccer two respondents emphasised the importance of passing, heading and jumping, which are used to scout for players. This conforms to the SAFA Technical Master Plan (2012). In netball the responses are in

agreement with Netball South Africa LTPD (2011) which applies to passing, defending and attacking (dribbling) skills.

From the sample only seven respondents conform to the literature related to their respective codes in the application and knowledge of technical skills.

5.4.1.2 Methods used to teach technical skills

During the coaching sessions coaches are able to co-ordinate the session by paying attention to the player's execution of technical skills, communicating, encouraging them, correcting errors and demonstrating some of the difficult techniques required in the sport.

Sporting Code: Rugby

In rugby the respondents responded that during the coaching session they perform the following functions:

Respondent A: “**I observe and co-ordinate** the session and **demonstrate the skills.**”

Respondent B: “**I communicate with the athletes, offer guidance, facilitate and co-ordinate the session.**”

Respondent C: “I am **involved during the session, demonstrate** and show skills to the learners to develop and **observe their skills**. I do **demonstrate continuously.**”

Interpretation:

All three respondents declared their roles during the sessions, as they identified actions that require “observation, demonstration and offering guidance”. Brewer and Jones (2002) contributed to developing the Rugby Union Coaches' Observation Instrument (RUCOI) and concluded that the RUCOI represents a more valid and sport-specific instrument, which has the potential to help address the unique and contextual aspects of rugby. Athletes are also praised to facilitate performance development (Cushion & Jones, 2001; Smith & Cushion, 2006). During the training session the coach will also encourage players to apply creativity during a game situation, and communicate ideas, thoughts and instructions to the players.

Sporting Code: Soccer

In soccer the coaches responded that during the session they perform the following activities:

Respondent D: “Usually I tell them to **pass the ball to each other** around the field and practise shooting.”

Respondent E: “During practice session **I put two teams of defenders and attackers.**”

Respondent F: “The child from the early age of nine is introduced to the sport and **I let them play and develop their skills.**”

Interpretation:

During the session the respondents indicated that they “communicate the messages to the athletes, organise and co-ordinate the skills”. The responses conform to the specific roles suggested by Carr (2006). Coaches may also prefer to give verbal commands and consistently communicate with the athletes in order for them to understand the required technical skills. The coach must also be a dominant character during training and practice sessions (Winder, 1990).

Sporting code: Netball

In netball the respondents do the following during the coaching session:

Respondent G: “During the **coaching session we plan** on how we play the game and approach.”

Respondent H: “We start by doing **warm-up exercises and have a team talk.**”

Respondent I: “Normally during the coaching session I do the following **checklist**: if there are poles, the ball must be pumped and make sure that players play friendly games and also **coach and officiating during the session** at the same time and also check the mistakes that they do on the field.”

Interpretation:

All netball respondents identified their key responsibilities during the session as “coaching, conducting warm-up, programme checklist and officiating during the session”, which conforms

to the literature. Martens (2004) suggests that coaches should introduce and teach technical skills with enthusiasm expressed in actions, words and communication between athletes and players. In addition, during the sessions coaches should communicate with the athletes and use language that they understand. In supporting this, respondent B is able to communicate, offer guidance, facilitate and co-ordinate the session.

Summary of methods used in teaching technical skills

The information gathered from the rugby coaches showed them to have a working relationship with the athletes, as the coaches offer guidance and communicate consistently with the athletes. In soccer only one coach consistently communicated with the athletes. It is important that communication should be effective during the session in order to create understanding and execution of the skills. In netball all coaches clarified their critical roles, which are in agreement with Martens (2004).

The findings show that coaches understand their roles of communication, demonstration and offering guidance. In this way athletes will perform the techniques without pressure and are able to learn and positive relationships between the athletes and coaches are created.

5.4.1.3 DIFFERENT STEPS IN TEACHING TECHNICAL SKILLS

(a) Step 1: introducing the skill

According to Chapter 3, there are different steps used by the respondents to teach athletes technical skills. How to perform them, the flair to detect errors and correct them and the ability to recognise when those skills come into play in a game are all things that are need to develop over time with the accumulation of experience (Martens, 2004).

In teaching the technical skills in sport the coach will introduce the different steps, namely:

- **Methods used to get players' attention**

Coaches may use various methods of getting the players' attention when introducing a new skill. Communication is an important tool in getting the players' attention; coaches may blow the whistle, shout politely, or call athletes by name.

Sporting Code: Rugby

The respondents use the following methods in order to get the players' attention:

Respondent A: "I **blow the whistle.**"

Respondent B: "I **blow the whistle** and **call all the players.**"

Respondent C: "I just **shout to the team** and they come to attention."

Interpretation:

All three rugby respondents get the players' attention by "blowing the whistle and shout to all players before the session commences". The response is in agreement with the theoretical framework that suggests communication is an important tool in getting players' attention. The responses conform to Martens' (2004) suggestion that coaches should give signals and blow the whistle to get the players' attention.

Sporting Code: Soccer

In soccer the coaches get the player's attention as follows:

Respondent D: "Usually I **shout to the players.**"

Respondent E: "I **blow the whistle.**"

Respondent F: "I **communicate** with politeness with the players and I create boundaries between me and the players. The best method I prefer is to be polite to the players."

Interpretation:

All three respondents identified "shouting, blowing the whistle and communication", which is aligned with Vickers' (1996) suggestion that in getting players' attention coaches should maintain frequent and sport-based questions to the athlete. The coach has to be an effective communicator about technical, tactical, mental and physiological aspects of the athlete's training. In addition respondents may use a whistle if necessary, particularly when acting as a referee in small-sided games (Carr, 2005).

Sporting Code: Netball

The coaches use the following methods to get the players' attention:

Respondent G: “**I use a whistle.**”

Respondent H: “**I blow the whistle** and shout in order to get the players' attention.”

Respondent I: “I preferably **use a whistle.**”

Interpretation:

All three respondents emphasised and identified the “use of a whistle” in getting all players' attention. The responses are aligned with Kariong Netball Club (2013) that the use of the voice is very important in coaching. It must be audible; this can be influenced by the environment in which the coach is operating. Using an alternative such as blowing a whistle when giving long instructions can save the voice. The voice should be expressive to make it more pleasant to listen to.

Summary of responses to getting players' attention

All nine respondents prefer using the whistle and communicating with players before the beginning of the training session. Martens (2004) suggests that other methods can be used by the coach to get players' attention; they should position themselves to face the team when they speak; if some athletes are inattentive, look directly at them, move closer to them and firmly address them by name. However the commonly used method of getting the players' attention is the use of the whistle.

- **Arrangement of players at the beginning of session**

The arrangement of players before the session makes the coaches' work easy as they are able to have close contact and better communication with the athletes.

Sporting Code: Rugby

The coaches in rugby organise the players at the beginning of the session by doing the following:

Respondent A: “They have been **taught that when I blow the whistle** they must be able to organise themselves.”

Respondent B: “I have a team **list of organising the players** according to their positions.”

Respondent C: “I usually gather the players by having a **team talk and explain** their roles and give them the programme for the day.”

Interpretation:

All three rugby respondents organise coaching sessions by “blowing the whistle, team list and having team talk”. The responses are in agreement with Winder (1990), who says that the major responsibility of coaches is the planning and organisation of regular, purposeful and challenging practice sessions. The ability to analyse faults and initiate practices is needed to improve the player’s performances and consequently encourage them to extend the range of techniques and skills necessary for their successful participation in rugby.

Sporting Code: Soccer

In soccer the coaches organise the players at the beginning of the session as follows:

Respondent D: “I **call all the players** and give them a **team talk**.”

Respondent E: “I always **motivate them and offer guidance**.”

Respondent F: “I **communicate the session plan** to the captain and blow the session to get the players’ attention.”

Interpretation:

The three soccer respondents organise sessions “through team talks, motivation and communicating session plan”. According to Carr (2005), as part of effective coaching the coach needs to access adequate equipment and properly prepare areas for each session. When practising the coach needs to maintain safety and teach all of the game’s basic skills by establishing organisation in their team play. Furthermore, the coach should maintain discipline by setting

standards in the session with clear instructions about the time of sessions, expected dress codes and standards of behaviour.

Sporting Code: Netball

Netball respondents get the players' attention by doing the following:

Respondent G: "I encourage the players to be punctual and **wear their training kit before the session.**"

Respondent H: "I **arrange them into different groups.**"

Respondent I: "We come around as a group and have a **team talk**; alert them to avoid foot faults and follow the rules; avoid obstruction."

Interpretation:

The responses from the three respondents adhered to the required organisational skills of a netball session by "organising players to set standards of wearing a kit, arranging different groups and having a team talk". During the sessions the coach can modify and demonstrate a skill and demonstrate it more than once to the beginners. The group's position should also allow them to see the demonstration (Winder, 1990).

Summary of organisational skills at the beginning of a session

Data analysis from rugby and soccer demonstrated the coaches' ability to arrange players at the beginning of the session. Coaches arrange players by having a team talk session and arranging players according to their positions. In netball coaches showed an understanding of arranging the players at the beginning of the session by saving time in encouraging players to be punctual, arranging them into groups and having a team talk session.

The findings from all coaches indicated that they all use correct measures of arranging the session at the beginning.

- **Physical activity to start the session (warm-up)**

Warm-up is an important physical activity before the session as it prevents athletes from getting injured and prepares the athletes psychologically for the game. A warm-up exercise is important

in the training regime and must be prescribed and controlled (SAFA Technical Master Plan, 2012).

Sporting Code: Rugby

The respondents in rugby responded that the physical activity they start with in a session is:

Respondent A: “We start the session with a **warm-up** and the captain is the one that leads other players.”

Respondent B: “As a coach I do the **warm-up together** with the athletes.”

Respondent C: “They all do **warm-up** and I lead and control the warm-up and the athletes follow thereafter do the flexibility.”

Interpretation:

All three respondents indicated they started the session with “warm-up” exercises and the coach and athletes are involved in the warm-ups. The responses concur with Luger and Pook (2004) who suggests warm-ups are conducted at the beginning of a training session, which can also be used to rehearse movements that will be the focus of the training session such as passing the ball. Coaches must insist that players warm up properly before commencing any training or participation in any training sessions.

Sporting Code: Soccer

In soccer the coaches responded that the athletes perform the following physical activity (warm-up):

Respondent D: “**I am the one conducting** the warm-up.”

Respondent E: “We start with the **light training**.”

Respondent F: “I **participate** in the warm-up.”

Interpretation:

Warming up is taken very seriously by the three soccer respondents, as they indicated they were “conducting and participating in the warm-up activities”. The responses are in agreement with Carr (2006) who states that the coach’s role is extended to the physical wellbeing of players by overseeing warm-up properly. At junior level there is no reason why players should not go through a warm-up. As stated before, soccer play involves explosive movements that must be enhanced by warm-up session before the activity (Gatz, 2009).

Sporting Code: Netball

The responses to performing warm-up activities in netball are:

Respondent G: “**As a coach I am the one** conducting warm-up.”

Respondent H: “**Coaches do the warm-up** and thereafter the athletes follow.”

Respondent I: “There are two girls that normally **start the warm-up.**”

Interpretation:

All three respondents take responsibility by “conducting the warm-up” exercises. According to Gabbett & Georgieff (2007), coaches should integrate warm-up with netball elements such as speed, endurance and skill and the pre-match warm-up should be both specific and non-specific.

Summary of physical activity

Data from all nine coaches indicated that they are all involved before and during the netball session. During the warm-up sessions coaches give athletes the responsibility to lead the warm-up sessions, which creates good relationships between athletes and the coach.

- **Physical fitness in the session**

During the practice sessions physical fitness can be accommodated from the technical and tactical perspective. There are other sport-specific physical fitness exercises that may be included during practice, such as running with the ball in rugby, dribbling past the opponent and jumping in netball.

Sporting Code: Rugby

In rugby the respondents incorporate physical fitness in the session by:

Respondent A: “I incorporate **running with or without the ball and muscular endurance.**”

Respondent B: “We integrate the session with fitness and **motor skills such as jumping.**”

Respondent C: “We do **physical fitness through running.**”

Interpretation:

In rugby all three respondents incorporate physical fitness by including “running and jumping”. The responses are aligned with Luger and Pook (2004) who recommend that players and coaches adopt a unique blend of conditioning elements such as jumping that will allow the team to play successfully and without injury.

Sporting Code: Soccer

The soccer coaches’ responses to accommodating physical fitness in the session require the following:

Respondent D: “I bring the element of physical fitness **as the learners play.**”

Respondent E: “**Ball work** and we work with the **physique** and mental activities.”

Respondent F: “I accommodate **running with the ball** for a distance of 5–10m of ball control.”

Interpretation:

All three soccer respondents accommodate physical fitness into their sessions. According to respondents E and F, “running element with the ball for a distance of 5–10 m” is practised. The response is consistent with the literature that has identified running as an important variable for successful performance in soccer, particularly over distances ranging between 5–40m (Williams & Reilly, 2000). At this stage of practice athletes learn ball control, eye coordination, change of direction and speed training. Respondent D integrates physical fitness as athletes play the game.

Sporting Code: Netball

In netball the responses to the involvement of physical fitness in the session include:

Respondent G: “When playing netball you have to **be fit** and integrate a balanced diet with the players.”

Respondent H: “We allow it through **running** from one corner to the other.”

Respondent I: “We do the physical fitness **before the session.**”

Interpretation:

The findings from the netball coaches indicate that only interviewees H and I incorporate physical fitness into their sessions, as they allow athletes to run from one corner to the other and before the sessions respectively.

Summary of responses in accommodating physical fitness

The results from this study revealed that physical skills are an important consideration in identifying talented players; however running is thought to be the most important physical skill. Many coaches perceived running as a decisive factor in identifying talented rugby, soccer and netball players. Although physical skill is an important quality identified by participants in this study, to be consistent with the literature it should not be used in isolation to predict talent.

- **Announcement of activities of the session**

It is important for coaches to announce and communicate the activities and expectations to the players. Coaches should clarify the roles and responsibilities of the players and teach the methods in either parts or method depending on the level of the players’ understanding of the technique.

Sporting Codes: Rugby

In rugby the coaches’ response to the announcement of activities is:

Respondent A: “**Yes** I do announce the activities of the session.”

Respondent B: “**Yes** I do.”

Respondent C: “**Yes** I do.”

Interpretation:

All three rugby respondents agreed that they announce the activities of the sessions in rugby, which is important for the athletes to identify the techniques to be used; in this process there is positive communication between the coach and the athletes. The responses are in agreement with Winder (1990) who recommends that coaches announce team selections, formations and patterns of play required. Coaches should give careful consideration to tactics employed by the team that should complement the abilities and skills of the available players. Furthermore, within the team formation there will always be an opportunity for individual expression and creativity during a game situation.

Sporting Code: Soccer

The responses to the announcement of activities in soccer are as follows:

Respondent D: “**Yes** I tell them at the beginning of the session.”

Respondent E: “**Yes** not all the time and sometimes I surprise them with new activities.”

Respondent F: “Before I start the session **I announce** the session plan for the week and I have also designed the programme: we practise passing and shooting on Tuesdays and on Fridays we focus on the game situation and also accommodate feedback sessions after the matches and before training sessions.”

Interpretation:

All three respondents agreed that they announce the activities prior to the coaching session. According to Carr (2005), coaches should have a clear vision of what they want from the squad and it is fair to ask what expectations they have of the players. The announcement of activities will determine the way the coach organises their training sessions.

Sporting Codes: Netball

In netball the coaches' announcement of activities is as follows:

Respondent G: “**Yes** I do announce and prepare the athletes prior to the game.”

Respondent H: “**Yes** we do announce them.”

Respondent I: “**Yes** we do announce.”

Interpretation:

The findings from all netball coaches agree with the existing literature that supports coaches announcing the techniques and explaining how they will be used in the next session. According to Martens (2004), it is important for the coaches to announce the techniques in order to make quick reference to them and explain how they fit into their sport and positions.

Summary of announcement of the activities

Data from all nine coaches showed that they all announce activities at the sessions. In rugby the three respondents emphasised that this is vital for allowing communication between athletes and the coaches. In soccer, coaches announce the session plan and activities for the week at the beginning of the sessions and all players have an opportunity to ask questions and explain their expectations. Netball coaches all agreed that there is announcement of activities prior to the session.

(b) Step 2: demonstrate and explain the skill

Demonstration and explanation of the skill are the primary ways to help the athletes to acquire mental plan for the technique (Martens, 2004). During the demonstration of a new skill coaches should have patience, communicate and repeatedly demonstrate the skills, which can be taught either in parts or using the whole method.

- **Revision of previous activities**

Sporting Code: Rugby

The rugby coaches' responses to the revision of previous activities are as follows:

Respondent A: “**Yes** they do revise so that they can **remember the activities.**”

Respondent B: “**Yes** we do so that I can accommodate other players who were absent from training so that they can **be able to catch up.**”

Respondent C: “**Yes** before we start each day we revise the previous day activity so that there can be a **link and continuity.**”

Interpretation:

In rugby all three respondents agreed they revise previous activities in order to “remember the activities, catch up with the lesson and for continuity”, which is in agreement with Winder, 1990. This writer encourages coaches to rehearse all techniques and practise in a training situation, where mistakes can be rectified by the coach and not punished by the opponent.

Sporting Code: Soccer

In soccer the coaches responded that the reasons behind the revision of previous activities are:

Respondent D: “**I allow the** learners to repeat the skills learned.”

Respondent E: “**I remind them** so that they can remember the previous activities.”

Respondent F: “**Yes** I do revise the previous activities so that they should learn on how to apply the skills taught.”

Interpretation:

All three soccer respondents interviewed believed that the importance of revising the activities learned is to also “allow athletes an opportunity to remember and practise the skills”. The responses support the theoretical framework that revising the activities gives athletes an increased motivation to learn (Martens, 2004). In addition, Carr (2005) suggests coaches focus on organising the players for better game understanding when lessons are revised.

Sporting Code: Netball

For netball the responses to the revising previous activities are:

Respondent G: “Each and every game we play we **analyse the faults.**”

Respondent H: “We do revise so that they can **master what they were taught.**”

Respondent I: “Yes we do it because I want to see if they **remember** what they did and their **level of understanding.**”

Interpretation:

All netball respondents interviewed revise the activities learned in order to “analyse faults, perfect skills taught and memorise for better understanding”. The responses are in agreement with the literature supporting continual development and players’ exposure, and introducing them to positional roles in order to see their progress (Netball Australia, 2005).

Summary of revision of previous activities

Data demonstrated that the coaches allow athletes to practise previous activities they might have learned from the session. The importance of revising the activities is to evaluate the athletes’ level of understanding of the introduction of the new skill, memory of the skills and for continuation of the current skills to the new skills. At primary school level athletes take time to learn the skill; it is therefore important for coaches to have patience when teaching and revising the new skills. The findings gathered give an indication that rugby, soccer and netball coaches allow athletes an opportunity to practise the skills introduced in their sessions.

- **Explanation of new skills**

New skills can be presented using various teaching methods to allow athletes to grasp and understand the techniques used. Coaches may explain new techniques by demonstrating, using videos and using the part or and whole methods. Drawing pictures and using examples can also

increase opportunities for the athletes to learn. During teaching, communication from the coach to the athletes should be clear.

Sporting Code: Rugby

The coaches in rugby responded that they explain the new skill in the following manner:

Respondent A: “I am versatile to **change skills from previous activities.**”

Respondent B: “I explain, **communicate and demonstrate.**”

Respondent C: “I inform them before the session, **demonstrate** the skill and also explain the importance of the new skill.”

Interpretation:

All three rugby respondents emphasised they explain skills by various methods: respondents B and C use communication and demonstrate the new skills taught. The response from respondent A indicated that the session plan and introduction of skills normally changes.

Sporting Code: Soccer

In soccer the responses regarding the explanation of the new skill are:

Respondent D: “We have a **team talk.**”

Respondent E: “I **demonstrate** to the players.”

Respondent F: “I **ask** the athletes if they know the skill.”

Interpretation:

In soccer the approach used by respondents D and F is similar, as they engage and challenge the athletes’ learning ability by asking if they understand and are able to identify the new skills introduced. Respondent E demonstrates the skills to athletes.

Sporting Code: Netball

In netball the explanation of new skills is as follows:

Respondent G: “We always apply new skill so that players can be able to know different **strategies of the game.**”

Respondent H: “I do **demonstrate** and **ask one learner to demonstrate** to the whole group so that everyone can be able to execute the skill.”

Respondent I: “I do **demonstrate and explain.**”

Interpretation:

The findings from all three coaches identified “demonstration” as an important component when explaining new skills. In supporting the response, Martens (2004) suggests that coaches explain how the skill is done and if possible allow other skilled athletes to demonstrate the skill

Summary of explanation of a skill

Data analysis from all codes demonstrated that all coaches do explain the new skill introduced and use different approaches to explain the skills. In rugby, soccer and netball coaches demonstrate and communicate with the athletes, which is important for learning and understanding the techniques taught. From the analysis all nine respondents’ responses are in agreement with the literature studies.

- **Demonstration of the new skill in the part or whole method**

The introduction of new skills can be presented in a demonstration method that has proven to be an easy teaching method for learners. The demonstration of the techniques should be repeated as it relates to the technique learned. Coaches can also demonstrate in parts if the technique is complex, and use the whole method as it would relate to a competition (Martens, 2004).

The demonstration of new skills in rugby is demonstrated in a form of:

Sporting Code: Rugby

Respondent A: “I **demonstrate as a coach** and use the other part method.”

Respondent B: “I do **as a coach.**”

Respondent C: “I **develop** the skill individually in steps or part method.”

Interpretation:

All three respondents demonstrate the new skills to players as “coaches”. Respondents A and C use the part method in introducing the new skill. The literature suggests that coaches use the part method due to the high complexity of the task and low interdependence (Martens, 2004).

Sporting Code: Soccer

Coaches apply the following methods:

Respondent D: “As a coach **I** demonstrate to players and introduce the skills in part method.”

Respondent E: “Mostly **I** demonstrate but sometimes I let other good players demonstrate to others. I use part method to explain the skill in steps.”

Respondent F: “As a coach **I** do demonstrate in parts method.”

Interpretation:

The three respondents all agreed that they “demonstrate the new skills and use the part method”, which conforms to the literature. Demonstration of techniques requires the coaches to be proficient in the technique; however if the coach cannot perform the technique they can use other alternative method such as using an assistant coach, friend, other athletes and videos to demonstrate the technique.

Sporting Code: Netball

The responses to the demonstration of new skills in either parts or whole method in netball are:

Respondent G: “**I demonstrate** and allow players to come with new skills to share with everyone and I introduce the new skill in a form of the whole method so that all players can know how to apply the skills in their position.”

Respondent H: “As a coach **I do demonstrate** and I also use a player and introduce the part method.”

Respondent I: “**I do** through the part methods.”

Interpretation:

The findings from all three netball respondents emphasised that they “all demonstrate” the new skills. Respondents H and I use the part method in teaching the new skills and only respondent G uses the whole method so that all players can apply the technique in their positions. Martens(2004) suggests the use of whole method when the technical skill is low in complexity and high in interdependence; however techniques can be taught using a combination of the part and whole methods.

Summary of demonstration

All three rugby respondents demonstrate the technique taught and two respondents use the part method, which requires the coach to break the technique into steps and requires patience from the coach. In soccer all three respondents use the part method in teaching the new technique, whereas in netball two coaches prefer the part method and one uses the whole technique. According to the literature the part method is used if a task has high complexity and low interdependence, and the whole method (is used when the technical skill is low in complexity and high in interdependence. however techniques can be taught using a combination of the part and whole methods.

From the interpretation all nine respondents do demonstrate the new skill learned and use the part and whole method when teaching part and whole practice.

- **Understanding of skill by players**

As athletes practise a new technique coaches need to regularly check their level of understanding. There are many methods to evaluate the athletes’ level of understanding, such as asking the athletes to perform the new technique without the coach’s intervention.

When the coaches want to see whether the players understand the new skill they apply the following techniques:

Sporting Code: Rugby

Respondent A: “I **demonstrate** the skills.”

Respondent B: “I **repeat the whole skill** till they grasp the technique.”

Respondent C: “I **give them a chance** to demonstrate the skill and see if they grasp the skill.”

Interpretation:

All three rugby respondents used various methods to evaluate players’ level of understanding by “demonstrating the skill, repeat and giving players a chance”, which is aligned with the literature. Martens (2004) suggests that the athletes’ level of understanding can be assessed by repeating the skills taught and demonstrating the skills.

Sporting Code: Soccer

In soccer the responses indicated that to check if the players understand the new skill they apply these methods:

Respondent D: “I **make** them repeat the skills and if I am satisfied they carry on with another skill.”

Respondent E: “I **always applaud** them if they do great work so that it can boost their confidence.”

Respondent F: “I **ask if they understand** the skill and give them 30sec to apply the skill and I repeatedly demonstrate and teach them the skill.”

Interpretation:

The three soccer respondents are aligned with the literature under study. Respondents D and F monitor and evaluate the athletes’ understanding by allowing them to demonstrate and repeat the required technique and skills.

Sporting Code: Netball

The netball coaches’ responses to assessing if the players understand the new skill areas follows:

Respondent G: “I **demonstrate using cones** or clipboards so that they can know their positions and roles.”

Respondent H: “I **give them a chance** to do what I have demonstrated to them if they do not understand I will have to repeat the skill.”

Respondent I: “To see if they **understand** I let each individual athlete **repeat the exercise** on their own to see if they understand.”

Interpretation:

The findings from three netball respondents emphasised that they demonstrate the new skills. According to respondent I, each athlete is allowed to repeat the skills individually in order to show their understanding, whereas respondents G and H demonstrate the new skill to evaluate the athletes’ level of understanding.

Summary of understanding of players’ skills

All nine respondents are aligned with the suggestion by Martens, (2004) that to see if players understand the skill coaches must ask and repeat the questions, keeping them short and relevant.

The data from all coaches emphasised that they demonstrate and repeat the new skills taught.

(c) Step 3: Practising the skill

- **Involvement of coaches when players practise a new skill**

During the session coaches have the responsibility to facilitate and co-ordinate the session. During the session the coaches have to communicate, demonstrate, observe and correct any errors that they may see.

The coaches responded that their involvement when the players are practising a new skill is the following:

Sporting Code: Rugby

Respondent A: “I **analyse** the athlete’s movement.”

Respondent B: “I **offer guidance** and **demonstrate** the skill.”

Respondent C: “I **demonstrate** on how the skills are done, I **observe** if players are doing well and if they are struggling I demonstrate and use another player to show them the skill.”

Interpretation:

The three rugby respondents' role and responsibilities when athletes are practising a new skill include "analyse the athletes' movement, demonstrate, offer guidance and observe the players practise and demonstrate the correct technique if athletes are unable to perform well". The findings concur with Winder (1990), who states that the role of the coach during a coaching session should be to analyse faults and initiate practice by demonstrating skills and rectifying them, which will improve athletes' performance and encourage players to extend their range of techniques in the sport.

Sporting Code: Soccer

In soccer the respondents' involvement when players are practising a new skill are:

Respondent D: "I **correct errors** while they practise the skills."

Respondent E: "My role is to make sure that certain skills are introduced and **make sure** that they practise the skill in the right way."

Respondent F: "I **communicate** and assist the players all the time."

Interpretation:

All three soccer respondents identified "correcting errors, co-ordinate and communicate with players" when practising the new skill. The responses are in agreement with Carr (2005), who says that coaches are required to assess basics such as technical skills, assess players' speed and overall ability of the squad and decide what they can realistically achieve with them. Martindale *et al.* (2005) also stress the importance of coaches having clear expectations and open and effective communication patterns in a coaching programme.

Sporting Code: Netball

The netball coaches' roles when players practise a new skill are:

Respondent G: "I **analyse** their movement during the session."

Respondent H: "I motivate them and those that are playful I punish them by **repeating** the skills."

Respondent I: “My role is to look after them and make sure that they play well, enjoy what they do, **develop their skills and play**. As a coach I must also make sure that they follow my rules.”

Interpretation:

In netball all three respondents indicated their different roles when athletes practise a new skill such as “analysing the skill, repeating the skill and developing players’ skills”. The findings support work by Kirk, Nauright, Hanrahan, Macdonal and Jobling (1996) recommending coaches to provide information, demonstrate the skills and recognise athletes’ diverse needs.

Summary of coach’s role during practice

The information gathered from the findings found that all nine respondents analyse, observe, demonstrate, correct errors and communicate to athletes whilst practising the new skills. The data demonstrated that the coaches have an understanding of the didactic approach, principles, procedure and application during the coaching session.

- **Organisation of players for the practice of the new skill**

During the practice of the new skills coaches organise the athletes according to their positional roles. Coaches may blow the whistle, communicate the strategic plan, explain the new skill to be practised and demonstrate the skill using the part and whole method technique.

Sporting Code: Rugby

The rugby coaches responded that they organise the players for the practice of the new skill in the following manner:

Respondent A: “They have been **taught that when I blow the whistle** they must be able to organise themselves.”

Respondent B: “I put them in their **positions**.”

Respondent C: “Each and every one get a **chance** to perform the skill demonstrated to them.”

Interpretation:

All three rugby respondents use different approaches to organise the players for the practice of a new skill: “blowing the whistle, positioning the players and demonstrating the skills”, which concurs with the literature recommending coaches to have conceptual know-how represented by the ability to co-ordinate and integrate all the interests and activities from within the organisation (Burdus, 2005). Moreover the coach must create a knowledge-driven environment in the rugby club (Rosca, 2010). This task can be fulfilled by the coach playing his managerial role, using the resources of the club for building the proper knowledge environment. Creating knowledge in organisations helps the rugby club to establish a competitive advantage (Nonaka, 1994; Perry *et al.*, 2006).

Sporting Code: Soccer

The responses to the organisation of the players in practising a new skill in soccer are as follows:

Respondent D: “**I put** the learners in a group.”

Respondent E: “We have different age groups as I **separate the age groups** (under-11, 12 and 13).”

Respondent F: “**I pair all players** with one ball each in a distance of 5m.”

Interpretation:

The coaches arrange the players by “grouping them into their positions”. The respondents’ responses are in agreement with Carr (2005) that before the session starts there will be an unbalance, with far more players wanting to play in attacking positions. The coach will then balance the team across the pitch with right- and left-footed players, information that will be required from the management to get the right ratios. In the researcher’s opinion organising the players for the practice of the new skill will benefit athletes by making them aware of their roles so they are able to contribute and share ideas with their teammates. There will also be understanding and better communication between the coach and athletes.

Sporting Code: Netball

In netball the responses are:

Respondent A: “I organise them according to **their positions.**”

Respondent B: “I **divide** the players into teams.”

Respondent C: “I **balance the teams together.**”

Interpretation:

All three netball respondents “divide players according to their positions and balance the teams”. According to Yukl (2006) the coach has a responsibility to organise the athletes and their collective efforts to fulfil the common objectives of the group.

Summary of organisation during the practising of a new skill

The data analysis from all nine coaches emphasised that they organise and arrange the players according to their positions, teams and groups during the practice of the new skill. When organising the athletes according to their groups they have a better understanding of the new skill, there is increased technical awareness, their technique improves as they learn from their peers and communication is improved by communicating with the coach and teammates during team talks. The coach can also group athletes according to their strengths and weaknesses, which may also assist the coach to correct the technical errors and provide athletes with feedback during team talk sessions.

- **Explanation of a new skill**

Coaches should explain the new skills using effective methods of learning. The methods used may include demonstration, effective communication and repeating the skills introduced.

Sporting Code: Rugby

Rugby coaches explain the new skill as follows:

Respondent A: “I am **versatile to change skills from the previous games.**”

Respondent B: “I **explain, communicate and demonstrate.**”

Respondent C: “I explain the importance of the skill in the **whole rugby game** and how it makes a better player.”

Interpretation:

The three respondents explain new skills by “constantly changing skills, communicate, demonstrate and as a whole”, which conforms to Martens (2004), who suggests that coaches should demonstrate the point while the athletes attend.

Sporting Code: Soccer

In soccer the responses to the explanation of a new skill are:

Respondent D: “I **demonstrate** the skill and they follow.”

Respondent E: “I **demonstrate** the skill.”

Respondent F: “I **analyse** the skill and offer encouragement.”

Interpretation:

In soccer all three respondents emphasised the importance of “demonstrating and analysing the new skill”. The responses are aligned with Carr (2005), who suggests that coaches observe the teams in action and link to problem solving or plan each session on a purely rotational basis.

Sporting Code: Netball

In netball the coaches responded that they explain the new skill in the following manner:

Respondent G: “I **announce** the session plan and formations that we will play.”

Respondent H: “I do **demonstrate** and ask one learner to demonstrate to the whole group so that everyone can be able to execute the skill.”

Respondent I: “Yes I do **demonstrate.**”

Interpretation:

The three netball respondents reported explaining the new skills by “demonstration” is the preferable method. These findings are consistent with the literature that suggests that coaches should use demonstration and explain the new skill simply and briefly (Martens, 2004).

Summary of explanation a new skill

Most of the coaches use demonstration to explain new skills. The literature study identified demonstration as an important tool to explain skills and emphasised that communication should be simple and brief. Data analysis from rugby, netball and soccer indicates that athletes are able to understand the techniques and skills introduced by the coach. Explaining the skills correctly will improve the athletes’ learning ability and improve their performance.

- **Demonstration of activity**

Demonstration during the practice of a new skill is an important method used by coaches to enhance learning when athletes repeat the new skills taught. Coaches should also demonstrate the skills during this phase.

Sporting Code: Rugby

Respondent A: “**Yes** we do demonstrate the activities in this phase.”

Respondent B: “**Yes.**”

Respondent C: “**Yes** each and every time a new skill is demonstrated to them.”

Interpretation:

All three rugby respondents agreed that they demonstrate the activity in the phase of practising again. Athletes are able to remember the skills taught at this phase and learning is enhanced (Martens, 2004).

Sporting Code: Soccer

In soccer the demonstration of activities in the practice session is done as follows:

Respondent D: “**No.**”

Respondent E: “If I am not happy with what they did I will **demonstrate** again.”

Respondent F: “**Yes** I do as sometimes they forget the skill taught and I get them used to the skill by letting them practise and repeat the skills taught.”

Interpretation:

Only respondents E and F “demonstrate and provide repetition” of the new skills taught, which reinforces the athletes’ technical knowledge. The responses are in agreement with Vickers (1996) that the coach must emphasise strategic thinking skills by demonstration and explanation of all critical concepts followed by practising them in modified, simulated and real contexts.

Sporting Code: Netball

The netball respondents’ responses to the demonstration of activities in the practice session are:

Respondent G: “**Yes** I demonstrate **before the game** and remind them of what we practised during training.”

Respondent H: “**I remind** them and use one learner to help them.”

Respondent I: “**Yes** I have to.”

Interpretation:

All coaches emphasised that there is demonstration of skills when athletes practise at this stage. According to www.netball.asn.au, when demonstrating coaches should highlight the main points of the skill, keeping the explanations simple and brief and trying not to give players more than two or three main points at a time.

Summary of demonstration of activity

The findings from all nine coaches' responses indicate that eight coaches use demonstration in explaining the techniques taught during practice. Furthermore, the findings from this study support the notion that demonstration of an activity is important for successful performance in rugby, netball and soccer.

(c) Seven principles for skill practice

There are seven different principles in teaching the skills for practice, namely:

- **Principle 1: Practise the right technique**

One of the common mistakes in designing the practice session is having athletes practice drills that do not help them learn the techniques required to play the sport. Coaches should select techniques that are relevant to the sport and will enhance and improve the technical ability of athletes.

Sporting Codes: Rugby

The responses to the correct technique being taught in rugby are as follows:

Respondent A: “**Yes.**”

Respondent B: “**Yes.**”

Respondent C: “**Yes I try to teach rugby game skills.**”

Interpretation:

All three rugby respondents agreed that the technique practised and taught during practice is the correct one. The teaching of correct rugby technique enhances athletes' level of confidence in executing the technical skill and executing sports-specific and finely honed passing, dribbling

and kicking skills, positioning themselves strategically on the field or engaging in complex tactical play (Burrows, 2003).

Sporting Code: Soccer

In soccer the responses as to whether the coaches teach the correct technique are:

Respondent D: “**Yes.**”

Respondent E: “**Yes.**”

Respondent F: “**Yes** and it will depend on the strength of the coach and if I do not know the skill I will ask advice from other coaches.”

Interpretation:

The findings from the soccer coaches demonstrate the level of soccer knowledge and technical awareness the coaches possess. All three coaches reported that they practise and teach the right technique, which conform to Martens (2004) who suggests that coaches should teach techniques with purpose.

Sporting Code: Netball

In netball the responses as to whether the coaches teach the correct technique are the following:

Respondent G: “**Yes** I apply techniques across.”

Respondent H: “**Yes.**”

Respondent I: “**Yes.**”

Interpretation:

All three netball respondents in this study reported that they taught the correct technique. The findings are consistent with the literature, which has suggested that coaches should teach sport-specific techniques and analyse the drills and should also look at developing an enquiry-based style of coaching by asking questions, getting athletes to think about what has just occurred and strategising a solution (Kidman & Hanrahan, 2011).

Summary of practising a new skill

All nine respondents agreed that they teach the correct technique relevant to the sporting code. Practising the correct drills and technique is vital for athletes to execute the skills with fewer technical errors. Furthermore, in all respective codes coaches' responses indicate that they have the knowledge, are able to analyse the drills and techniques and practise sport-specific skills.

- **Principle 2: Relation of an activity to game-like conditions**

Technical skills should be taught at the speed they are performed in game-like conditions and competitions. During this phase athletes transfer the skills they have learned from training to games, which produces effective learning.

The rugby respondents (coaches) responses as to how they relate an activity to game-like conditions is as follows:

Sporting Code: Rugby

Respondent A: "I have a **game plan**."

Respondent B: "I make the **game fun and enjoyable** so that they can be able to relate it to the game-like conditions and playing situation."

Respondent C: "I do that by **dividing the team to play against each other** and in that way they get an opportunity to practise the skill and rules of the game."

Interpretation:

All three respondents described the importance of the "game plan, making the games fun and dividing the teams into groups", which relates to game-like conditions. The responses conform to Martens (2004), who suggests that athletes should be provided with the technique at the speed it is to be performed in a competition.

Sporting Code: Soccer

The coaches' response to the integration of an activity to game-like conditions is:

Respondent D: "I put them in the **practical session by playing in groups or in teams.**"

Respondent E: "I would **make two groups** and they would play against each other and that is when I use the session to select the team for each match."

Respondent F: "They play **4vs4 in a small-sided game** and also have teams."

Interpretation:

In soccer the findings from all three respondents indicate that athletes are "divided into teams and play against each other", which stimulates fun, enjoyment and development of athletes. During this phase athletes are able to relate the necessary skills acquired from practice and transfer them to game-like conditions. According to Gabriel (2003), coaches must give the players a method of individual training that will allow them to polish their technical skills while making them fitter, faster and more explosive.

In supporting the findings, interviewee C organise small-sided games with teams of 4vs4 situations. During this phase athletes are able to refine their sport-specific motor fitness skills such as defending, passing and scoring, which can be transferred to game-like conditions.

Sporting Code: Netball

The netball respondents said that to relate an activity to game-like conditions they do the following:

Respondent G: "I make them play in **small-sided games situation.**"

Respondent H: "I form **teams and play against each other.**"

Respondent I: "I put them into the **netball teams** of two and play against each in a match format (7vs 7).

Interpretation:

The findings from the three netball respondents identified “small-sided games and teams”, conforming to the literature that they relate the activities practised during the training sessions to game-like conditions. In netball discrete skills govern the games and individual skills required by each position (Ryan, 2009). All coaches emphasised that athletes play against each other in game-like conditions by forming netball teams, and during this phase athletes learn the rules of the game, techniques and tactics, and athlete’s errors are corrected.

Summary of relation of an activity to game-like conditions

Data from all nine coaches’ responses conforms to the literature study. In rugby, soccer and netball coaches use game plans and strategies to make athletes adapt to their respective teaching and coaching methods. The technique practised is performed at the speed and accuracy related to game-like conditions. The coaches emphasised that athletes participate in teams, which enables them to learn various sports-specific technical skills that can be transferred to the game situation.

- **Principle 3: Duration of the coaching session**

The coaching practice sessions must be kept short and frequent when teaching new techniques (Martens, 2004). The coaching sessions in soccer, netball and rugby should be kept at an average of 45–60 minutes including breaks, considering the mental and physical efforts required to perform a technique.

Sporting Code: Rugby

The length of a rugby coaching session is:

Respondent A: “**45** minutes.”

Respondent B: “**2** hours.”

Respondent C: “**1 hour 30** minutes in other days an hour is sufficient.”

Interpretation:

The findings from the three respondents indicate that the coaching sessions and playing of only two respondents, A and C, is in line with the minimal duration of 45–60min of coaching under-12 rugby players at primary school (www.englishrugby.com). During this time the coach devotes time to teaching, demonstration, repetition and rest intervals. Players' concentration level is not high compared to elite athletes. Respondent B devotes “two hours” to coaching athletes, which may affect their concentration span.

Sporting Code: Soccer

The responses to soccer session duration are as follows:

Respondent D: “**35min.**”

Respondent E: “**1 hour 20 minutes.**”

Respondent F: “**45–60min.**”

Interpretation:

In soccer all three respondents reported that they spend an average time of “45–60 min” in a coaching session, which is in line with the SAFA Technical Master Plan (2012). The time duration in soccer is sufficient for the coach to plan, apply strategies, facilitate and co-ordinate the session, include break time intervals and demonstrate the techniques and correct errors.

Sporting Code: Netball

In netball the coaching sessions are as follows:

Respondent G: “**An hour.**”

Respondent H: “**30min.**”

Respondent I: “It varies as sometimes it takes an hour and other days **30min.**”

Interpretation:

All netball coaches reported that they conduct and spend an average time of “30–60min” coaching. The three responses are aligned with Netball South Africa (2011), which recommends coaches to facilitate four to six sport sessions per week and two or three sessions of other sports. Each session should be a maximum of 90 minutes in length.

Summary of coaching duration

The data analysis and findings from the coaches’ responses indicated that the duration of the coaching session is average time of 30–60minutes. In rugby two coaches’ responses conformed to the literature; in soccer an hour is spent on the coaching session and in netball the coaches use an average time of 30–60min. The time spent for practice should be interspersed with rest intervals or practising another technique that uses different muscle groups and demands less effort (Martens, 2004).Furthermore, coaches use the time to correct errors, demonstrate the technique and facilitate the session.

(iv) Principle 4: Involvement of players during the session

It is important for the coaches and athletes to be involved during the training sessions and matches. Athletes understand the coaches’ training methodologies and instructions by discussing and sharing ideas with teammates and coaches.

Sporting Code: Rugby

In rugby the coaches responded concerning the active involvement of players during the session as follows:

Respondent A: “Yes.”

Respondent B: “Yes all players are actively involved.”

Respondent C: “**Yes** all players are all involved and I secure that by giving each player a role to perform the skills.”

Interpretation:

All three rugby respondents indicated that all players are actively involved in the session. In the sessions players are encouraged to be actively involved by having roles to perform. In this way players are able to demonstrate their leadership skills and increase their level of confidence. Activities such 3v3 game play offer learning opportunities with significantly higher scores for cognitive decision-making opportunities and motor skill execution (Tallir, Philippaerts, Valcke, Musch & Lenoir, 2012).

Sporting Code: Soccer

The responses in soccer regarding the active involvement of players during the session are:

Respondent D: “**Yes** all players are involved.”

Respondent E: “I **encourage** them all the time.”

Respondent F: “**Yes** they are all actively involved, I use 45min for the session, 8min for warm-up and water break.”

Interpretation:

Three soccer respondents reported that they ensure that all players are actively involved during the coaching session. Respondents E and F believed that they encouraged player and had a set time frames for the session respectively (SAFA, 2012).

Sporting Code: Netball

In netball the responses to the active involvement of players during the session are:

Respondent G: “**Yes** all players are actively involved.”

Respondent H: “**Yes** all players are actively involved and I make sure that I am able to observe what they do.”

Respondent I: “**Yes** I put them according to their roles.”

Interpretation:

All netball coaches allow players to be actively involved during the coaching session. Respondents H and I ensure that players are actively involved by observing them during the session and allocating roles so that they can also feel part of the team. The response conforms to Netball South Africa (2011) which suggests allowing athletes to establish competition through minor games, developing a number of positions and introducing positional roles. Researchers add that during this process athletes will also share their thoughts and perceptions about the session and there is a greater chance for the team to perform well.

Summary of player’s involvement in a session

All nine coaches reported that players are actively involved during and after the session. In rugby, one coach gives players roles to perform during the session, and in soccer all three coaches agreed that all players are actively involved. However, only two coaches emphasised that players are encouraged and have set frames to perform the skills. In netball all three coaches allow players to be involved during the session, observe the players’ movements and give them roles to perform.

- **Principle 5: Optimal use of facilities and equipment**

Many of the mediating factors for successful performance are the availability of resources such as equipment, adequate infrastructure and facilities available in schools. From a South African perspective, coaches, teachers, school governing bodies and parents have an important role to play in the school environment by supporting learners with resources.

Sporting Codes: Rugby

The coaches’ responses to the use of rugby facilities at school are:

Respondent A: “**I do have equipment** and we make use of the schools and community facility.”

Respondent B: “**We do not have enough facilities** at the school although there is equipment.”

Respondent C: “We **do not have enough facilities** as we are looking for sponsors.”

Interpretation:

In rugby respondents B and C do not have “enough facilities” although there is equipment suitable for rugby. However, respondent A said the school used a community sport facility suitable for rugby. Lack of facilities will result in a decrease in the number of athletes playing the sport and lack of interest in the sport; coaches may also not teach and apply the skills and strategies related to game situations as the field would not be fit for playing rugby (Foster *et al.*, 2001). However coaches have a role to ensure that they use the minimal resources that are available to them for fun, enjoyment and development of the sport.

Sporting Code: Soccer

In soccer the response to access and usage of facilities is as follows:

Respondent D: “We **lack resources** at the school and we inform the principal on challenges.”

Respondent E: “Well **honestly no**. I address all challenges to my superiors.”

Respondent F: “We **do not have enough facilities and equipment**. Currently we do not have enough soccer balls but I apply my creativity by pairing all players with one ball.”

Interpretation:

All three respondents demonstrated the lack of facilities available in the school. Furthermore the coaches reported that they have addressed the challenges to the principals; however respondent F reported that he designed the practice sessions to make efficient use of facilities and equipment, which confirms to Martens (2004).

Sporting Code: Netball

The netball response to facilities is as follows:

Respondent G: “Mostly **we have equipment** such as balls and other materials.”

Respondent H: “No we **do not have them** and we try to play with what we have and use the community sports grounds.”

Respondent I: “When coming to equipment **we do not have** because we do not have enough balls as we have only one ball though we have playing kit and poles.”

Interpretation:

Only respondent G has equipment such as “balls and other materials” and respondents H and I do not have equipment. According to GfK NOP Social Research (2006) the key external barrier to sport participation is the availability of good-quality facilities accessible by the public. From the ages of 11–16 the drop-out rates rise steeply due to lack of access to the infrastructure.

Summary of optimal use of facilities

It is clear from the findings that all nine respondents do not have access to adequate sporting facilities and equipment at the schools. However, there are attempts to improvise with the minimal resources that are available by applying creative methods such as using the available community sport facilities. In addition the schools do not have enough equipment such as rugby, soccer and netball balls. In accordance with Martens (2004) the coaches should design activities to make use of facilities and equipment.

- **Principle 6: Players’ experience of success**

The players and coaches need to set realistic goals by selecting the right progression for learning the technical skills (Martens, 2004). When introducing the skills, coaches can apply various techniques such as giving athletes an opportunity to practise the new technique so that they can try it on their own.

To ensure that all players experience success when practising a new skill the coaches do the following:

Sporting Code: Rugby

Respondent A: “When I see that they **enjoy the activities**, sessions and have high morale and team spirit. Even when they lose and win they are motivated to come to training and enjoy the sport.”

Respondent B: “I **motivate** all players all the time.”

Respondent C: “Yes before each game the players are **motivated** and feel and want to develop skills and performance during exercise and practice session.”

Interpretation:

All three rugby respondents identified “motivation and enjoyment” as the factors that contribute to and demonstrate athletes experience of success in practice, when the coach is able to see them performing the technique without any difficulty and when players are motivated to try and learn new skills. The responses are in agreement with Coalter (2004) that emphasis on the enjoyment and social benefits of physical activity are a good way to promote participation.

The coaches give players freedom to express themselves as they are not scared to make mistakes during practice and in the process of having fun there is increased learning and development of the technique.

Sporting Code: Soccer

The responses in soccer regarding ensuring that all players experience success when practising a new skill areas follows:

Respondent D: “We make them **practise** and give them **motivation**.”

Respondent E: “I advise them to **concentrate** and focus on their sport.”

Respondent F: “I encourage players to attend all sessions and also become **actively** involved in training.”

Interpretation:

All respondents identified critical success factors as “motivation, concentrate and active involvement” as determinants of athletes experiencing success in the sport. The responses are aligned with the views of Cox *et al.*, (2006) who suggest athletes should feel good about

themselves, socialise and have fun, enjoy health benefits, develop new skills, and meet new people.

Sporting Code: Netball

The netball respondents said the following on how players experience success when they practise a new skill:

Respondent G: “I **motivate** and encourage them to take netball serious.”

Respondent H: “We look at the players’ **involvement**.”

Respondent I: “Normally I give them **motivation** and allow them to enjoy the game.”

Interpretation:

All three respondents’ responses are in agreement with Coalter (2004) that in order to encourage current non-participants (especially young women), there is a need to place greater emphasis on task-orientation and intrinsic orientation and encourage the development of perceived competence and self-efficacy.

During this phase of learning a technique, players are able to experience success.

Summary of players’ experience of success

All nine respondents had similar responses: that they motivate and encourage athletes to experience success. Coaches offer athletes increased learning opportunities by creating an enabling environment. The literature study suggests that coaches should introduce techniques gradually when athletes demonstrate an ability to perform the required skills; however if athletes are not able to experience success coaches should allow breaks and have feedback sessions in order to avoid failure and frustration (Martens, 2004).

The analysis indicates that coaches apply social strategies in order to get the best out of the athletes by motivating and encouraging them to perform better and experience success.

- **Principle 7: Handling inability in players**

Handling inabilities in the players requires patience and emotional support from the coach. When coaches introduce difficult techniques athletes may face a number of challenges in understanding the new technique. It is therefore, important for the coaches to group athletes according to their level of skill.

Sporting Code: Rugby

Responses to handling inability of players in rugby are:

Respondent A: “We make them **play tag or mini-rugby** in order to develop their skills.”

Respondent B: “I give them the **opportunity to play the game** and motivate them.”

Respondent C: “The players who are unable to perform certain skills are **given extra lessons and coaching.**”

Interpretation:

Respondents A and C handle players’ inabilities by creating fun activities such as “mini-rugby and extra lessons”. Respondent B provides “opportunities” to play the game. The responses are in agreement with the Special Olympics Coaching Guide (2004), which suggests coaches make participation fun which is critical to the athlete’s motivation, create easier skills in order to increase player’s confidence and motivate and challenge the athlete through well-planned training sessions.

Sporting Code: Soccer

The feedback from the respondents regarding handling the inability of players is:

Respondent D: “As a coach we make them feel part of the team by giving them an **opportunity to play.**”

Respondent E: “I am **patient** with the players.”

Respondent F: “I am able to separate the players according to their skills level and pay attention to the one lacking behind by **offering extra lessons.**”

Interpretation:

Respondents D and F offer athletes an “opportunity and extra lessons”, which is in accordance with the existing literature that requires coaches to offer athletes emotional, tangible and informational support (Wolfenden & Holt, 2005). The responses demonstrate that coaches offer technical support by analysing the each player’s skills (respondent F); emotional support through patience (respondent E); and creating opportunities for athletes to play the sport (respondent D).

Sporting Code: Netball

In netball the inabilities of players are handled in the following way:

Respondent G: “I do a **small workshop** with all players so that they know the rules and how to play it.”

Respondent H: “We allow them **time and opportunity to understand.**”

Respondent I: “Those who do not have the skills I have days where I show them and practice with them and give them **extra time and knowledge until they understand.**”

Interpretation:

All three netball respondents emphasised that players are given technical support through “extra lessons and time for players” that are lagging behind in understanding and executing the skills (respondent H). Furthermore, working with athletes requires coaches to provide knowledge. According to interviewees G and I athletes receive informational support through workshops. Martindale *et al.* (2010) also allude to the importance of a coach providing an athlete with the right support at the right time. In addition athletes are offered more learning opportunities in acquiring technical skills.

Summary of handling players’ inabilities

The data from all nine respondents revealed that coaches handle athletes’ inabilities by offering athletes emotional support, technical skills and knowledge. For emotional support coaches are composed and remain patient when teaching technical skills, which is essential for players to have freedom to communicate with the coach and ask questions. Developing technical skills is done by extra lessons and by knowledge management and informational support, by providing

athletes with technical guidelines such as the application of rules and skills for developing their technical ability.

Consistent with the existing research (Bloom, 1985; Van Rossum, 2001; Baker & Horton, 2004), the results suggest the coach in developing players must simultaneously act as a mentor, providing advice, support, and guidance.

- **Providing feedback to players**

Practice alone is not enough to learn a technique correctly. For practice to be productive the coaches must provide athletes with feedback on how to change an incorrect performance and how the completed performance compares with the desired performance (Martens, 2004). The process of providing feedback and assisting athletes to correct errors begins with the coach observing and evaluating the players' performance.

Sporting Code: Rugby

The rugby respondents indicated that they give feedback to players in this manner:

Respondent A: “**After the session** we have a **team talk** with all the group players.”

Respondent B: “**Before the session** we give feedback session to all players.”

Respondent C: “I give feedback the moment **after performing** the skills and coaching sessions.”

Interpretation:

In rugby all three respondents provide feedback “after and during the session”. Furthermore the feedback sessions are provided in the form of team talk sessions. The respondents' views also corroborate the findings of Amorose and Horn (2000), who indicate that a coaching style consisting of consistent positive, supportive and informational feedback predicted interest, enjoyment, and perceived competence in the athletes.

Sporting Code: Soccer

The response in soccer to giving feedback to the players is as follows:

Respondent D: “**I have one and one session and group sessions** with the team.”

Respondent E: “After we have done training we have a **team talk.**”

Respondent F: “I give feedback **after the session.**”

Interpretation:

The three soccer respondents provide feedback “after the sessions” using one-on-one sessions and group sessions, which concurs with Martens (2004) that feedback should be provided after the sessions by means of team talk sessions which allow athletes freedom to express their views.

Sporting Code: Netball

In netball the coaches responded with the following regarding when and how they give feedback to the players:

Respondent G: “**During training session** I give feedback to the players.”

Respondent H: “We do that every **Thursday.**”

Respondent I: “**I offer advices** and motivate the players.”

Interpretation:

Netball respondents provide “weekly feedback sessions and offer after training”. However the literature (Sellers, 2001) suggests that the concern about providing immediate feedback to an athlete after each trial is that the learners seem to become too dependent on the information provided by the augmented feedback and to neglect the processing of intrinsic (from within – athlete focuses on learning the action themselves) feedback, or that too-frequent feedback “reduces the participant’s need to perform memory retrieval operations”.

The issue then becomes one of retention; can the athletes retain what they have learned if they rely on extrinsic feedback and not their own resources?

Summary of feedback session

Data analysis from all nine coaches revealed that coaches provide feedback using different approaches. From the interpretation the approaches used to correct errors include conducting team talks and providing feedback sessions before, during and after the sessions. Martindale *et al.* (2007) also emphasise the need for both formal and informal feedback systems of communication to maximise their effectiveness. It is therefore recommended that educational sessions are utilised within TID programmes in rugby, netball and soccer to inform coaches, assistant coaches and other significant contributors to the technical and talent development process of the importance of an explicit communication process, with the developing athletes as the main focus.

(e) Questions related to behavioural principles that do not influence the teaching of technical skills

- **Ensuring discipline**

In a team setting athletes' discipline should be monitored at all times, from how they treat their teammates, practice fair play and show respect to the match officials. It is also the responsibility of the assistant coaches to co-ordinate and ensure discipline. Furthermore, the coaches' behaviour on and off the field is able to influence the athletes' performance and attitude to the game.

Sporting Code: Rugby

Coaches in rugby responded that they ensure discipline by:

Respondent A: "I punish them by **running laps** and make them follow the rules."

Respondent B: "The **captain elected** is able to assist me in securing discipline in the team."

Respondent C: "By explaining to players that success goes with discipline and if they are not disciplined the **chances of playing** in the team will be slim."

Interpretation:

The three rugby respondents use different methods to ensure discipline, such as “running and exclusion from the team”. In addition respondent B works hand in hand with the captain of the team to ensure discipline, and respondent C regularly communicates with the players. Coaches should demand discipline from their players, in direct proportion to the amount of love they have for their game and the players they coach (Bruce, 2003).

Sporting Code: Soccer

The responses to ensuring discipline in soccer are:

Respondent A: “I punish my players by giving them **12 laps** around the field.”

Respondent B: “I do have punishment. Three **laps** and if they continue misbehaving I am able to increase the laps.”

Respondent C: “I do not shout my players and only correct bad behaviour by **communicating with the players.**”

Interpretation:

Respondents A and B discipline the players by making players run “laps” whereas respondent C “communicates with the players”. Communication is critical in a team environment; coaches are able to correct athlete’s mistakes by communicating and rooting out bad behaviour with patience and enthusiasm (Martens, 2004). In soccer other examples of corporal punishment that coaches frequently use include running laps and performing push-ups for a transgression (e.g. arriving late to practice, poor physical effort and lack of concentration). Running and push-ups are regularly seen as unpleasant and serve to exhaust the athlete’s body. This corporal punishment serves not to abuse or injure, but to remind players about the importance of their participation in group and individual goals and to deter them from engaging in the harmful behaviour again. It is not about revenge (Ciocchetti, 2003).

Sporting Code: Netball

In netball the coaches ensure discipline by:

Respondent A: “Each player has a **netball rulebook.**”

Respondent B: “I **shout** all the time.”

Respondent C: “I advise my players to **respect each other** and practice team work.”

Interpretation:

Respondent A and C apply discipline by “using and applying a rule book and respect towards each other”. This is in agreement with Lichtenberger (2006) who suggests coaches apply team policies and rules that are not negotiable. Set the critical few deal-breakers as absolute policy – then stay consistent, e.g.: student athletes and alcohol; etc. versus missing a practice for an obligation outside the sport.

Respondent B “shouts at the players” as a form of discipline, but the response contradicts Paolucci & Violato (2004) who suggest coaches should possess the ability, as do parents and teachers, to both punish and discipline their players. However, the punishment must not be harmful or have long-lasting emotional, cognitive and behavioural effects.

Summary of ensuring discipline

Data analysis identified that all nine coaches use various methods and approaches to securing discipline in a team setting and talent development pathway. For a long-term athlete development agenda to be successful, coaches reported that they discipline athletes by endurance exercises, correct bad behaviour by communicating with the players and apply technical rules to create awareness and increase learning.

These results are consistent with the findings of Carpenter and Coleman (1998) and Abbott *et al.*, (2002), who say that when athletes are disciplined their behaviours are associated with commitment and motivation, as those behaviours are witnessed when an athlete tries harder, concentrates more, persists longer, pays more attention, chooses to practise longer and to continue to participate rather than dropping out of the sport.

From the data it can therefore, be assumed that disciplined players are more likely to have better relations with the coach, correct errors and monitor performance and goals as opposed to performance goals.

- **Motivation of players**

The significant body of research on motivation in sport refers to different types of motivation, which suggests intrinsic and extrinsic motivation. Extrinsic motivation occurs when the person feels pressured and obligated to engage in the activity by either external (winning medals) or internal (athletes feeling satisfied with their performance) pressure (Mageau & Vallerand, 2003).

Sporting Code: Rugby

The response on how the rugby coaches motivate players is:

Respondent A: “I **encourage** and motivate all players.”

Respondent B: “I **regularly motivate** all the players in the team.”

Respondent C: “I tell them about the **opportunities** in rugby as a career, fitness, fun, enjoyment and trips in tag rugby.”

Interpretation:

Respondents A and B identified “encouragement” and C the “opportunities” that rugby offers. The responses are in agreement with the research (Derella, 2012); coaches should make positive feedback part of practice and make sure the entire team knows when the coach has recognised an individual. Giving good constructive criticism will help the players’ growth as well as help the rest of the team understand exactly what the coach is trying to get them to do.

Sporting Code: Soccer

In soccer the responses to the motivation of players are the following:

Respondent D: “I give **everyone a chance to play**.”

Respondent E: “I **encourage all players** to motivate themselves. They are also motivated by my involvement in the session.”

Respondent F: “I give them the **results table** to see their position in the league so that they can be motivated.”

Interpretation:

All three respondents “motivate” players and apply various approaches to motivate players such as communication, involvement in the sessions and results tables. According to respondent D, when athletes are given the opportunity to play and freedom of expression they are able to enjoy and stay motivated. The responses are in agreement with Vallerand and Rousseau, (2001), who suggest both intrinsic motivation and self-determined extrinsic motivation are necessary ingredients for an athlete’s optimal functioning.

Sporting Code: Netball

Netball coaches responded that they motivate the players in the following manner:

Respondent G: “Each player has a **netball rulebook**.”

Respondent H: “I **shout** all the time.”

Respondent I: “I call upon **experienced netball players** to share their thoughts with my players on how to play the game.”

Interpretation:

Respondent I identified “role models” that play a crucial role in motivating players. The researcher suggested that when players learn and interact with their respective role models they become motivated and learn easily as they relate to the skills taught by the role models. Furthermore, during this process coaches learn from the role models.

However, respondents G and H identified “shouting at the players and giving them a rule book”; these responses contradict Derella’s (2012) findings that a coach needs to make sure that the stars, role players and bench players all stay motivated.

Summary of players’ motivation

Data analysis from the entire sample reported shows motivation as an important factor for athlete development, which is in accordance with Vallerand and Rousseau, (2001), who suggest both intrinsic motivation and self-determined extrinsic motivation are necessary ingredients for an

athlete's optimal functioning. Deci and Ryan (1985) propose that self-determined individuals fully endorse the values underlying their sport and volitionally engage in the activity.

From the data it can therefore, be assumed that self-determined, intrinsically motivated and autonomous players are more likely to negotiate the talent development process successfully (Deci & Ryan, 1985; Mageau & Vallerand, 2003).

- **Importance of communication with players**

In a team setting communicating with players requires the coach to use positive language and feedback in order to emphasise the correction of errors. Coaches may communicate with athletes in the form of a group or a one-on-one situation. Furthermore, effective communication is important for building an effective coach–athlete relationship, as the quality of this relationship is a crucial determinant of athlete's satisfaction, motivation and improved performance (Mageau & Vallerand, 2003).

The coaches' responses on the importance of communication with their players are as follows:

Sporting Code: Rugby

Respondent A: “I **teach** and encourage them to **communicate to another on and off the field.**”

Respondent B: “It is about **respect** with all players.”

Respondent C: “Communication is **very important.**”

Interpretation:

Respondents from rugby regard communication as “teaching players to communicate, respect the message of other players and regard communication as important”. Communication is an integral part of building the team and creating a positive relationship between the coach and athletes. According to respondent A, players are encouraged by a positive communication channel on and off the field, which is in agreement with Jowett (2000) who stresses the importance of building an effective coach–athlete relationship. Coaches may be knowledgeable and highly organised, but without open communication skills, these attributes may never be reflected in the performance of their athletes (Steuerwald, 1995).

Sporting Code: Soccer

In soccer the coaches' response to the communication with players is the following:

Respondent D: “**I teach** and encourage them to communicate to another on and off the field.”

Respondent E: “It is **about respect** with all players.”

Respondent F: “I am **always communicating** with all my players all the time.”

Interpretation:

Similarly to rugby coaches' responses, all three rugby coaches are able to communicate effectively with all players through respect, regular communication and encouraging positive communication amongst the players on and off the field. Coaches' communication style has a direct influence on how players perform and behave (Horn, 2002).

Sporting Code: Netball

In netball the coaches responded that they regard communication with their players as:

Respondent G: “I communicate with them well and give them **respect**.”

Respondent H: “**Communication is important** as you do not communicate with them they become rowdy and I also try play those positions they like.”

Respondent I: “I **communicate** with the athletes well and showing respect to them.”

Interpretation:

The findings from the three netball coaches indicate that their communication with players is effectively conducted in a “respectful manner”. Positive communication will reinforce corrective behaviour that the players want to see, whereas specific negative feedback individual discussions with the players should be kept private (Martens, 2004). Smith, Fry, Ethington and Li (2005) found that when coaches provide positive feedback to their players, the players are more willing to work harder and sacrifice for the team, while negative feedback was related to less teamwork

amongst the players on the team. Positive and supportive feedback from coaches also leads to greater player self-efficacy and intrinsic motivation, and teaches cohesion

Summary of attitudes to communication

Good communication is an essential component of good coaching. All nine coaches emphasised the importance of communicating with their players. Coaches regard the importance of communication with athletes as an overall, effective communication skill which has an impact on the coach–athlete relationship by creating an atmosphere in which positive changes can be attained. This can pay great dividends for coaches and athletes alike (Steuerwald, 2002). These findings support the claim by Haselwood *et al.* (2005) that communications skills are the most important skills for coaches to possess.

- **Differentiation of players’ abilities**

Differentiating players’ ability differs from sport to sport, using technical skills to gauge the players’ level of understanding of the skills. The process of identifying the athlete’s abilities requires the coach to begin by observing the errors and performance of players.

Sporting Code: Rugby

The coaches in rugby differentiate the abilities of the players in the following manner:

Respondent A: “I **do not** do that.”

Respondent B: “I **group all players according to their abilities.**”

Respondent C: “I look at how they play, how they quickly catch the new skill and how they **quickly adapt** to the given skill and how quickly they **apply their newly developed** skills to game-like situation.”

Interpretation:

Only respondents B and C differentiate players’ ability by “grouping them according to their skills and analysing according to how they play and learn the skill quicker”. Personality tests in

the prediction of athletic performance are least partially responsible for the limited adoption of these instruments in the talent identification process (Deaner & Silva, 2002).

Sporting Code: Soccer

In soccer the coaches' response to the differentiation of players is the following:

Respondent D: "According to the skills of **passing, heading and running.**"

Respondent E: "I give them **tasks** and see whether they improve and all players are different."

Respondent F: "I **pair** athletes of different abilities so that they are able to learn from another."

Interpretation:

In soccer the athletes' abilities are differentiated through the use of soccer-specific skills such as "passing, heading, running, difficult tasks to check your understanding and pairing athletes according to their different abilities". In assessing athletes' abilities, coaches routinely employ a battery of tests, all of which are intended to inform their eventual selection decision (Gee *et al.*, 2010).

Categorising players' soccer abilities also helps coaches understand players and anticipate parent expectations. It should be noted that a player's ability might change during a season because some players improve, while others miss practice or lose interest and fall behind. Coaches should assess players' soccer abilities on an ongoing basis to help make prudent choices when coaching and to provide the data needed to address player and parental expectations (Cugliari, 2000)

Sporting Code: Netball

The following are the responses to the differentiation of players' abilities in netball:

Respondent G: "I treat all **players the same.**"

Respondent H: "We make them **play in different position** and allow them try and play those position they like and we also allow them to choose their suitable positions."

Respondent I: “We can see through their **strength and flexibility** to see which positions they can be suitable for.”

Interpretation:

Respondents H and I identified motor and tactical strategies to differentiate players’ abilities: “possession of the ball, strength and flexibility”. The responses are in agreement with Sabino, (2009) who says that current scouting and talent identification procedures are becoming increasingly multi-dimensional, comprising a variety of anthropometric (e.g. height, weight, VO²max, lactic acid threshold), psychological and interpersonal assessments. When differentiating athletes according to their skills coaches are able to assist athletes by correcting errors and to identify the correct causes of inadequate performance (Martens, 2004). Respondent G does not differentiate players’ abilities in a team.

Summary of differentiating players’ abilities

Data analysis from all nine coaches’ responses indicated the differentiation of athletes’ abilities as a theme in influencing the development of talent. The analysis indicates that coaches use different approaches in differentiating athletes’ abilities. The responses demonstrate that coaches use technical skills, changing of positions, application of skills and motor fitness-related skills.

- **Demonstration of an activity**

Demonstration of technical skills is important for evaluating the players’ understanding and application of skills. Coaches may select athletes that are knowledgeable and can master the skills taught.

In regard to allowing athletes to demonstrate an activity, the coaches’ responses were the following:

Sporting Code: Rugby

Respondent A: “**Yes.**”

Respondent B: “**Yes I do.**”

Respondent C: “**Yes.**”

Interpretation:

The three rugby coaches allow athletes to demonstrate an activity, but the athletes must be trained and familiar with executing the activity. According to Allyn and Bacon (1996) if a coach is physically unable to demonstrate something personally, think about using a learner to perform the technique/movement. Be careful to ensure that they are comfortable in doing so, and use the opportunity to emphasise the key points to the other learners.

Create the opportunity for learners to ask questions. Discussion often opens up further opportunities (particularly for more diffident learners) to clarify their understanding. It also helps groups interact and form bonds between learners. “I’m glad you asked that, I was just going to do so myself”, is a fairly common response.

Sporting Code: Soccer

The soccer coaches’ response to the demonstration of an activity by players is:

Respondent D: “**No** they demonstrate in groups not individually.”

Respondent E: “I **always** give them an **opportunity if they want to present.**”

Respondent F: “**Some of the players I do** ask if they can demonstrate and if not I ask the captain to demonstrate for them.”

Interpretation:

Only respondents E and F allow athletes to demonstrate activities. The responses from soccer coaches differ; however all players are involved in demonstrating an activity. It has been suggested that a demonstration should always be coupled with its outcome effects so that learners are encouraged to problem-solve and determine how their actions and effects are related (Hodges & Franks, 2004). This process engages learners in the problem-solving process, encouraging them to take greater responsibility for their learning and find novel solutions to the problem at hand.

However respondent D differs by demonstrating the activity in groups, which is important for team cohesion; during this phase athletes are able to assist one another. In supporting the response, Williams & Hodges, (2005) suggest it may also be helpful to allow the learner to observe demonstrations by a variety of people so that they can appreciate subtle variations in technique and how these may alter ball flight characteristics.

Sporting Code: Netball

In netball the coaches responded in the following manner regarding the players' demonstration of an activity:

Respondent G: "They **must know the basic** so that other athletes can learn from them."

Respondent H: "**Yes.**"

Respondent I: "**Yes** sometimes I would give them a chance to do it so that they can learn from other players."

Interpretation:

All three netball respondents allow players to demonstrate the activities successfully. Allowing athletes to demonstrate technical skills also enables their teammates to grasp the skill without any intimidation and pressure.

Furthermore, demonstration can encourage the learner to partake in some degree of error detection and correction. According to respondent H, it may also be helpful to allow the learner to observe demonstrations by a variety of people so that they can appreciate subtle variations in technique and how these may alter ball flight characteristics.

A final suggestion is that it may be beneficial to provide the learner with an opportunity to practise the skill before observing a demonstration (Weeks & Anderson, 2000). Coaches should consider providing simple verbal instructions as to the intended outcome of the skill (e.g. "Can you pass the ball into the 'near post' region?") rather than on how this outcome should be achieved (Hodges & Franks, 2002).

Summary of demonstration

All the coaches in this study emphasised that appropriate demonstration of a practice or activities was extremely important for sustaining successful development. The responses concur with Ward *et al.*, (2004), who state that demonstration of an activity is essential for attaining exceptional levels of performance in sport, and that developing athletes must invest considerable practice hours to reach expert level.

This finding has clear implications for coaches of developing players, as coaches normally construct a high percentage of an athlete's practice time (Baker *et al.*, 2003). Players also need guidance in identifying appropriate training activities (Ericsson, 2007).

- **Enabling players to perform successfully**

Coaches may use different strategies to enable players to perform successfully.

Sporting Codes: Rugby

The rugby coaches do the following in order to enable players to perform an activity successfully:

Respondent A: “When they do not understand the skills I make them practise at home by **offering tips.**”

Respondent B: “I offer sessions and activities that **challenge the players’ abilities.**”

Respondent C: “**I practise with them** and give them enough practice.”

Interpretation:

The three rugby respondents assist athletes to perform successfully by “offering extra lessons and practising with them”. These responses are aligned with Vealey (2005) and Weinberg and Gould (2007), who state that coaches, and others in leadership positions, have been urged to move beyond mere managerial or transactional leadership of managing their day-to-day responsibilities effectively (e.g. planning practice, organising a schedule, communicating with players) to become more transformative leaders who can inspire individuals to achieve a vision

and transform themselves in significant ways. Coaches have a responsibility to motivate athletes as role models and inspire them to be better athletes.

Sporting Code: Soccer

In soccer the coaches responded that in order to enable players to perform an activity successfully they do the following:

Respondent D: “I will tell them and **encourage and motivate the players.**”

Respondent E: “I **encourage them at training to perform** every activity given to them successfully and do their best.”

Respondent F: “I inform the players of the sessions planning and **encourage them to enjoy the session.**”

Interpretation:

In soccer, the three respondents identified “encouragement and motivation” as key success factors for getting the best out of the athletes. Locke and Latham (2002) explain that an individual’s level of success in athletic competition is primarily dependent upon skill and motivation. Therefore, a primary responsibility of coaches is to motivate their athletes to perform at optimal levels; motivation is the direction and intensity of an individual’s effort.

All soccer coaches emphasised the importance of encouraging the players to perform the activity successfully. Encouragement is a successful ingredient of a systematic process of goal-setting and reviewing athlete’s progress that is essential to promote change and facilitate development.

Sporting Code: Netball

In netball the respondents responded that in order to enable players to perform successfully:

Respondent G: “They must **know the basic** so that other athletes can learn from them.”

Respondent H: “I **allow** them to play their suitable position.”

Respondent I: “I give them the word of **encouragement.**”

Interpretation:

In netball the three respondents identified “encouragement” as a motivation for athletes to become successful in netball. According to Czech *et al.*(2004), this is a significant psychological factor contributing to athletes’ success during the preparation and execution phases of competitions, especially in cases where athletes already have optimal physiological, technical and morphological qualities. The identification and development of sport psychological skills (SPS) have subsequently become of great interest to players, coaches, administrators and researchers, due to the relationship between these skills and the resulting performance, as well as the development of the athlete (Golby & Sheard, 2004).

Summary of ability to enable players to perform successfully

All nine respondents from the studies identified encouragement and motivation as the most prominent factors that enable athletes to successfully negotiate the talent development pathway and achieve in their respective codes. In addition, access to appropriate role models is a key factor in the development of talent in sport.

The finding concurs with the views of Sosniak (1990), who suggests that slightly older performers or coaches in the field can be used for setting goals and demonstrating the skills to be mastered. Younger performers can identify with them, simply because they are aware that they are not alone in the amount of work they have to dedicate to the pursuit of excellence (Burland & Davidson, 2002).

- **Correction of errors**

Correction of errors in a team sports requires lot of effort, attention and patience from the coaches. When dealing with athletes the coach maybe faced with various challenges in addressing them in a group, other methods to be used are communicating with athletes in a one-on-one situation, clear messages and corrective feedback.

Sporting Code: Rugby

In rugby the coaches correct the errors of the players by:

Respondent A: “I **correct them when they make mistakes and demonstrate** in steps so that they can grasp the skills.”

Respondent B: “I correct the player’s errors by **regularly communicating** with them.”

Respondent C: “By **demonstrating** the right way of doing the right skills.”

Interpretation:

Respondents A and C identified “demonstration and respondent communication” as a mechanism to resolve errors. Taylor and Wilson (2005) identify imagery as a corrective measure in sport that can help athletes identify and correct errors, maintain focus, rebuild confidence and allow for return to proper execution.

Sporting Code: Soccer

Soccer coaches correct the errors in the following manner:

Respondent D: “After the game we have a **team talk** by correcting the errors.”

Respondent E: “I communicate to player’s **one-one situation.**”

Respondent F: “When I correct the errors I **stop the sessions.**”

Interpretation:

In soccer respondents D, E and F correct errors through “team talks, one-on-one situation and stopping the session” to detect the error. The responses are in agreement with Austin (2005) who recommends a combination of positive self-talk (for motivation and encouragement) and technical or instructional help in correcting athletes’ errors. Other important things to consider are to ensure that the child receives reinforcement when they do things well. A common mistake is to reward only outcomes (even if the process of performing the relevant skill was incorrect). A more useful practice is to reward correct technique – even if it does not achieve the exact desired outcome (Smoll & Smith, 2002).

Sporting Code: Netball

In netball the responses coaches correct errors as follows:

Respondent G: “During the training session I **communicate** with them to correct themselves especially in steps.”

Respondent H: “If they make mistakes I correct them by **stopping the play** and correct the errors.”

Respondent I: “Normally I **stop the game** when they make mistakes.”

Interpretation:

In netball in all three respondents correct errors by “communicating and stopping the games when correcting errors”. Science of Sport (2003) suggests coaches observe the complete skill, analyse each phase and its key elements, use knowledge of sport mechanics in their analysis, select errors to be corrected and decide on appropriate methods for the correction of errors. In addition the ITF (2007) suggests coaches should involve player in the solution/correction technique, ask why the player cannot perform the instruction/correction (be patient) and give feedback on performance and player not the outcome and the ball.

Summary of correction of errors

In the three team sports, coaches’ responses indicate that similar approaches to the correction of errors are applied. In rugby coaches use demonstration and communicating with the players. In soccer coaches communicate and stop the session during feedback sessions, whereas in netball communication and stopping the sessions when correcting errors is applied.

In correcting technical errors coaches may use videotapes to observe athletes carefully, which can be of great help. Video feedback on the learner’s own movement can help to overcome some of the difficulties in error detection and subsequently lead to correction (Hodges & Franks, 2004).

(f) Closing the session

- **Ending the practice session**

During the closing the session there are activities that take place such as having a team talk with the players, cool-down, announcing upcoming session activities and providing feedback to

players. During this phase athletes have an opportunity to ask questions on how they can improve on their performance.

Sporting Code: Rugby

In rugby the respondents said that they end the practice session by:

Respondent A: “They have a **cool-down and stretch afterwards.**”

Respondent B: “We **end the session with a cool-down session.**”

Respondent C: “We end the **meeting to reflect** on how it has gone and what to expect in the new session.”

Interpretation:

In rugby respondents A and B close the session with a cool-down activity and session review according to respondent C. The coaches’ responses conform to the Australian Sport Commission (2010), which suggests that the elements of a training session that all coaches should include are a session introduction, a warm-up, games, skill and fitness activities, a cool-down, a session review, and goal setting for individuals and team or squad.

Sporting Code: Soccer

When ending the session in soccer these were the responses:

Respondent D: “I end my session with **heading and passing.**”

Respondent E: “We usually start with the light training and end up with the heavy training and at the end we do a **cool-down.**”

Respondent F: “I end the session with **ball work and cool-down** as the last phase of training.”

Interpretation:

The findings from soccer highlighted that all three respondents perceived a range of factors when ending the session. Respondent D ends the session with “technical skills such as hearing, passing” and respondents E and F identified “cool-down”. All coaches’ responses and findings are in agreement with research by Kidman and Hanrahan (2004) that it is important for coaches to plan and consistently provide training sessions that provide this. It is also important that athletes are engaged in appropriate learning for that sport for a high proportion of time. The training session after a match, and especially after a tournament, festival or jamboree, must be a recovery session. Recovery session is done with light physical exercise to help the players recuperate from the physical stresses of match play (Snow & Thomas, 2005).

Sporting Code: Netball

The responses from netball coaches on ending the session are:

Respondent G: “I end the session with a **cool-down** and prayer.”

Respondent H: “We close the session with a **cool-down**.”

Respondent I: “I end the session with a **practice match**.”

Interpretation:

In netball the responses are similar to other codes. Respondents G and H reported the use of a “cool-down when ending the session”. Respondent I concludes with a game activity. Carr (2005) suggests that after intensive physical activity players should perform a cool-down and shower after each training session and a few gentle stretches are all that is needed.

Summary of ending the practice sessions

Data analyses from the nine coaches are in agreement with the Australian Sport Commission, (2010). Six respondents perceived a cool-down session to form a key component of an athlete’s overall development when ending the practice session, whereas other three coaches responded that they ended the session with a slow game activity and practice of technical skills.

The use of a cool-down is important for recovery and recuperation when ending the session. In addition, ending with the practice of technical skills aids athletes' overall performance (Martens, 2004).

- **Summary of activities**

At the end of each session the coaches should conclude by offering feedback, having team talks and summarising the game's activities. Athletes' inputs are also encouraged during the team talks. Reviewing and evaluating the activities of the game allows the coach to correct errors and make any announcements.

The summary of activities when closing the session in rugby is done in the following way:

Sporting Code: Rugby

Respondent A: “**I** summarise and sometimes let the **players summarise** the activities.”

Respondent B: “**As a coach** yes I do.”

Respondent C: “**I do summarise** to all players and reflect on them.”

Interpretation:

All three respondents reported that they summarise the activities. In this phase experienced coaches have the authority to guide athletes and teach correct methods (Martens, 2004). During the summary of activities athletes may also be given an opportunity to ask questions they might have, which is important for increasing the athletes' level of understanding of the technical skills.

Sporting Code: Soccer

In soccer the response from the coach was

Respondent D: “**Players summarise** the activities.”

Respondent E: “**As a coach I do.**”

Respondent F: “**As a coach** I summarise the activities.”

Interpretation:

All three soccer coaches summarise the activities of the session, which allows the coach to have authority and control over the planning of the session. Coaches should use positive and constructive feedback when summarising the activities of the session. O'Connor and Cotton (2009) recommend that coaches develop guidelines in assessing their own performance, players' performance and developing effective self-reflective skills.

Sporting Code: Netball

The netball coaches' response to the summary of the activities is the following:

Respondent G: "As a **coach** I do summarise and sometimes let few players summarise the activities."

Respondent H: "The **players** are the one that summarise the activities."

Respondent I: "I do summarise as a coach."

Interpretation:

In netball, two coaches, G and I, summarise the activities whilst respondent H lets the athletes summarise activities, which contradicts Martens (2004) who suggests that coaches teach and demonstrate authority over the session.

Summary of activities

The data analysis from all nine responses demonstrated that only eight coaches summarise the activities. The findings support Martens (2004) that experienced, trained and knowledgeable coaches should summarise the activities of the session. Furthermore, captains and assistant coaches may offer inputs to the summary of the activities of the session.

The summary from all three sporting codes indicates that coaches have authority when planning the session and after the session when dealing with communicating and providing feedback to all players.

- **Performing of cool-down activities**

Cool-down activities should be incorporated into training and competition routines. The cool-down helps the body clear lactic acid that builds up during any activity. Less lactic acid means less soreness and stiffness the next day (Australian Sport Commission, 2007).

Sporting Code: Rugby

The responses on whether the coaches allow players to cool down were the following:

Respondent A: “**Yes** they do perform cool-down activities.”

Respondent B: “Yes.”

Respondent C: “Previously not but I am looking towards **performing cool-down session.**”

Interpretation:

Data analysis identified that respondents A and B perform cool-down activities in their sessions, which is consistent with the Australian Sport Commission (2007) that suggests athletes should perform cool-down activities after vigorous exercise for recovery; respondent C does not conduct cool-down activities.

Sporting Code: Soccer

The responses to performing cool-down activities in soccer were the following:

Respondent D: “Yes.”

Respondent E: “Yes they do.”

Respondent F: “Yes.”

Interpretation:

All soccer coaches reported that they do conduct cool-down session with the players. This supports research proposed by Carr (2005), who suggests that cool-down activities are necessary

as the body needs to slow down and to aid recovery. McGinty (2013) suggests that whatever the sport or activity, the muscles need to warm-up and cool-down to achieve optimal performance.

Sporting Code: Netball

In netball the responses to performing cool-down activities are:

Respondent G: “**Yes** they do.”

Respondent H: “**Yes.**”

Respondent I: “**Yes.**”

Interpretation:

Consistent with the findings from research on cool-down activities and talent identification, all coaches in this study found the cool-down as a prerequisite exercise performed by netball players. As netball is an intermittent sporting code it is necessary for players to have a cool-down after the session and to facilitate a gradual transition from an exercise level to a resting state (Powers & Howley, 2007). In addition, the cool-down may minimise muscle soreness and stiffness after training or competition (Brooks, Fahey, White & Baldwin, 2000).

Summary of cool-down activities

In order for coaches to design practice for the optimal benefits of their athletes, it is necessary to know what essential conditions need to be present during the developing years to improve the chances that acquisition of exceptional skill will occur (Abernethy, Farrow & Berry, 2003). All nine coaches’ responses indicated the importance of cool-down as a crucial element of recovery in rugby, soccer and netball. All three sporting codes require athletes to perform high-intensity and low-intensity activities such as sprinting and jogging; it is therefore important for athletes to cool down.

- **Feedback from the players**

Asking players for feedback is an important tool in evaluating and helping athletes’ correct errors (Martens, 2004). Providing feedback begins with the athletes observing and evaluating their performance. It takes courage and confidence from athletes to ask coaches for advice and feedback on their performance.

In rugby, the coaches’ responses as to whether they give feedback were the following:

Sporting Code: Rugby

Respondent A: “Yes.”

Respondent B: “Yes.”

Respondent C: “Yes.”

Interpretation:

In rugby all three coaches confirmed that their responsibility as coaches is to provide feedback to all athletes. According to Martens (2004), when athletes get useful feedback from coaches they will try to correct their errors and they will learn faster during the process. As athletes’ feedback improves they need to rely more on their own feedback than the coaches’ feedback.

Sporting Code: Soccer

In soccer these were the responses to the question if coaches ask feedback from the players:

Respondent D: “Yes.”

Respondent E: “Yes I do.”

Respondent F: “Yes.”

Interpretation:

In soccer all three respondents reported feedback as an essential tool for improving athletes’ level of performance. The responses are aligned with Ruhan (2011), who says that players cannot

improve if they are not aware of what they therefore need to work on. In providing feedback the coach should encourage the player to self-analyse by asking appropriate open questions, providing specific and simple advice, limiting the advice to one or two points, checking they understand what they will do next and making the whole process a positive experience.

Sporting Code: Netball

The response to the question on whether coaches allow feedback from the players:

Respondent G: “**Yes** I ask them as to how was the session and if they enjoyed and their suggestions.”

Respondent H: “**Yes.**”

Respondent I: “**I do not** normally do it will start doing it.”

Interpretation:

The findings in netball support the notion that coaches should provide useful feedback to all athletes as it is necessary for improving athletes’ levels of performance. According to Rainer, Cropley and Adams (2010), self-reflection is highly important for coaches but so is gaining feedback from players and other coaches. Asking questions about one’s performance as a coach should be viewed as good practice.

Summary of feedback

Data analysis identified that all nine coaches perceived feedback as a significant theme in influencing the development of talent in rugby, soccer and netball. According to Ghaye (2001) positive feedback can be given by other coaches and mentors and can be further enhanced by video recordings and session evaluation of the players. This is consistent with previous research across the literature, which has established useful feedback as crucial to, or even causative of, performance and the promotion of talent (Martens, 2004).

- **Announcements**

Planning the sessions is an important element of effective coaching. Communication in a team-setting environment allows the coach to effectively make announcements about the session plan or any weekly plans.

The responses to whether the coaches make announcements at the end of the session are:

Sporting Code: Rugby

Respondent A: “Yes.”

Respondent B: “Yes I do.”

Respondent C: “Yes.”

Interpretation:

The findings from all three rugby respondents imply the communication pathway that exists in the team for creating relationships between the coach and athletes. All coaches reported the importance of making announcements prior to, during and after the sessions, which serves as an effective tool for sending clear messages to all athletes (Australian Sports Commission, 2007).

Sporting code: Soccer

In soccer the responses to making announcements are as follows:

Respondent D: “Yes.”

Respondent E: “Yes after training I do.”

Respondent F: “Yes I do inform them about the upcoming matches and training.”

Interpretation:

Similarly to rugby, the findings from all three respondents emphasised the importance of making announcements during and after training. Respondents D, E and F reported that they make announcements after the training session on upcoming matches and training days, which allows athletes to prepare themselves. Coaches can announce important training and competition schedules to the interested groups; furthermore, announcements can also assist coaches to achieve their goals (Special Olympics Football Guide, 2004).

Sporting Code: Netball

The netball coaches’ responses to whether they make any announcements when closing the session are:

Respondent G: “Yes.”

Respondent H: “Yes after training I do.”

Respondent I: “Yes I do inform them about the upcoming matches and training.”

Interpretation:

All three netball respondents reported announcing activities. The responses from respondents G, H and I emphasised the announcements of activities should be done after the training and on the plans for the week respectively. According to Kidman & Hanrahan (2004), prior to making any announcement coaches should blow the whistle so that the athletes can practise coming in quickly. Praise the athletes who do come in quickly to help communicate your expectations.

Summary of announcements

Data analysis identified announcements as an essential tool for communicating with athletes regarding the plans for the week and any team-related issues. The Australian Sport Commission (2007) suggests that after the session when coaches make announcements they should remind participants of the time and venue of the next practice session or competition and distribute any flyers, information or other items coaches may have for them. The findings from rugby, soccer and netball indicated that coaches make announcements after the session.

(g) Coaches’ perceptions of enjoyable activities and the difficult facets of teaching new skills

- **Enjoyable activities**

When teaching technical skills, coaches maybe faced with numerous challenges. The perceptions from coaches may vary according to the nature of the sport, technicality and type of player the coach has.

Sporting Code: Rugby

In rugby the responses regarding the most enjoyable activities are:

Respondent A: “When they **understand** the skills that I introduce to them.”

Respondent B: “When I **demonstrate.**”

Respondent C: “Seeing the learners **adapting and grasping** the skill that has been taught.”

Interpretation:

All three rugby respondents identified “understanding, demonstration and adapting” as factors that contribute to enjoying teaching technical skills. The responses are in agreement with Pain (2001), who suggests rugby coaches help the athletes to master new skills, enjoy competing with others, and feel good about themselves. Successful coaches not only are well versed in the techniques and skills of their sports, they know how to teach these skills to young people.

Sporting code: Soccer

In soccer the coaches responded as follows regarding the most enjoyable activities:

Respondent A: “I want to see the learners **grasping and applying** the skills taught.”

Respondent B: “Any activity that includes **singing** when jogging.”

Respondent C: “When they do **ball work, control and over-steps.**”

Interpretation:

The three soccer respondents reported various ways of enjoying the activities when teaching technical skills such as “athletes demonstrating understanding the skills taught, expression through singing and techniques”. These findings are also in agreement with Lauer, Gould, Roman and Pierce (2010), who suggest a fine line exists between challenging a developing athlete by demonstrating their ability to apply technical skills taught at training.

Sporting Code: Netball

The most enjoyable activities preferred by netball coaches are:

Respondent A: “**Passing** each other.”

Respondent B: “**Passing the ball,** steps and accurate throwing.”

Respondent C: “When introducing a new skill the athletes like **ball work** exercises and they also enjoy passing the ball.”

Interpretation:

The findings from the three netball respondents demonstrate coaches have the ability to teach technical skills. All three respondents reported “passing, ball steps and accurate throwing” as the most enjoyable activities when teaching athletes netball technical skills. According to Martins (1990) sport programmes produce young people who enjoy sports, strive for excellence, and dare to risk error in order to learn.

Summary of enjoyable activities

The findings from all nine sporting codes support earlier studies (Bloom, 1985; Van Rossum, 2001; Baker & Horton, 2004) by emphasising the importance of a developing athlete having access to high-quality coaching. Rather than simply offering technical guidance however, the results suggest that the coach of a developing rugby, soccer and netball player; however the coach must consistently act as a mentor, providing advice, support and guidance to a developing athlete in the respective codes.

- **Difficult facets of teaching a new skill**

The most difficult facets of teaching a new skill are:

Sporting code: Rugby

Respondent A: “**Lack of understanding** of the skills and application, impatience and laziness of the players.”

Respondent B: “When the skills are **difficult to be executed** and understood.”

Respondent C: “Seeing learners **struggling to grasp** the skills.”

Interpretation:

The difficult facets reported by rugby respondents include “lack of understanding and difficult to execute the skills”. The difficulty in teaching new skills is that there is often less success and it is also important not to progress onto new skills until the existing technique can be performed

correctly. Individuals failing to learn from instructions and a demonstration which can help to visualise the skill to be performed (Saipe, 1999).

Sporting Code: Soccer

For soccer the most difficult facets of teaching the new skills are:

Respondent D: “Boredom, **lack of understanding** of the skill.”

Respondent E: “If they **do not perform** to my expectations.”

Respondent F: “It is a **step over.**”

Interpretation:

All coaches identified critical limitations that inhibit athletes’ technical skills performance, such as alack of understanding of the technical skills and poor performance in the application of technical skills. According to Kluka (1999), coaches have no control over factors such as physical attributes, maturation, environmental constraints and motivation, which contribute to the athletes learning a new skill. However, coaches can identify these factors and find solutions that are realistic.

Sporting Code: Netball

In netball the coaches’ most difficult experiences are:

Respondent G: “Dealing with **different players** and athletes not coping with some skills.”

Respondent H: “When most of the players **do not understand.**”

Respondent I: “Lack **of listening.**”

Interpretation:

The three netball respondents mentioned what constituted the most difficult facets of teaching the technical skills as “lack of understanding the technical skills and lack of listening”, which inhibits the execution of the technical skills taught. According to Crespo and Reid (2003)

inability to implement biomechanical principles and the strategy more efficiently inhibits executing the relevant sport-specific skills.

Summary of difficult facets of teaching new technical skill

All coaches emphasised athletes' lack of understanding of technical skills as an inhibitor of performance. The researcher is of the opinion that when athletes do not understand the technical skills it is the coaches' responsibility to find possible solutions to correct the errors, provide clear feedback, demonstrate and use other possible technological applications such as video recording that may increase athletes' level of confidence.

5.4.2 Teaching tactical skills

5.4.2.1 Defining tactical skills

Sport consists of problem solving by the coaches and athletes. Making good tactical decisions to solve the problems involves a complex set of tactical skills consisting of reading the play; acquiring knowledge needed to make appropriate tactical decisions; and applying one's decision-making skills to the problem.

The rugby coaches defined tactical skills as:

Sporting Code: Rugby

Respondent A: "Is the mental application, **planning, strategies and decision making.**"

Respondent B: "Includes **analysing and reading the game.**"

Respondent C: "Are the **skills** necessary to develop a fully-fledged rugby player."

Interpretation:

Rugby respondents identified key words that are aligned with the existing literature. The key words are "planning, strategies, decision making, analysing, reading the game and combination of skills". All coaches' definitions are aligned with the existing literature, which defines tactics as plans that are prepared in advance of a competition, which are intended place an individual or team in a winning position (MacKenzie, 1997).

Sporting Code: Soccer

In soccer the respondents defined tactical skills as:

Respondent D: “Freedom for players to **express themselves during the game.**”

Respondent E: “The tactical skills begin with the **mind** and knowing what to do with the ball **before you receive it.**”

Respondent F: “It is how I **approach the game**, have a **game plan and strategies.**”

Interpretation:

The three soccer respondents’ definitions are aligned with the literature, which includes “decision making and approach, game plan and strategies” respectively. The definitions concur with Memmert, 2011 who defines tactics at the behavioural level as the ability to find the ideal solution to a given problem in a specific situation in team ball sports.

Sporting Code: Netball

The responses from netball in the definition of tactical skills are:

Respondent G: “The **new skills** and know the tactical points and be able to differentiate between tactics.”

Respondent H: “The tactical skills are defending, **manoeuvring around**, passing the ball, shooting and scoring and knowing your faults when using the steps.”

Respondent I: “**Game planning and analysing the player’s movement** when they pass and jump.”

Interpretation:

In netball, respondents identified key determinants for tactical skills such as “new skills, manoeuvring, game planning and analysing”. The responses are in agreement with Flynn (1999) who in defining tactics as “simple” and “complex” in regard to sport refers to the degree of decision making required in the sport – for example, running and swimming are “simple” sports while fast ball games such as netball, soccer and particularly team sports are classified as “complex” sports.

Summary of defining tactical skills

All coaches' responses in this study indicated that the coaches' tactical knowledge was effective for detecting, identifying and developing rugby, soccer and netball players. Furthermore, it strengthens the work of Martens (2004) as the ability to plan to gain an advantage in an individual or team sports, plan of action to execute the coaches' strategy.

Data analysis identified that eight coaches perceived tactical mediators as a significant theme in influencing the development of talent in sport.

It is therefore essential that coaches develop tactical awareness of athletes and be treated with their individual needs at the forefront of any training programme sport.

5.4.2.2 Tactical skills taught

Tactics also include the athlete's ability to make decisions and use various technical skills in certain situations of the game, such as an ability to dribble an opponent in soccer, rugby and netball. It also includes the ability to defend and attack in positions and planning strategies prior to the match.

Sporting Code: Rugby

Respondent A: "Basics" when players have the ball they must run straight and if they come across the opponent they must hit the opponent in order to have a scrum, have four players that are able to protect and cling together so that they can be able to **move forward** and be able to score a goal."

Respondent B: "Reading **the play and situation.**"

Respondent C: "We teach the athletes to pass the ball, tackle and **passing** the ball to other **players in the space.**"

Interpretation:

The three rugby respondents apply various tactical skills that are all aligned with and applicable to rugby at primary and junior level. Coaches at this level teach athletes the “basic running movement into space, reading the play and passing the ball on the space.” All three coaches’ responses are in agreement with the Try Rugby Complete Skill and Drills Manual (2007).

Sporting Code: Soccer

For soccer the tactical skills that are taught are the following:

Respondent D: “I teach the players to make their **own decisions and read the game.**”

Respondent E: “I teach them more on **penetrating through** the defenders and opponents.”

Respondent F: “They play long pass and have the ability to **switch the play.**”

Interpretation:

Teaching tactical skills requires athletes to “analyse the situation or make a decision with or without the ball”. Respondent D indicated reading the game; respondent E penetrating the opponent’s side; and respondent F change of play as the applicable tactical skills which are used and suggested by the LA 84 Foundation Soccer Coaching Manual (2012). Furthermore, the SAFA Technical Master Plan (2012) identifies tactical attributes associated with soccer as closing angles, positioning and attack as essential.

Sporting Code: Netball

In netball the tactical skills taught are:

Respondent G: “They must be open minded and know the **strength of their opponents.**”

Respondent H: “Foot-**faults.**”

Respondent I: “Movement **off the ball** and defending other opponents.”

Interpretation:

Respondents G, Hand I respectively identified “analysing opponents’ strengths, foot faults and movement off the ball” as key tactical features in netball. The responses are in agreement with Netball South Africa LTPD (2011), which states that teaching fundamental tactical skills includes applying strategies on reading the play, combining simple movements into defending actions and introducing players to the awareness of space.

Summary of tactical skills taught in the respective sporting codes

In agreement with the existing literature from all three sporting codes, all nine coaches also perceived tactical awareness to form a key component of the players’ overall development programme. This was posited not only from a performance perspective but also as an injury prevention mechanism.

Furthermore, the analysis from each code demonstrated the emphasis on athletes creating space and reading the play. This may suggest that when coaches are “scouting” for talent, they are particularly looking for players with exceptional analytical ability.

Three triangles are applied in teaching tactical skills, namely:

Triangle 1: Reading the play or situation

(i) Athletes’ cognitive ability to read the play or situation

The ability to “read the game” is crucial in team sports. Expert players can anticipate what will happen next accurately and quickly (Gabbett, Rubinoff, Thorburn & Farrow, 2007; Grehaigne, Godbout & Bouthier, 2001).

From a tactical perspective sport consists of problem solving by the coaches and athletes. Making good tactical decisions to solve problems involves a complex set of tactical skills consisting of reading the play, acquiring the knowledge needed to make appropriate tactical decisions and applying one’s decision-making skills to the problem.

Sporting Code: Rugby

The coaches’ responses to the athletes’ ability to read the situation and cognitive ability are:

Respondent A: “No they do not have.”

Respondent B: “Yes.”

Respondent C: “At the moment **NO**

Interpretation:

Respondents A and C “do not” teach athletes how to read the play or situation, which may affect their knowledge of the game. The responses contradict the suggestion by Martens, (2004) that it is important for coaches not to neglect helping athletes acquire the cognitive skills in order to recognise the problems that they may face during the game. According to Dubey (1999) the ability to read the game situation quickly may enable a player to have more time to respond in some circumstances, thereby giving the impression of being unhurried. Respondent B said that players read the situation of the game, which makes it easier to withdraw their conscious awareness from the actual execution.

Sporting Code: Soccer

In soccer the indications of the athletes’ ability to read the situation and cognitive ability are the following:

Respondent D: “No they do not have.”

Respondent E: “Yes.”

Respondent F: “Some of the players are able to read the game and 40% of the squad have that skill and the players on the bench are able to read and analyse the game before they get into the field.”

Interpretation:

Respondents E and F teach athletes to read the play, which suggests that talented soccer players are those who possess superior cognitive–perceptual skills such as the ability to read the game. The responses are consistent with research that has identified anticipating play as a significant predictor of successful performance in football (Reilly, Bangsbo & Franks, 2000). Respondent D’s players do not read the game situation.

Sporting Code: Netball

The athletes' cognitive ability to read the situation, according to the netball response, is:

Respondent G: “Yes they do have as they learn everything.”

Respondent H: “Yes they know what to do before the ball gets to them.”

Respondent I: “Yes they do.”

Interpretation:

The reports from all three netball respondents indicated that athletes are taught how to read the situation, which enables them to anticipate an action and respond to it sooner. The coaches' responses are in agreement with Netball South Africa LTPD (2011) in awareness of space, timing of movement and introducing decision making into simple options in practices.

Summary of players' cognitive abilities

From all nine coaches' responses, it was only found that only six coaches teach athletes to read the situation in the game. Martens (2004) supports the coaches' responses that when athletes read the situation, they are able to combine senses such as vision, audition, tactile and kinaesthetics.

The above is consistent with the literature that players who have more pertinent visual search strategies which enable them to focus visual attention on the most relevant sources of information at the most appropriate time (Williams, 1994).

(ii) Improving players' ability to concentrate and pay attention

Concentration is the ability to sustain one's attention on the relevant cues and not be distracted. Through practice and coaching, athletes are able to read the situation quickly and make the right response (Martens, 2004).

The rugby coaches' responses on how they improve the players' ability to concentrate and pay attention in rugby are the following:

Sporting Code: Rugby

Respondent A: “I ask the players if they do understand the skills and if they do not understand I am able to **repeat** it till they grasp the skill.”

Respondent B: “I **make them** to concentrate all times.”

Respondent C: “I **emphasise concentration** and focus in coaching session.”

Interpretation:

The three rugby coaches approve players’ ability to concentrate by “asking for their inputs and emphasising concentration”. The responses align with the Bantaa AA Programme (2014 & 2015 season), which recommends coaches to plan and give attention to each player by assessing their abilities, identifying their needs and areas of improvement and assisting them with further development.

Sporting Code: Soccer

In soccer the respondents improve the ability to concentrate and pay attention in soccer by:

Respondent D: “They must always **communicate** in the field of play.”

Respondent E: “For me when **I blow the whistle** they are able to concentrate and give attention. I do stop the game and **replay** and in that process I correct their errors.”

Respondent F: “Players must be more **focused and concentrate during the session** and that save time.”

Interpretation:

In soccer all three respondents emphasised the need for athletes to “concentrate during practice of tactical skills”. Coaches observe athletes’ concentration levels through “communication, replays and encouraging athletes to focus more in the field of play”. The responses are in agreement with Wilson, Peper and Schmid (2006) that coaches need to transmit to players specifically what they want the athletes to focus on, then create drills whereby the players experience using different attentional strategies in order to find the one that best suits them. First knowing and communicating what attentional focuses are important in specific sport situations.

The athlete can mentally practise at home the sequence that the coach prescribes until it becomes automatic. The coach needs to devise drills that provide practice in different types of situation. The more players practise, the faster their recognition and reaction.

Sporting Code: Netball

In netball the coaches do the following in order to improve the players' level of concentration and ability to give attention to the teaching of tactical skills:

Respondent A: "They **must concentrate** when they play the game and communicate and motivate the others in the team."

Respondent B: "Yes I do."

Respondent C: "By **communicating** with them to see if they are able to concentrate."

Interpretation:

The netball coaches found concentration a pre-requisite for tactical skills. Coaches emphasised that athletes must work together in a team by motivating each other to concentrate, and the coach communicates with them to see if they do concentrate during the training session. The responses concur with Wilson, Peper and Schmid (2006) that attentional drills practised outside the sports areas may also help athletes experience different attentional styles or switch from one style to another.

With practice athletes learn to open their awareness (broad beam) and then quickly switch to a narrow beam focus. A player can practise such strategies when watching game videos, waiting to play, or mentally rehearsing where individuals are in specific situations on the court.

Summary of improving athletes' ability to concentrate

The data analysis from all nine coaches highlighted concentration as a vital tool for improving athletes' tactical ability. Coaches identified concentration and communication as a style to effectively increase the athletes' attention span throughout the training session.

Through practice and coaching, highly skilled players learn to read situations extremely quickly and make the right responses by anticipating what the opponent will do (Martens, 2004).

Triangle 2: Knowledge as pre-requisite for decision making

(i) Introducing athletes to the nature and importance of the rules

Rules define the boundaries within which athletes are permitted to play. They set limits on the tactics athletes can use and allow fairness (Martens, 2004). Rules create an important value by instilling moral development in sport, and in addition athletes are forced to adhere to, agree with and play according to the set rules (Shields & Biedermeier, 2009).

Sporting Code: Rugby

The introduction of the rules in rugby is done in the following manner according to the respondents:

Respondent A: “I **talk** to my players that when they tackle the opponent they must not go backwards as they must use a high tackle and move behind the ball at all times.”

Respondent B: “All players have to be committed to the game and **follow the rules** that are taught.”

Respondent C: “I have **introduced the rules** through play.”

Interpretation:

All rugby respondents introduce the sporting rules by “talking to the athletes, encouraging athletes to follow the rules and introducing the rules”. The findings strengthen work of Martens (2004) who suggests that players be encouraged to play by the rules and follow the rules. In addition the coaches should introduce the rules of the game through play. All coaches’ responses are in agreement with the existing literature.

Sporting: Soccer

In soccer the coaches' response to introducing the importance of the rules of the game is as follows:

Respondent D: "In soccer the players must be disciplined and have **respect** and control themselves by portraying positive image."

Respondent E: "I **teach them the rules** and get them into positions."

Respondent F: "It is difficult to teach the rules of the game and I encourage them to **watch sport programmes where they can learn about the rules** of the game."

Interpretation:

Practising the soccer rules establishes an important element of discipline in sport. Coaches have different opinions on teaching and applying different methods of teaching rules of the game by "teaching respect, rules of the game and watching programmes". From the analysis all three soccer respondents' responses are aligned with Martens, (2004) and Cote & Gilbert, (2009) that the coaches should encourage athletes to follow the rules, practise the rules, watch and play the sport.

Sporting Code: Netball

The netball coaches' responses to how they introduce the rules to the athletes and the nature and importance of the rules are:

Respondent G: "They are able to know the rules and all athletes are able to **learn everything I teach them.**"

Respondent H: "I use the **whole** as everyone is involved."

Respondent I: "I introduce and **show** the technical size of the field."

Interpretation:

Respondents G and I teach rules by "teaching every rule in netball and by showing them the rules". The responses are aligned with Wrisberg (2007), who recommends coaches help athletes gain an understanding of the rules of the sport by knowing the rules themselves and knowing

which ones the athletes may not be familiar with. Once coaches know which rules the athletes need to learn, they should both verbally explain them and physically demonstrate them as clearly as possible. Respondent H's response does not align with the recommended methods of teaching rules.

Summary of teaching rules

The data analysis from all nine respondents' responses demonstrated an ability to find and use different approaches to teaching the rules. Eight coaches' responses suggested using different approaches to teaching rules.

In any contest, rules are established to serve moral purposes, promote fairness and reinforce the positive spirit of the game; however, rules have inherent ambiguities that often need to be interpreted. Because of their leadership role, coaches often become the "interpreters" of rules; their interpretation can teach their young players about respect and responsibility or, conversely, about taking advantage of others and cheating (Eys, Schinke & Jeffrey, 2007).

(ii) Introducing players to the strategic plan of the season

Coaches should make players aware of the strategies that need to be applied throughout the season. The strategy should be incorporated into a practice plan that is self-evident and frequently discussed.

Sporting Code: Rugby

The strategic plan of the season is introduced by:

Respondent A: "I **write the game plan** and give each player roles and positions in the team."

Respondent B: "They all follow the **seasonal plan**."

Respondent C: "I tell the **game plan**, importance of the skills and how to play successfully."

Interpretation:

The strategic plan in rugby is introduced by “writing the game plan, seasonal plan and game plan”. The three responses are aligned with the Welsh Rugby Union (2001), which states that coaches should plan the session’s time allocations, make arrangements for the next session and ensure that each player has equal time in practice. In addition Martens (2004) suggests that it is important for coaches to inform players of the strategy, which should also be incorporated into their games and practice sessions.

Sporting Code: Soccer

Soccer coaches said that they introduce players to the strategic plan for the season in this way:

Respondent D: “I inform them about the plans **before the season.**”

Respondent E: “We have a **team talk before the season** and training to lay any expectations.”

Respondent F: “I have a **game plan** where I approach the game opponents.”

Interpretation:

Respondents D, E and F introduce players to the team strategic plan “before the season, team talk before season and game plan”.

According to Wrisberg (2007), before sharing the strategy with the entire team it is important to allow team leaders settle on a strategy you think the team can commit to. It is essential to present that strategy in as clear a fashion as possible and then reinforce it on a regular basis. In this way the strategy becomes the team’s “identification badge”. A team strategy might include components such as “swarming on defence” or “patience on offence.” Once coaches have communicated the strategy to the athletes, they should remind them of the key ingredients at timely moments during practice sessions, or devise other tangible symbols such as signs placed in the locker room that they will see on a regular basis.

Sporting Code: Netball

In netball the strategic plan for the season is outlined as follows:

Respondent G: “I **plan and look around the good players** who are good in their respective positions and use the strategies on them.”

Respondent H: “I **get them together and they attend other tournaments** locally so that they can know what is expected out of them.”

Respondent I: “I **would tell them about our upcoming games and strategies** that we will be implementing and the weaknesses of the opponents and also provide motivational talks.”

Interpretation

In netball various approaches and methods are used to introduce the team’s strategic plan for the season. According to respondent G, during the matches strategies are planned around good players. However, in team sports such as netball strategies should be planned around each individual player. Another method used is to encourage athletes to watch opposition matches so that they can plan around them (respondent H) and prior to the sessions athletes are informed of different strategies to be implemented (respondent I).

According to the IFNA Basic Coaching Manual (2008), prior to the match the coaches need to establish when and where they are going to give the players their game strategies. Involving the players in the team’s game plans gives them ownership and develops “thinking” players.

Summary of introducing players to the strategic plan

From the data analysis, eight coaches in this study are in agreement with Martens’ (2004) suggestion that the strategic plan should be communicated to all players before the season commences. Furthermore, the Australian Sport Commission (2010) suggests that coaches can also hand out seasonal plans such as announcements, training programmes, fixtures and results and team reports that they may use to improve on their skills and boost their morale.

It was clear from the narrative of all eight respondents that planning the strategic plan for the season is a crucial mediator in a developing players' progression using a talent identification and development pathway.

(iii) Importance of physical playing conditions

Coaches may inform athletes prior to the match about the status of their playing venue, concerning factors such as suitability of the field, condition of the playing surface, weather and climate conditions of the venue. The coach may also prepare the athletes psychologically by creating situations of different playing conditions.

In rugby the coaches' responses to the playing conditions are:

Sporting Code: Rugby

Respondent A: "They are good enough and I focus only on the **speed**."

Respondent B: "I regard them as **important**."

Respondent C: "They are important for **performance** and to avoid risking an injury."

Interpretation:

The respondents identified "important physical conditions as speed and performance", which is aligned with Luger and Pook (2004), who say that rugby relies heavily on acceleration (i.e. the ability to rapidly reach a high speed from various starting positions) supported by agility, which is the ability to change direction and decelerate quickly.

Sporting Code: Soccer

In soccer the respondents view the physical playing conditions in this manner:

Respondent C: "It is important to be **physically fit** so that players can **avoid injuries** and illnesses."

Respondent B: "When they play they **benefit physically**."

Respondent C: "I encourage players to use their **physique** when they run past or dribble the opponents."

Interpretation:

The three respondents identified “[be] physical fit and improve physique”. Access to appropriate levels of competition was a vital component of the talent development environment. Martindale, Collins, Wang, McNeil, Lee, Sproule and Wisbury (2010) also suggest that challenging competition and training environments are necessary to facilitate the development of talent. The coach has to provide game-like opportunities in which players can feel secure about making mistakes so that they can file those mistakes in the relevant parts of their brains. By doing so, the chances of their making the same mistakes in games will lessen.

The games approach emphasises the use of games and mini-games to provide athletes with situations that are as close to a real game as possible (Lauder, 2001). This approach requires more than just putting the team on the field, throwing them a ball and letting them play.

Sporting Code: Netball

The coaches responded that the importance of their players’ physical conditions is:

Respondent A: “They are always **fit** so that they can win the games.”

Respondent B: “It is very much **important** because if they do not do well they will not be able to succeed.”

Respondent C: “I would ensure that the players are **fit and flexible** enough, have the strength and explosive to jump.”

Interpretation:

Only respondents A and C’s responses are in agreement with the literature. The two respondents focused on the physical conditioning of the players’ fitness level such as strength, power and flexibility, which may benefit the players in reaching optimal performance levels. This finding is in agreement with previous research by Wells, Elmi and Thomas (2009), who identified strength, stability, flexibility and balance as key determinants of player performance and therefore essential for the successful development of talent.

Summary of importance of physical condition in a competition

Data analysis showed that coaches perceived injury prevention, preparation, physical conditioning and optimal fitness components as the critical success factors in preparing the team towards the competition. Martens (2004) suggests that other factors which are important when coaches collect information about the physical conditions include the condition of the playing surface, weather conditions, altitude and type of ball and equipment used to play the game.

From the data it can therefore, be assumed that coaches are familiar with the physical playing conditions within their respective codes.

(iv) Introducing players to the strengths and weaknesses of opponents

Coaches need ample information on the opponents. Research in coaching is an important element, as athletes may want to know about the opponents' strategies and formations used. Team strategies are also planned tactically based on the strengths and weaknesses of the opponent.

The players are introduced to the opponents' strengths and weaknesses by:

Sporting Codes: Rugby

Respondent A: "They must **analyse and reflect on the strategies taught** at training."

Respondent B: "I give them the opportunity to **read the situation and analyse** the game."

Respondent C: "We sometimes **analyse the opponents.**"

Interpretation:

In rugby, respondents A, B and C analyse opponents' strength and weakness by "reflecting on strategies taught, reading the situation and analysing opponents". According to O'Donoghue (2014), coaches apply analytical sport performance system tools to observe and measure athletes' and opponents' performance. Performance tools gather skills performed by the athletes.

In supporting this in sports such as rugby, coaches may use systems such as video recordings of the opponents to gather data for tactical planning prior the match (Martens, 2004).

Sporting Code: Soccer

In soccer the coaches' responses to introducing the players to the strengths and weaknesses of opponents are:

Respondent D: "For the first 10 minutes I **observe the game and during half-time** we analyse the opponents' strength and weaknesses."

Respondent E: "In most cases they play in teams against each other. During the game I would **send the message to the captain** to pass the message to the teammates."

Respondent F: "During **half-time** I tell them to focus on the weaknesses of the opponents."

Interpretation:

The findings in soccer indicate that coaches analyse opponents at various intervals. According to respondents D, E and F, during the play and at half-time there is intervention in analysing the opponents. At this stage the coach may reinforce the tactics or change tactics after the break. During the game messages are communicated to the captain if there are new strategies and tactics to be applied and it is the responsibility of the captain to pass the message to the rest of the team.

The responses are aligned with O'Donoghue (2014) that match briefings and debriefings can be done when coaches are making presentations and analysing opponents' data. Analytical information can also be communicated from coaches to players during the competition.

Sporting Code: Netball

The coaches in netball introduce the players to the opponents' strengths and weaknesses in this manner:

Respondent G: "The **players must analyse** and look at the opponents' strengths and weaknesses so that we can know how to play."

Respondent H: "I tell everyone to **watch out their opponents** from there they are able to learn on how to learn to dodge their opponents."

Respondent I: “I **assist them while they are playing** and look at their weaknesses and strength from there I will address them.”

Interpretation:

In netball the three respondents analyse the strength and weaknesses of opponents by “analysis, observations and by creating game situations against each player”. The responses are in agreement with Wrisberg (2007) who suggests that if coaches can gain knowledge of their opponents’ tendencies in various types of situation, athletes will be better able to anticipate the opponents’ actions and prepare their responses in advance.

Coaches can also provide valuable practice experiences by simulating the various actions of opponents and teaching athletes the best ways to respond in each case. In the example of the netball player, a left-handed teammate might simulate the moves of the upcoming opponent so that the player who will be guarding the opponent can develop an anticipation of those moves when they encounter them in a game.

Summary of introduction of players’ strengths and weaknesses

The analysis of all nine respondents demonstrated an ability to analyse opponents’ strengths and weaknesses. Coaches analyse opponents during half-time breaks and during training information on the opponents is provided. Coaches may also use notes, attend training sessions and matches and record videos of the opponents, which may serve as invaluable information to assist athletes to use superior tactics to the oppositions.

From the analysis there is a need for coaches to introduce the analysis methods prior to the game and after the game so that athletes can improve on their performance and skills. Access to technological software and applications is needed for coaches to record results and performance, which is essential for tracking and monitoring the athletes’ performance and for detection, identification and development of talented athletes.

(vi) Players' familiarity with their own strengths and weaknesses

To solve problems in their respective positions it is therefore important for coaches to be knowledgeable about and familiar with their own strengths and weaknesses. Their role as a coach is to help athletes know their capabilities and make tactical decisions (Martens, 2004).

The coaches are able to familiarise the players with their strengths and weaknesses by:

Sporting Code: Rugby

Respondent A: "I only **observe my players by taking notes**. in that way they are able to become familiar with their own weakness and strength."

Respondent B: "Everyone before the session is been **given feedback** and the session plan is outlined to all players including feedback."

Respondent C: "During coaching **I observe their strengths and weakness** and train them according to their strength and weaknesses."

Interpretation:

All three rugby respondents apply different tactical strategies to correct and develop athletes' knowledge of their weaknesses. According to respondents A, B and C, coaches "observe and take key notes" when the athletes are participating. This is essential for feedback and analysing the players' tactical awareness (respondents A and D). Feedback before the session is provided to all players based on their weaknesses. The coaches' responses are in agreement with the existing literature, suggesting that athletes must know their technical, tactical, mental and physical strengths (Lauder, 2001).

Sporting Code: Soccer

In soccer the coaches teach their players to be familiar with their own strengths and weaknesses by doing the following:

Respondent D: "When they lose and win the games we have a **team talk and feedback sessions**."

Respondent E: "**Every player is made** aware of his weaknesses and strength."

Respondent F: “I communicate and analyse the situation and also I am working on **video capturing and analysing the clips and will assist in the feedback sessions of the game.**”

Interpretation:

All three soccer respondents conduct sessions that benefit the players by analysing their weaknesses. Respondents D and E indicated that players are provided with feedback on their performance, and according to respondent F video capturing is used to analyse each athlete’s positional weaknesses and strengths, which assists when providing feedback to the team and individuals. Hughes, Maynard and Lees (2002) identified the use of video and self-filming of previous competitions as good for critiquing, determining positional strategies and decision making.

Sporting Code: Netball

Netball coaches make their players aware of their own strengths and weaknesses as follows:

Respondent G: “Some of the players **express themselves by talking.**”

Respondent H: “They will tell you if they **comfortable in their own positions.**”

Respondent I: “They would be familiar if as a coach I tell them the mistakes and **make corrections.**”

Interpretation:

In netball respondents G, H and I said that players become familiar with their own strengths and weaknesses as they communicate with the coach by “asking advice and would correct the errors when receiving feedback from the coaches”. According to Davies and Armstrong (2005), it is the responsibility of the coach to analyse the successes and failures in the competition and give direction to key points in the game. The coach is expected to communicate the strengths and weaknesses of opponents in order to lay down the strategy.

Summary of familiarity with their strengths and weaknesses

All nine coaches find alternative strategies and methods to analyse and assist athletes with their strengths and weaknesses. Coaches identified observation and taking notes as part of correcting the athletes' weaknesses and improving on their strengths, communicating by means of conducting feedback sessions with the athletes, and video recording during their matches. During this process athletes become familiar with their own mistakes.

From the analysis it was found that coaches play a significant role in assisting athletes and become familiar with their own mistakes in order to make tactical decisions for themselves.

(vii) Teaching ethics

The development of moral and ethical values through sport is an area of research that has received a lot of attention over the years (Shields & Bredemeier, 2009). It means focusing on the spirit of the game and recognising that playing according to agreed-upon rules and behaviours are an integral part of sport.

Sporting Code: Rugby

The responses to how rugby coaches teach sport ethics are:

Respondent A: "I tell them to have **teamwork and avoid abusive language** and if they experience any queries should be addressed to the captain."

Respondent B: "All players have **perseverance and respect the game, teammates and opponents.**"

Respondent C: "I teach them **through demonstrating** and telling them to adhere and follow the ethics of the game."

Interpretation:

All rugby coaches in this study identified ethical principles in sport as an important factor contributing to athlete development. The findings are all in agreement with Cote and Gilbert (2009), who state that one of the most important roles of a coach is to use sport as a microcosm of what happens in the real world to help young people differentiate between acceptable and

unacceptable behaviours, implement and respect the rules of fair play, and learn harmonious behaviour for resolving conflicts, while striving to achieve personal and team goals.

The coaches reported that they encourage all athletes to abide by the rules of the game, practise fair play by respecting the coaches, teammates and opponents (respondents A and B) and in addition they are taught how to adhere to the rules of the game (respondent C), which enhances their knowledge of the game.

Sporting Code: Soccer

In soccer the respondents teach ethics in the following manner:

“I teach them through demonstrating and telling them to adhere and follow the ethics of the game”

Respondent D: “Players are taught to **respect one another.**”

Respondent E: “Ethics in sport is important and I tell them during practice **not to use any abusive language.**”

Respondent F: “I teach them to **play fair.**”

Interpretation:

In soccer all coaches demonstrated an ability to teach athletes ethical and moral values such as respect, avoiding the use of abusive language and practising fair play. In soccer there have been a number of initiatives that focused on moral values, as Cote (2011) reports, in the last few years that focused on youth development through soccer. Provides practical recommendations for youth soccer coaches to help them emphasise and build on team pride, spirit, community commitment, and passion for the game as they work with their teams.

Sporting Code: Netball

The responses to teaching ethics in netball are:

Respondent G: “Before we play I **encourage fair play** and respect other players and opponents.”

Respondent H: “I teach them the **rules of the game, respect** towards the opponents and referees decisions.”

Respondent I: “Unfortunately we do not have a rule book as I just **teach them using my experience and knowledge.**”

Interpretation:

In netball all coaches reported that they encourage athletes to practise “fair play, respect other opponents”. All coaches should possess a rules book and have sufficient knowledge and intelligent application of the rules (IFNA, 2008).

Summary of teaching ethics in sport

All nine coaches emphasised that appropriate practice of ethical values was extremely important in their sessions and for sustaining talent development. The findings are in agreement with Eys, Schinke and Jeffery (2007) that in any contest, rules are established to serve moral purposes, promote fairness, and reinforce the positive spirit of the game; however, rules have inherent ambiguities that often need to be interpreted.

Because of coaches’ leadership role, coaches often become the “interpreters” of rules; their interpretation can teach their young players about respect and responsibility.

From the analysis coaches reported they taught athletes the importance of practising the ethical rules of the games. However, there is a need for coaches to emphasise the educational aspect of giving out rule books and use of prohibited substances in sport.

Triangle 3: Decision-making skills

(i) Methods used in teaching tactical skills

The single best way to help athletes learn to make good and timely decisions is to have them play practice games. In some situations athletes may have lots of time to decide on the course of action. Vickers (1996) described six methods for teaching and decision making.

Sporting Code: Rugby

The methods used by coaches in teaching decision-making skills are:

Respondent A: “Sometimes **I do practicals**, take notes and use the part method.”

Respondent B: “I use the **part method**.”

Respondent C: “I use the **part method**.”

Interpretation:

In rugby the coaches’ responses contradict the body of research, which suggests that when coaches teach tactics they should start with the whole or complex areas of tactics when developing their decision-making skills rather than when they learn simple or part methods (Doane *et al.*, 1996). Coaches’ responses have been to apply or teach tactics using the part method, which will result in athletes performing poorly in decision making. The majority of skills required in the game of rugby are open skills. For example to pass the ball to a teammate a decision is required: how far to pass, when to pass, how hard to pass, what type of pass, etc. Skills can effectively be done in blocked training drills, in which a single skill is performed and repeated. Blocked training allows the coach to more easily correct any technical errors (i.e. channels drills only rucking), and it allows the players to develop the motor patterns required.

Sporting Code: Soccer

In soccer the respondents said that when they teach decision making to athletes they use the following methods:

Respondent D: “I take the **part method**.”

Respondent E: “I take notes during the game, communicate with the players and use a **whole method**.”

Respondent F: “I use the board to analyse and draw the picture when I communicate with the athletes. I teach the **whole method** on how they should play.”

Interpretation:

In soccer only two respondents, E and F, reported that they teach tactics using the “whole method”, which is vital for improving on performance. When athletes learn the whole method they are challenged mentally and learning improves (Martens, 2004). At this phase athletes who learn the whole parts may see the big picture of how the whole parts integrate into the tactic rather than when learning the parts.

Learning the tactical aspects of the game the more effective the learning of this aspect will be. This process requires the coach to introduce skills into game-like situations rather than static skill drills. To teach somebody to pass a ball in soccer you could play a game of “piggy in the middle”, where two players are trying to pass the ball to each other and a third player is trying to stop the pass being made.

Sporting Code: Netball

In netball the coaches responded that they teach decision making as follows:

Respondent G: “I refer to the **manuals** I use.”

Respondent H: “I use the **whole part method as everyone is involved.**”

Respondent I: “I teach the **part method.**”

Interpretation:

Only respondent I teaches the whole part method, whereas the others teach the part method. Wrisberg (2007) suggests athletes develop those skills by repeatedly encountering tactical situations and doing the things that give them the best opportunity to achieve success. Coaches should create tactical blueprints for each athlete as well as for the team as a whole.

Summary of methods of teaching tactical skills

The findings from all the codes indicated different styles of teaching tactical skills amongst coaches. Only three coaches prefer to use the whole method of teaching athletes, which has proven to be of value to athletes learning decision-making skills. Decision making was also identified as an important cognitive–perceptual quality of talented youth players (Reilly,

Bangsbo& Franks, 2000). Six coaches preferred the use of teaching in parts, considering the age of the athletes. When learning in parts athletes will understand the complexity of the game and learn the parts of the game they are having trouble with (Martens, 2004). From the analysis coaches prefer to use different methods of teaching tactical skills.

(ii) Importance of players observing decision making of opponents

Coaches should observe games with players, directing their attention to the tactics being employed and the decisions being made. The goal should be to help athletes develop their own analytical skills as they observe the games.

Sporting Code: Rugby

The coaches' responses to players being able to observe the decision making of opponents is as follows:

Respondent A: "Yes."

Respondent B: "Yes."

Respondent C: "At the level of under-9 and 11 they are **not up to the level of observing** their opponents' strength and weaknesses."

Interpretation:

Only respondents A and B teach athletes to observe decision making in their opponents. However, only interviewee C reported that due to the age factor (under-9) and the concentration span of the athletes, observing the opponents' weaknesses is discouraged and during this stage they play for fun and enjoyment. According to Tetley (2012), coaches should find creative situations where players have to negotiate the actions of opponents. Rather than using static markers, use players who move around to create continually changing situations that require a range of decisions to be made.

Sporting Code: Soccer

In soccer these were the response on how coaches teach athletes to observe the opponents' decision making:

Respondent D: "Yes."

Respondent E: "Yes, we make sure that we keep them intact."

Respondent F: "Yes I do."

Interpretation:

All soccer coaches reported that they teach athletes to observe decision making in their opponents. The findings are consistent with the literature, which has found that elite soccer players have more pertinent visual search strategies that enable them to focus visual attention on the most relevant sources of information at the most appropriate time (Williams, 1994). Furthermore, Wrisberg (2007) recommends coaches to encourage athletes by gaining knowledge about their opponents' "tendencies in various types of situations, your athletes will be better able to anticipate the opponents" actions and prepare their responses in advance.

Coaches can also provide valuable practice experiences by simulating the various actions of opponents and teaching athletes the best ways to respond in each case.

Sporting Code: Netball

In netball the coaches responded with the following on which methods they use to teach athletes to observe decision making amongst opponents:

Respondent G: "Yes I allow them to observe decision making."

Respondent H: "Yes I do."

Respondent I: "Yes."

Interpretation:

In netball all three respondents teach their athletes to observe decision making in their opponents in order to recognise their errors. According to Kirk *et al.* (1996), coaches should have direct experience as a participant as well as experience of the game as a spectator.

Summary of observing decision making amongst opponents

Only eight coaches in this study encourage their athletes to observe decision making amongst their opponents. The coaches should help players observe and analyse their opponents' decision making by watching games with them and attending tournaments. Furthermore, the coaches can invite their role models to coach them and offer them skills advice; this also provides them with an opportunity to learn from their mistakes and to analyse the skills independently (Martens, 2004).

The coaches' responses reflected the importance of teaching athletes to observe decision making in their opponents.

(iii) Importance of players observing decision making amongst themselves

Athletes can observe others and can observe their own play through video feedback. As with observing other athletes, athletes should initially observe their own performance with the coach guiding their observation. In this process the coach assists athletes in identifying the tactics being used by their opponents and tactical opportunities they missed during the game (Doane *et al.*, 1996).

Sporting Code: Rugby

The responses to players observing decision making amongst themselves are the following:

Respondent A: "If I am not in the field they are able to **think, reflect, use the team strategies** and follow the game plan."

Respondent B: "I **motivate** the players."

Respondent C: "As a team they must play as one and **synergise** the play and thinking."

Interpretation:

Only respondents A and C encourage athletes to observe their decision making, as it benefits them mentally and enables them to apply strategies, tactics and execute the game plan, which will benefit the team. Game-specific decision-making games not only improve skills under pressure but they also improve decision making and a number of other important skills

associated with games such as problem solving, risk taking, perception and vision, and tactics and strategies (Stimson, 1996).

Sporting Code: Soccer

The respondents' views on the importance of observing decision making amongst themselves are:

Respondent D: "To **have self-awareness**, knowing their strengths and weakness and are able to respond quicker."

Respondent E: "If players have good decision they **benefit the team** and when they have the ball they must know what to do."

Respondent F: "This will **assist in analysing** the player's strength."

Interpretation:

The three soccer respondents' responses are all in agreement with Martens (2004), who suggests that athletes will develop an understanding of the sport that will help them analyse their own play. The three respondents identified the benefits of athletes observing their decision making as self-awareness, applying strategies and the ability to analyse their strengths, which will benefit the team's overall performance. Making appropriate decisions aligns with procedural knowledge in terms of knowing what to do in response to a game situation, such as how to defend in a one-on-one situation in soccer.

Sporting Code: Netball

In netball the coaches responded with the following on why players should observe decision making amongst themselves:

Respondent G: "Some of the players **believe in themselves**."

Respondent H: "So that they can be **calm and accept** their mistakes."

Respondent I: "They must be able to **take the decision** quicker."

Interpretation:

In netball the three respondents reported that the players gain self-confidence (respondent G), accept their errors (respondent H) and have quicker responses to decision making (respondent I). The games can be designed in such a way that the desired coaching objectives are achieved. This is done by adding or subtracting constraints to the game (Charlesworth, 1994). These constraints can include team numbers, field size or shape, direction of passing, time in play or other time restrictions, and any number of variations of the game's laws.

The findings concur with the literature that encourages athletes to observe their own performances with the coach only guiding their observation.

Summary of importance of observing decision making amongst themselves

The data analysis indicates that only eight coaches encourage athletes to benefit from their own decision making. The benefits identified included self-awareness as they learn from their mistakes, and grow mentally by challenging their knowledge by applying different strategies and taking responsibility.

Other tools can be used by athletes to observe their decisions such as access to video feedback in order to learn to take tactical decisions.

(iv) Variables that may influence decision making

Variable practice assists by stimulating game conditions and helps athletes practice making decisions about how to respond to changing situations. Players cannot go on to higher levels of performance if they do not learn the decision-making skills they need. Athletes may struggle with variable practice because there is more to learn and thus learning takes longer.

Sporting Code: Rugby

The rugby coaches responded as follows regarding the variables that may affect decision making amongst players:

Respondent A: “If players are **not able to execute and follow the game plan** and instructions.”

Respondent B: “Lack of **technical execution.**”

Respondent C: “The **opponents’ strengths.**”

Interpretation:

The findings from the rugby coaches indicated various variables that may affect the athletes’ decision making, such as the following; when athletes are not able to follow the game plan and instructions in executing the technical skills (respondent A); lack of technical execution (respondent B); and opponents’ strengths (respondent C).

The findings from the coaches’ responses are all in agreement with Martens (2004) who suggests that variability in practice is within the class of technical skills and various tactics.

However, the majority of skills required in the game of rugby are open skills. For example to pass the ball to a teammate a decision is required: how far to pass, when to pass, how hard to pass, what type of pass, etc. Other factors that may influence decision making in rugby include the response time, which involves the seconds required to perform the movement from start to finish (Pyke, 1991); anticipation, which gives the player time to read the game (Rushall & Pyke, 1990); and arousal level which can happen due to the nature and the requirements of each position. The five-eighth can be required to be more tactical and perform finer more precise skills i.e. kicking, catching and passing and the front rower requires more aggressive and less precise skills such as cleaning out and scrummage.

Sporting Code: Soccer

In soccer the coaches mentioned the following the variables that may influence decision making in players:

Respondent D: “Lack of **concentration.**”

Respondent E: “**Lack of taking the responsibilities** during the game.”

Respondent F: “Not **dominating** and keep the ball possession.”

In soccer the three respondents identified “lack of concentration, lack of taking responsibilities and not dominating and keeping position” as inhibitors that may influence decision making. The findings identified are in agreement with the SAFA Technical Master Plan (2012), which suggests that regaining possession after losing the ball as a unit and ability to press the opposition, anticipation as an integral part of ball recovery, and used effectively to intercept balls, lack of experience in learning tactical skills and inexperienced in using tactical behaviour pattern.

Sporting Code: Netball

According to netball coaches’ responses, the variables that may influence players’ decision-making skills are:

Respondent G: “Not depending on other players and lack of tacking responsibility.”

Respondent H: “Rough play and inability to cope with pressure.”

Respondent I: “Lack of concentration.”

Interpretation:

In netball the coaches identified lack of taking responsibility, inability to cope with pressure and lack of concentration as variables that may affect performance and decision making in netball players. All netball coaches’ responses are in agreement with the literature that accurate perception, action and skill acquisition affect performance (Hodges, Starkes & MacMahon, 2006; Starkes & Ericsson, 2003) as do other environmental factors including level of competition and the pressure of the game environment.

Summary of factors that influence decision making in players

The decision-making process can be improved by innovative and realistic training. To achieve effective decision making the use of games is beneficial. With the use of games the physical and psychological aspects of player development can be met, as well as the motor and cognitive skill development.

Coaches should develop decision-making games to replace boring and repetitious drills, to better meet the individual's needs, and to increase players' knowledge of how to play a particular sport by improving their decision making and strategising (Stimson, 1996). Decision-making games improve all aspects of an athlete's development in a challenging and enjoyable way and are therefore a good tool for coaches to use.

(vi) Feedback on execution of tactical skills

There are many benefits and reasons for providing feedback during and after sessions. Coaches should avoid providing too much feedback as it may disrupt the athletes' performances, concentration and flow. From a decision-making perspective, providing constant feedback denies the athletes an opportunity to learn to make their own decisions.

Sporting Code: Rugby

The responses on how rugby coaches give feedback on the execution of tactical skills are:

Respondent A: "I **divide the team and communicate** with them in groups."

Respondent B: "I **demonstrate** the skills to be practised."

Respondent C: "During the break I reflect on the players' skills and **communicate** to them what needs to be improved."

Interpretation:

All three rugby respondents control giving feedback to their players by applying different strategies such as "communicating and demonstration the skills to the team". The findings are in accordance with Wrisberg (2007) who states that in order to provide prescriptive feedback the coach must be able to detect errors in athletes' performance and offer possible solutions for the problem.

Coaches should identify an acceptable range of performances that do not need feedback and only intervene when there is a need. Providing minimal feedback assists the athletes to be independent in making their own decisions.

Sporting Code: Soccer

In soccer the coaches stated the following on how they give feedback to players on the execution of tactical skills:

Respondent D: “I give feedback in **groups or one-on-one** of there any mistakes.”

Respondent E: “I give feedback by **demonstrating** by teaching them repeatedly.”

Respondent F: “I have a **one-on-one session** with the players.”

Interpretation:

All three soccer respondents reported that they provide feedback to the “whole team and use demonstration as tool to solve the tactical errors”. Communication has been identified as an effective tool to reduce feedback so that players can develop their own decision-making skills. Feedback sessions such as goal evaluation give athletes an idea of how they can improve their performances (Burton& Raedeke, 2008).

Sporting Code: Netball

The response to the execution of tactical skills in netball is the following:

Respondent G: “I **take notes** when they play so that all players can be aware of their mistakes.”

Respondent H: “I **motivate** the players to put aside the pressure and demonstrate good behaviour.”

Respondent I: “I would **demonstrate** and show them the mistakes.”

Interpretation:

All three netball respondents reported using different approaches to identify and control feedback. Coaches reported observing decision making, encouraging players to demonstrate good tactical decisions and demonstrating during the feedback session, which is helpful in a decision-making training programme. Feedback can be used to aid learning directly by providing motivation. It is important for the coach to give feedback following the learners' performance (McMorris, 2005).

Summary of feedback on execution of tactical skills

All nine respondents perceived the control of feedback as a necessity in assisting athletes with tactical options and decision-making training. Coaches identified that they use demonstration, communication and observation to analyse the athletes' performances. However, the literature also suggests that coaches should provide less feedback when athletes are learning skills so that athletes can improve on their own by developing tactical options and independence.

From the analysis all coaches demonstrated an ability to control feedback and nurture athletes' tactical abilities.

5.4.2.4 Perceptions on enjoyable activities and difficult facets of teaching tactical skills

(i) Enjoyable activities in teaching tactical skills

In a team environment such as rugby, soccer and netball coaches are faced with numerous challenges to success when teaching tactical options to their athletes.

The coaches responded that the most enjoyable activities when teaching tactical skills are:

Sporting Code: Rugby

Respondent A: "When **they play** in teams."

Respondent B: "When I **demonstrate the skills** to the players."

Respondent C: "Seeing the learners **performing the skill** recently taught."

Interpretation:

The tactical skills enjoyed by all three rugby respondents include team work by athletes, demonstration of skills by players and performance and execution of tactical skills by athletes. According to Wrisberg (2007) the best way to maximise the experience of all athletes is to ensure that they are challenged to improve tactical skills in some way.

Sporting Code: Soccer

The soccer respondents said they enjoy the following when teaching players tactical skills:

Respondent D: “To see **improvement** on what they have been taught.”

Respondent E: “They **love playing** with the ball and any tactics that involves dribbling.”

Respondent F: “When they **approach the game** from build-up and passing the ball from the back.”

Interpretation:

All three soccer respondents identified learners’ improvement in learning the tactical and technical skills such as dribbling and passing. Consistent with the existing literature (Pill, 2008), when teaching tactical skills there is development of player understanding of this totality of game play. A tactical approach puts movement skills and tactical learning within the context of game play and an associated tactical problem, and does not restrict the use of multiple instructional methods for the achievement of specified game learning. For example, skill drills are still used to develop movement competencies necessary to successfully apply the movement solutions required of the tactical problem.

Sporting Code: Netball

In netball the coaches’ response to enjoyment of teaching tactical skills is:

Respondent G: “Playing **small-sided games** of different age groups.”

Respondent H: “I think is when they follow the whistle and **discipline.**”

Respondent I: “**Passing** the ball and scoring.”

Interpretation:

In netball the three respondents reported that they “enjoy small-sided games, discipline from the players and passing”. The responses are in agreement with Hopper and Bell (2000) that manipulation of game components, such as rules, number of players, dimensions of the playing space and movement within the playing space provide the tools to create games and “play practice” scenarios that develop tactical understanding and the application of movement skills for intelligent play. Used in conjunction with questioning to guide player problem solving and their development of game understanding, teaching and coaching sport performance move from the limited focus on movement skill proficiency to the development of intelligent play.

Summary of enjoyable activities in teaching tactical skills

All nine respondents emphasised the importance of athletes’ improvement in learning tactical skills, good decision making and execution of basic tactical and technical skills. Coaching using a tactical games approach facilitates the development of player understanding of this totality of game play, whereas traditional direct instruction drill approaches primarily centre on skill execution in isolation.

(ii) Difficult facets of teaching tactical skills

Sporting Code: Rugby

When teaching tactical skills the difficult facets experienced by coaches are:

Respondent A: “When I introduce new skill it takes time for the learners to **grasp the skill.**”

Respondent B: “Lack **of concentration** and focus during practising of the skills.”

Respondent C: “When it takes the learner **longer to adapt to the tactical skills.**”

Interpretation:

The difficult facets of teaching tactical skills include “inability to understand tactical skills and lack of concentration during the match”. The responses are in agreement with Walker and Stevens (2009) that the art of performing well in drills is useful but players have not learned how to transfer those technical skills to tactical situations that occur during a game. Some people call this choking, but a more accurate description would be failure to adapt. The same sort of thing happens to the player who can field every ground ball flawlessly in practice but bobbles easy grounders in a game or lets them go through his or her legs.

Sporting Code: Soccer

In soccer the difficulties of introducing and teaching tactical skills are the following:

Respondent D: “Inability to execute tactical skills.”

Respondent E: “When they **do not follow** what I tell them.”

Respondent F: “When defenders are **not able to create space** when the goalkeeper has the ball from any direction.”

Interpretation:

The soccer respondents identified difficult facets of teaching tactical skills as “inability to execute the tactical skills, lack of understanding of tactical skills”. According to Launder (2001) the inability to understand the rules, strategy and mostly to solve problems are some of the difficult facets that coaches come across when teaching athletes to practise tactical skills.

Sporting Code: Netball

The most difficult facets of teaching tactical skills in netball are:

Respondent G: “Not being able handle pressure, **lack of attention and applying instructions and information given.**”

Respondent H: “**Not getting attention** and pressure.”

Respondent I: “It would be their **focus.**”

Interpretation:

In netball, coaches reported the “inability to handle pressure, lack of concentration and attention” as the inhibitors of athletes learning the tactical skills. Therefore, effective game players must possess qualities that make it possible for them to perceive environmental stimuli surrounding them; make decisions to organise a plan of action depending on those stimuli; and then create appropriate movements according to the context of the game. Adequate declarative knowledge (e.g. rules, positioning, objectives of the game) and perception are fundamental to decision making and must be formed before one can develop good decision-making skills (Turner & Martinek, 1995).

Summary of difficult facets of teaching tactical skills

It is the responsibility of the coach to work on the difficult factors that may affect athletes’ level of performance. Coaches may use different techniques to refine athletes’ tactical ability by creating game situations such as fun games which may stimulate athletes’ level of thinking, providing less feedback in order for athletes to learn tactical skills independently, and encouraging athletes to only come to the coaches when they encounter problems such as lack of concentration, not being able to execute tactical skills and not understanding tactical skills.

5.5 CONCLUSION

This discussion investigated the themes emerging from the findings of this study and related them to existing research and pertinent theoretical frameworks associated with talent detection, identification and development in rugby, soccer and netball. The factors coaches perceived to impact on the development of talent in rugby, soccer and netball were documented and analysed, with quotes used to illuminate those perceptions where possible. In the following chapter, conclusions are made and the potential implications of this study for future TID practices in sport are acknowledged. The limitations of the current study are noted and potential directions for future research identified.

The final chapter provides a conclusion to the current study as well as recommendations suggested by the researcher

CHAPTER SIX

CONCLUSIONS, RECOMMENDATIONS AND FURTHER RESEARCH

6.1 INTRODUCTION

This closing chapter focuses on the key findings of the study. The initial research question is revisited and attention is given to the research methodology employed. The implications for future practice within rugby, soccer and netball are highlighted along with the potential directions for future research. Finally, the limitations associated with the study are addressed.

Consistent with some of the literature in talent identification, the findings from this study identified a number of key talent-related concepts: talent detection, identification, development; motor fitness-related skills; and technical and tactical skills coaches believe are important in becoming a better player. No one index of performance was sufficient to identify talented rugby, soccer and netball players; however all coaches reported several key indices of sport-specific talent. The research question for this investigation was:

“Why is soccer, netball and rugby talent not sustainably detected, identified and developed at an early age among primary school learners in Mamelodi?”

The researcher designed and administered a semi-structured interview format for nine coaches to uncover challenges in detection, identification and development of talent in the selected codes in Mamelodi primary schools.

The objectives of this study were:

- To establish key success factors for sustainable talent detection, identification and development in selected sporting codes.
- To perform a situation analysis of talent detection, identification and development systems in selected sporting codes in Mamelodi primary schools.

- To identify challenges that prevents sustainable talent detection, identification and development in Mamelodi primary schools.
- To propose a sustainable strategy to guide talent detection, identification and development in selected sporting codes in Mamelodi primary schools to contribute to the achievement of the strategic objectives of the NSRP.

6.2 CONCLUSIONS

6.2.1 Section one: Background information on the respondents

The results confirmed that there was no significant relationship between the participation of coaches in sport and the influence they had in coaching learners at school. The minority of the coaches confirmed they had minimal participation in their sporting codes, which places a greater influence on the detection, identification and development and nurturing of talented rugby, soccer and netball players. Only four coaches of the nine have experience of playing the sport. When coaches have participated in sports they will have a holistic approach to player development by concentrating on the quantity and quality of training (Henriksen *et al.*, 2010). Only one coach indicated having a formal qualification. This could have a negative impact on the application of training methodologies and coaches might not detect or identify talented athletes. Therefore coaches' lack of qualifications has an impact on the learners' foundation in early skills development and the teaching of technical and tactical skills (Horton, Baker & Deakin, 2005). All coaches in this study are coaching the correct age group, which is aligned with Balyi's LTAD (2001).

The coaches' experience and qualifications have a significant relationship to athlete development in this study (Balyi, 2001). The majority of the soccer and netball coaches have the required coaching experience whereas rugby coaches have minimum coaching experience. There has been an attempt by coaches and the school to capacitate and train them in their codes.

The findings emphasise the importance of and the need for proper systems such as training and development of coaches in areas such as coaching, tactics and techniques as they do not have sufficient learning experience and the formal qualifications required to coach the athletes.

6.2.2 Section two: Talent-related concepts

The majority of coaches from the three sporting codes demonstrated a theoretical understanding of talent-related concepts; however there seems to be a lack of application of the factors that contribute to talent detection, identification and development. Due to lack of coaching qualifications, attention needs to be focused on the relationship of talent-related concepts to sport-specific components such as motor-related skills, and the technical and tactical knowledge of the coaches. All the respective codes require the application of motor fitness-related skills; however, the majority of the coaches demonstrated an inability to identify, apply and relate the fitness components in relation to their sporting codes, which does not conform to the literature.

The findings of the study concluded that coaches lack application and knowledge of motor-related fitness skills, required protocols to measure these skills and the implications for athlete development. The results reveal that there is minimal understanding of how to apply the concepts practically.

6.2.3 Section three: Teaching sport-related skills (technical and tactical)

The majority of the coaches indicated an ability to understand and identify the technical skills used in their respective codes. The ability of players and coaches to demonstrate both individual brilliance and the capacity to sacrifice personal goals for team goals is a quality that has not been reported in the literature. Coaches apply different methods and approaches in teaching technical skills; the qualities identified include feedback, encouraging, motivating players and demonstration.

All coaches' responses in this study have strengthened the coaches' tactical knowledge effective for detecting, identifying and developing rugby, soccer and netball players. Furthermore, it strengthens the existing literature by Martens (2004) as the ability to plan to gain an advantage in an individual or team sports, plan of action to execute the coaches' strategy. However, minority of coaches from all the sporting codes were able to identify the tactical skills taught.

Coaches in this study indicated an ability to encourage players to apply decision making skills which is vital for players to take and train themselves and apply the decisions independently.

6.3 RECOMMENDATIONS

The following recommendations arise from this investigation:

- Encourage schools to support and capacitate schoolteachers and community volunteers regularly in order for them to keep abreast of learning trends.
- Revive physical education in previously disadvantaged schools in order for physical educators to teach motor skills, learning, development and fundamental skills.
- Encourage coaches and learners at primary schools to participate in as many sports as they can so that they can refine and develop fundamental skills, which can benefit them in other sporting codes.
- Due to the small sample in this current investigation, it is recommended that the study of talent identification should be expanded to other codes.
- Introduce sport science into the training methods of coaches in order to acquire scientific methods used to detect, identify and develop talent.
- Educate school sport coaches in the National Federations' framework, long-term athlete development and SASCOC long-term coaches' development framework so they can apply the teaching of technical and tactical sport-specific components.

6.4 IMPLICATIONS FOR FURTHER RESEARCH

The coaches provided a unique insight into how coaches conceptualise talent to identify potential rugby, soccer and netball players in South African schools.

- The process of reflecting on how they conceptualise talent itself was a useful exercise for these coaches, which has a number of important implications. First, this process is useful for coaches to clarify in their own minds what talent is and what they perceive as the key variables related to future high performance. The ability to articulate your thoughts on identifying talent is also of use in mentoring other coaches who are interested in talent identification by sharing knowledge about how to identify talent. This reflection might

challenge some coaches' conceptions of the key qualities that constitute a talented athlete in rugby, soccer and netball are.

- Second, the identification of key qualities needed to become an elite football player should inform coaches and subsequent coach development. Importantly, coaches as architects of the learning environment for players might be guided by these findings and future research that clarifies coaches' conceptions of talented rugby, soccer and netball players. Coaches would probably appreciate some guidance on how to develop the key qualities of talented rugby, soccer and netball players. It is suggested that rugby, soccer and netball coaches might benefit from working with more qualified personnel (expert coaches, sport psychologists, sprint coaches) to develop their knowledge and practice in these key areas.
- Policy makers should be assisted in developing and implementing a more facilitative pathway for the development of talent in rugby, soccer and netball.

6.5 FINAL STUDY CONCLUSION

This study attempted to evaluate the challenges in sustainable talent detection, identification and development in Mamelodi primary schools as well as to discover the solutions to the challenges within school sport in South Africa. The investigation was conducted in previously disadvantaged schools with minimal sport infrastructure and interviewed nine coaches from rugby, soccer and netball. The conclusion was that there are no systems in place within the schools investigated to apply scientific methods to detect, identify and develop talent in rugby, soccer and netball, such as consistent and regular education and training development in areas such as motor learning, motor development and athlete development.

Consequently, the author is hesitant to produce such a talent development model relevant to previously marginalised primary schools, especially when trying to simplify such an individualised and complex process in order to represent it graphically. Instead, it is essential that coaches and practitioners in rugby, soccer and netball are consistently made aware of the multitude of physical, environmental, psychological and social mediators that impact upon the detection, identification and development of talent whilst highlighting the most significant domain-specific factors influencing the process. Practical ways of supporting developing players

to successfully manage these potential mediators may then increase the likelihood of those players reaching their optimal level of performance in rugby, soccer and netball.

7. REFERENCE LIST

Abbott, A., Collins, D., Martindale, R., & Sowerby, K. (2002). Talent identification and development: An academic review. A Report for Sportscotland by the University of Edinburgh. Edinburgh: Sportscotland.

Abernethy, B., Farrow, D., & Berry, J. (2003). Constraints and issues in the development of a general theory of expert perceptual motor performance: A critique of the deliberate practice framework. In J.L. Starkes & K.A. Ericsson (Eds), *Expert performance in sports. Advances in research on sport expertise*. 349–369. Champaign, IL: Human Kinetics.

Adie, J. W., Duda, J. L., & Ntoumanis, N. (2010). Achievement goals, competition appraisals, and the well- and ill-being of elite youth soccer players over two competitive seasons. *Journal of Sport & Exercise Psychology*, 32,555–579.

Alfred, L. (2007). Clubs have to start playing ball. The Times. Available from: <http://www.thetimes.co.za/SpecialReports/Soccer/Article> (Accessed 05 February 2013)

Allegi, P. (2004). *Laduma: Soccer, politics and society in South Africa*. Durban: KwaZulu-Natal Press.

Almond, L. (2010). Foreword: Revisiting the TGfU brand. In J. Butler & L. Griffin (Eds), *More teaching games for understanding: Moving globally*.1-238. Champaign IL: Human Kinetics.

American College of Sports Medicine (ACSM) (2006). *ACSM's guidelines for exercise testing and prescription*. Philadelphia, PA: Lippincott, Williams & Wilkins.

Amorose, A. J., & Horn, T.S. (2000). Intrinsic motivation: Relationships with collegiate athletes' gender, scholarship status, and perceptions of their coaches' behaviour. *Journal of Sport & Exercise Psychology*, 2,63–84.

Apostolopoulos, N. (2006). Microstretching. *Annals of Microstretching*. Available from <http://www.microstretching.com> (Accessed 5 May 2015).

Arnason, A., Sigurdsson, S. B., Gudmundsson, A., Holme, I., Engebretsen, L., & Bahr, R. (2004). Physical fitness, injuries, and team performance in soccer. *Medicine and Science in Sports and Exercise*, 36 (2), 278–285.

Aussie Sports Coaching Programme (1987). ACHPER, Parkside, SA.

Austin, M. (2005). Listening to the voices in your head: Identifying and adapting athletes' self-talk. *ACT Academy of Sport Psychologists*, 28 (4), [1-4]

Australian Sports Commission (2007). *Playing for life netball companion book*. Available at www.ausport.gov.au (13 October 2014).

Australian Sports Commission (2010). *Participation in exercise, recreation and sport. Annual Report*. Available at www.ausport.gov.au (Accessed 5 September 2013).

Australian Council for Health, Physical Education and Recreation (1987). *Aussie Sports Coaching Programme*. Parkside, S. Australia.

Autio, L. (2001). *Motor performance*. (3rd Ed). UK Kustannus, Oy, Lunch.

Baechle, T., & Earle, R. (2008). *Essentials of strength training and conditioning*. Champaign, IL: Human Kinetics.

- Bailey, R., & Toms, M. (2010). Youth talent development in sport—rethinking luck and justice. In Hardman, A. & Jones, R. (Eds). *The ethics of sports coaching*. London: Routledge: 149–164.
- Bailey, R. & Morley, D. (2006). Towards a model of talent development in physical education: secondary teachers’ experiences of identifying talent within the ‘Excellence in Cities’ scheme. *Physical Education and Sport Pedagogy*, 9 (2),133–148.
- Baker, J & Horton, S. (2004). A review of primary and secondary influences on sport expertise. *High Ability Studies*, 15(2), 211–228.
- Baker, J., Horton, S., Robertson-Wilson, J. & Wall, M. (2003). Nurturing sport expertise: factors influencing the development of elite athlete. *Journal of Sports Science and Medicine*, 2, 1–9.
- Baker, J. (2003). Early specialization in youth sport: a requirement for adult expertise? *High Ability Studies*, 14 (1), 85–94.
- Balogun, J.A., Adenlola, S.A. & Akinloye, A.A. (1991) Grip strength normative data for the Harpenden dynamometer. *Journal of Orthopaedic and Sports Physical Therapy*, 14:155–60.
- Balyi, I. & Hamilton, A. (2004). *Long-term athlete development: Trainability in childhood and adolescence. Windows of opportunity, optimal trainability*. Victoria: National Coaching Institute British Columbia and Advanced Training and Performance.
- Balyi, I., & Hamilton, A. (2003). Long Term Athlete Development: Trainability in childhood and adolescence. Available from: <http://coaching.usolympicteam.com> (Accessed 17 January 2013).

Balyi, I. (2001). Sport system building and long-term athlete development in British Columbia. Available from: <http://www.sportdevelopment.org.uk/balyibc2001.pdf> (Accessed 16 January 2013).

Bangsbo, J., Iaia, F.M. & Krstrup, P. (2008). The yo-yo intermittent recovery test: A useful tool for evaluation of physical performance in intermittent sports. *Sports Medicine*, 38(1):37–51.

Bangsbo, J. (1994). *Fitness training in football – A scientific approach*. Baegsvard: H+O Storm.

Bantam AA Programme –2014/2015

Bell, G. J., & Wenger, H. A. (1992). Physiological adaptations to velocity-controlled resistance training. *Sports Medicine*, 13:234 – 244.

Bian, W. (2003). *Examination of expert and novice volleyball coaches*. Athens, GA: University of Georgia.

Blanchard, C. M., Amiot, C. E., Perreault, S., Vallerand, R. J. & Provencher, P. (2009). Cohesiveness, coach's interpersonal style and psychological needs: Their effects on self-determination and athletes' subjective wellbeing. *Psychology of Sport & Exercise*, 10:545–551.

Bloom, B.S. (1985). *Developing talent in young people*. New York: Ballantine.

BMI Sport Info. (2007). *A case for sport in the Southern African Development Community (SADC)*. Pretoria. Department of Sport and Recreation South Africa.

Boksmart. (2009). *Fitness testing and the physical profiling of athletes*. Cape Town: Sports Science Institute of South Africa.

- Borms, J. (1994). *From theory to practice: talent identification and selection – the future for British Governing Bodies*. London: BOA CAG Seminar.
- Brewer, C. J., & Jones, R.L. (2002). A five-stage process for establishing valid systematic observation instruments: The case of Rugby Union. *The Sport Psychologist*, 16, 138–159.
- Brooks, G.A., Fahey, T.D., White, T.P. & Baldwin, K.M. (2000). *Exercise physiology: Human bioenergetics and its applications* (3rd Ed). New York, NY: McGraw-Hill: 16, 468-462.
- Brown, J. (2001). *Sports talent: How to identify and develop outstanding athletes*. Champaign, IL: Human Kinetics.
- Brown, L. (2007). *Strength training*. Champaign, IL: Human Kinetics.
- Bryman, A. (2008). *Social research methods*. (3rd Ed). Oxford University Press.
- Burduş, E. (2005). *Treaty of management*. Bucharest: Economic Publishing House.
- Burland, K., & Davidson, J. W. (2002). Training the talented. *Music Education Research*, 4 (1), 121–140.
- Burns, N., & Grove, S.K. (2003). *Understanding nursing research*. (3rd Ed). Philadelphia, PA: W.B. Saunders.
- Burrows, L. & Wright, J. (2003). The discursive production of childhood, identity and health. In J. Evans, B. Davies & J. Wright (Eds). *Body, knowledge and control: Studies in the sociology of education and physical culture*. London: Routledge.

Burton, D., & Raedeke, T. (2008). *Sport psychology for coaches*. Champaign, IL: Human Kinetics.

Callahan, C.M. (1997). The construct of talent. *Peabody Journal of Education*, 72, 21–35.

Canadian Soccer Association. (2007). Wellness to World Cup: Long-term player development. Available from: <http://soccer.on.ca/coaching/WellnessToWorldCup.pdf> (Accessed 15 January 2013).

Carlock, J.M., Smith, S.L., Hartman, M.J., Morris, R.T., Ciroslan, D.A., Pierce, K.C., Newton, R.U., Harman, E.A., Sands, W.A. & Stone, M.H. (2004). The relationship between vertical jump power estimates and weightlifting ability: A field-test approach. *Journal of Strength and Conditioning Research*. 18 , 534–539.

Carpenter, P.J. & Coleman, R. (1998). A longitudinal study of elite youth cricketers' commitment. *International Journal of Sport Psychology*, 29, 195–210

Carr, T. (2005). *How to coach a soccer team. Professional advice on training plans, skill drills, and tactical awareness*. New York, NY: Sterling Publishing.

Carson, L.M. (2001). The learning curriculum. *Teaching Elementary Physical Education*, 12 (5), 9–13.

Chad, K., & Steele, J. (1991). *Physiological characteristics of skilled netball players: Coaches' report*. Canberra: Australian Sports Commission.

Chan, D. W. (2008) Goal orientations and achievement among Chinese gifted students in Hong Kong. *High Ability Studies*, 19 (1), 37–51.

Charlesworth, R. (1994). Designer games. *Sports Coach* Oct.–Dec: 30–33.

Cheatum, B.A., & Hammond, A.A. (2000). *Physical activities for improving childrens behaviour. A guide to sensory motor development*. Champaign, IL: Human Kinetics.

Churchill, G., & Iacobucci, D. 2002. *Marketing research: Methodological foundations*. 8th ed. Orlando: Harcourt College Publishers.

Coalter, F. (2004). *Driving up participation: the challenge for sport, future sports or future challenges to sport?* Sport England.

Coakley, J. & Pike, E. (2009) *Sports in society: Issues and controversies*. Maidenhead: Open University Press/McGraw Hill.

Corbin, C. B., Lindsey, R. & Welk, G. (2000). *Concept of physical fitness active lifestyle for wellness*. Dubuque: McGraw-Hill.

Cote, J. (2014). The dynamics elements of youth participation. Paper presented at the Youth Talent Identification and Development Conference, Cape Town, 8–10 May 2014.

Côté, J., Erickson, K. & Duffy, P. (2013). Developing the expert performance coach. In J.Baker (2nd Ed.). *Developing elite sport performance-Lesson from theory and practice*. London: Taylor & Francis.17-28

Côté, J. (2011). *The coach's role in creating a positive environment in youth soccer: It's about how to coach, not what to coach*. Kingston, Canada: Queen's University.

Côté, J. & Gilbert, W. D. (2009). An integrative definition of coaching effectiveness and expertise. *International Journal of Sports Science & Coaching*, 4, 307–323.

Côté, J., Lidor, R. & Hackfort, D. (2009). ISSP position stand: To sample or to specialize? Seven postulates about youth sports activities that lead to continued participation and elite performance.

Journal of Sport and Exercise Psychology, 9, 7–17.

Côté, J. & Hay, J. (2002). Children's involvement in sport: "A developmental perspective". In Silva, J. & Stevens, D. (eds.) *Psychological foundations of sport*. Boston, MA: Allyn & Bacon: 484–502.

Côté, J., Salmela, J. H., Baria, A. & Russell, S. J. (1993). Organizing and interpreting unstructured qualitative data. *The Sport Psychologist*, 7, 127–137.

Cotton, W. & O'Connor, D. (2012). *An investigation into the birth dates, and anthropometric and physiological characteristics of junior club and representative netball players*. University of Sydney Papers in Human Movement, Health and Coach Education, 1, 98–99.

Council of Europe. (2001). *The European Sports Charter* (revised). Brussels: Council of Europe.

Cox, L, Coleman, L & Roker, D. (2006). Understanding participation in sport: What determines sports participation among 15–19 year old women? January 2006 Research conducted by Trust for the Study of Adolescence, Sport England, (http://www.sportengland.org/research/understanding_participation.aspx?sortBy=alpha&pageNum=2)

Crespo, M., & Reid, M. (2003). Biomechanics and teaching methodology. In *ITF Biomechanics of Advanced Tennis*. London: International Tennis Federation.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. (3rd ed). London, England: SAGE.

Creswell, J.W. (2009). *Research design. Quantitative, qualitative and mixed methods approaches.* (3rd Ed). Los Angeles, CA: SAGE.

Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd Ed.). Thousand Oaks, CA: Sage.

Crill, M. T., Kolba, C. & Chleboun, G.S. (2004). Lunge measurements for baseline testing. *Journal of Sport Rehabilitation, 13* (2), 44–53.

Crocker, P., Hoar, S., McDonough, M., Kowalski, K. & Niefer, C. (2004). Emotional experience in youth sport. In M. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective.* Morgantown, WV: Fitness Information Technology: 197–222.

Cronin, J.B., & Owen, G. (2004). Upper-body strength and power assessment in women using a chest pass. *Journal of Strength and Conditioning Research, 18*(3), 401–404.

Crouch, M., & McKenzie, H. (2006). The logic of small samples in interview-based qualitative research. *Social Science Information, 45*, (4), 483–499.

Csikszentmihalyi, M., Rathunde, K. & Whalen, S. (1993). *Talented teenagers: The roots of success and failure.* New York, NY: Cambridge University Press.

Cugliari, G. (2000). Grouping players by ability. *Soccer Journal 45* (8), 19–20.

Cushion, C.J., & Jones, R.L. (2001). A systematic observation of professional top-level youth soccer coaches. *Journal of Sport Behaviour, 24*, 354–377.

Czech, D. R., Ploszay, A. J. & Burke, K. L. (2004). An examination of the maintenance of pre-shot routines in basketball free throw shooting. *J. Sport Behaviour, 27*, 323–329.

Dawson, B. (2003). *Speed, agility and quickness in football*. World Congress on Science and Football-5: Book of abstracts. Faculty of Human Kinetics, Technical University of Lisbon, Lisbon, Portugal.

Davids, K., Button, K. & Bennet, S. (2008). Dynamics of skill acquisition: A constraints led approach. Champaign, IL: Human Kinetics.

Davids, K., Lees, A. & Burtwitz, L. (2000). Understanding and measuring coordination and control in kicking skills in soccer: implications for talent identification and skill acquisition. *Journal of Sports Sciences*, 18 (9), 703–14

Davidson, A. & Trewartha, G. (2008). Understanding the physiological demands of netball: A time-motion investigation. *International Journal of Performance Analysis in Sport*, 8 (3),1–17.

Davies, D. & Armstrong, M. (2005). *Psychological factors in competitive sport*. [Philadelphia?]: Routledge.

Davis, L. & Davis, D. (2006). *Getting into netball*. South Yarra: Macmillan Education Australia.

Deci, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York, NY: Plenum.

Derella, J. (2012). Coaching motivation. UNLV Theses/Dissertations/Professional Papers/Capstones. Paper 1428.

Deaner, H. & Silva, J.M. (2002). Personality and sport performance. In J.M. Silva & D.E. Stevens (Eds). *Psychological Foundations of Sport*. Boston, MA: Allyn and Bacon: 48–65.

- De Sousa, A. & Oslin, J. (2008). A player-centered approach to coaching. *Journal of Physical Education, Recreation & Dance*, 79 (6), 24–30.
- Deutsch, M.U., Maw, G.J., Jenkins, D. & Reaburn, P. (1998). Heart rate, blood lactate and kinematic data of elite colts (under–19) rugby union players during competition. *Journal of Sports Sciences*, 16, 561–70.
- Doane, S., Alderton, D., Sohn, Y. & Pelligrino, J. (1996). Acquisition and transfer of skilled performance: Are visual discrimination skills stimulus specific? *Journal of Experimental Psychology: Human Perception and Performance*, 22 (5), 1218–1248.
- Dominguez, R.H. (1983). *Total body training*. East Dundee, IL: Moving Force Systems.
- Dubey, H.C. (1999). *Dph Sports Series – Hockey*. [New Delhi: Discovery Publishing House.
- Durand-Busch, N., & Salmela, J.H. (2001). The development of talent in sport. In *A handbook of research on sports psychology*, (2nd Ed). New York, NY: Macmillan.
- Du Randt, R., Headley, N., Loots, J.M., Potgieter, J.R., De Ridder, J.H. & Van der Walt, T.S.P. (1993). *Sports talent identification and development and related issues in selected countries*. Nelson Mandela Metropolitan University .
- Duthie, G.M. (2006) A framework for the physical development of elite rugby union players. *International Journal of Sports Physiology and Performance*. 1, 2–13.
- Dweck, C. S. & Leggett, E. L. (1988) A social-cognitive approach to motivation and personality. *Psychological Review*, 95, 256–273.

Dworkin, J.B., Larson, R. & Hansen, D., (2003). Adolescents' accounts of growth experiences in youth activities. *Journal of Youth and Adolescence*, 32, 17–26.

Elliott, A. J. (2005). A conceptual history of the achievement goal construct. In Elliott, A. J. & Dweck, C. S. (Eds.) *Handbook of competence and motivation*. New York: Guilford: 52–72.

Ellis, L. & Smith, P. (2000). Protocols for the physiological assessment of netball players. In C.J. Gore (Ed.), *Physiological tests for elite athletes* (pp.302–310). Champaign, IL: Human Kinetics.

England Hockey. (2005). Long-term athlete development: A consultation document for hockey.

Available

from:http://www.englishockey.co.uk/core/core_picker/download.asp?id=67&filetitle=LTAD+Consultation+Document&log_stat=true (Accessed 15 October 2012).

Erasmus, J. (2009). Attention Deficit Hyperactivity Disorder. The medical perspective. In A Decaires –Wagne & H. Picton (Eds). *Teaching and ADHD in the Southern African classroom* (pp. 2–10). Northlands, JHB: Macmillan South Africa.

Ericsson, K. A. (2007). Deliberate practice and the modifiability of body and mind: Toward a science of the structure and acquisition of expert and elite performance. *International Journal of Sport Psychology*, 38, 4–34.

Ericsson, K.A., Krampe, R. & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100 (3), 363–406.

Eston, R., & Reilly, T. (1996). *Kinanthropometry and exercise physiology laboratory manual: Tests, procedures and data*. (2nd Ed). Volume 1: Anthropometry. London: E & FN Spon.

Eys, M. A., Schinke, R. J. & Jeffery, S. (2007). Role perceptions in sport groups. In M. Beauchamp & M. Eys (Eds). *Group dynamics advances in sport and exercise psychology: Contemporary themes*. Oxford: Routledge: 99–116.

Faigenbaum, A., & Westcott, W. (2000). *Strength and power for young athletes*. Champaign, IL: Human Kinetics.

Falk, B., Lidor, R., Lander, Y. & Lang, B. (2004). Talent identification and early development of elite water-polo players: A two-year follow-up study. *Journal of Sports Sciences*, 22 (4), 347–355.

Fédération Internationale de Football Association (FIFA). (2010). 2010 FIFA World Cup South Africa TM Marketing Highlights. Zurich: FIFA. (Accessed 28 January 2013).

Fédération Internationale de Football Association (FIFA). (2012). FIFA Rankings 2012. Zurich: FIFA. (Accessed 28 January 2013).

Fisher, A. (2008). Relationships between physical activity and motor and cognitive function in young children (Unpublished doctoral thesis). University of Glasgow, UK.

Fleck, T. & John, C. (2002). *Youth soccer parent/coach primer*. Revised ed. Frisco, TX: US Youth Soccer: 33.

Flynn, R. (1999). *Tactics and strategy in squash*. Head Squash Coach – Victorian Institute of Sport Australian Junior Men’s Team Coach.

Football Federation Australia. (2006). A scientific basis for talent identification and elite player development. Available from http://www.ajfc.net.au/res/data/Abridged_scientific_research_-_SSG.ppt (Accessed 28 June 2008).

Football Association of Ireland (2004). Football for the future: Technical Development Plan 2004–2008. Available from: <http://www.fai.ie/pdf/TechDev.pdf> (Accessed 21 November 2012).

Foreweather, L. (2010). Fundamental movement skill competence among 10–11-year-old children: Year 2 PEPASS Physical Activity Project. Liverpool: John Moores University for Wigan Council.

Foster, C., Florhaug, J.A., Franklin, J., Gottschall, L., Hrovatin, L.A., Parker, S., Doleshal, P. & Dodge, C. (2001). A new approach to monitoring exercise training. *Journal of Strength and Conditioning Research*, 15, 109–115.

French, M., Wheeler, J. & Galsworthy, B. (2014). Untitled. [online] Available at: <http://www.teachpe.com/gcse/Netball.pdf> (Accessed: 4 Nov 2014).

Fulton, J.E., Burgerson, C.R. & Perry, G.R. (2001). Assessment of physical activity and sedentary behaviour in preschool age children: Priorities for research. *Pediatric Exercise Science*, 13, 113–126.

Gabbard, C. P. (2008). Lifelong motor development. 5th ed. San Francisco, CA: Pearson.

Gabbett, T. & Georgieff, B. (2007). Physiological and anthropometric characteristics of Australian junior national, state, and novice volleyball players. *National Strength & Conditioning Association*, 21(3), 902–908.

Gabbett, T., Rubinoff, M., Thorburn, L. & Farrow, D. (2007). Testing and training anticipation skills in softball fielders. *International Journal of Sports Science & Coaching*, 2:15–24.

Gabriel, J. (2003). LWYSA Training Programme Book A: Technical Skills. Lake Washington Youth Soccer Association.

Gagné, F. (2004). Transforming gifts into talents: the DMGT as a developmental theory. *High Ability Studies*, 15 (2), 119–147.

Gallue, D.L. & Donnelly, F.C. (2003). Development Physical Education for all children. 4th ed. Champaign, IL: Human Kinetics.

Gallahue, D.L. & Ozmun, J.C. (2002). *Understanding motor development: Infants, children, adolescents, adults*. 5th ed. Boston, MA: McGraw-Hill.

Garn, A.C. & Cothran, D.J. (2005). The fun factor in physical education. Paper presented at the American Education Research Association annual conference, Montreal, Canada.

Gatz, G. (2009). *Complete conditioning for soccer*. Champaign, IL: Human Kinetics.

Gerrish, K. & Lacey, A. (2006). Communication and disseminating research. In *The research process in nursing*, (4th Ed). Oxford: Blackwell: 538.

GfK NOP Social Research. (2006). Understanding participation in sport: What determines sports participation among lone parents? Sport England. (http://www.sportengland.org/research/understanding_participation.aspx?sortBy=alpha&pageNumber=2)

Ghaye, T. (2001). Reflection: Principles and practices. *Faster, Higher and Stronger*, 10, 9–11

Gibbons, T.M., McConnell, A., Forster, T., Riewald, S.T. & Peterson, K. (2003). Reflections on success: US Olympics describe the success factors and obstacles that most influenced the Olympic development. Available from [http://codp.usoc.org/files%5 Reflections on Success. pdf](http://codp.usoc.org/files%5Reflections%20on%20Success.pdf) (Accessed 12 September 2012).

Gil, S., Ruiz, F., Irazusta, A., Gil, J. & Irazusta, J. (2007). Selection of young soccer players in terms of anthropometric and physiological factors. *Journal of Sports Medicine and Physical Fitness*, 47(1), 25–32.

Glamser, F.D. & Vincent, J. (2004). The relative age effect among elite American youth soccer players. *Journal of Sport Behaviour*, 27(1),31–38.

Glesne, C. (1999). *Becoming Qualitative researchers – An Introduction*. (2nd Ed). New York: Longman.

Golby, J. & Sheard, M. (2004). Mental toughness and hardiness at different levels of rugby league. *Personality and Individual Difference*, 37, 933–942.

Gould, G. & Carson, S. (2004). Myths surrounding the role of youth sports in developing Olympic champions. *Youth Studies Australia*, 23(1), 19–26.

Graham, G., Holt/Hale, A. S. & Parker, M. (2003). *Children moving: A reflective approach to teaching physical education*. 6th ed. USA: McGraw-Hill.

Gratton, C. & Jones, I. (2004). *Research methods for sport studies*. London: Routledge.

Green, M. & Oakley, B. (2001). Elite sport development systems and playing to win: Uniformity and diversity in international approaches. *Leisure Studies*, 20 (4), 247–267.

Gregory, V. P. & Isaacs, D. L. (2005). *Human motor development: A lifespan approach*. (6th Ed). New York: McGraw-Hill.

Greg, G. (2009). *Complete conditioning for soccer*. Champaign, IL: Human Kinetics.

Grehaigne, J. F., Godbout, P. P. & Bouthier, D. D. (2001). The teaching and learning of decision making in team sports. *Quest*, 53, 59–76.

Haibach, S., Reid, G. & Douglas, H. C. (2011). *Motor learning and development*. New York, NY: Human Kinetics.

Hakkarainen, H., Timo, J., Kalaja, S., Lämsä, J., Nikander, A. & Risk, J. (2009). *Children's and young people's sports training basics*. VK cost Oy, Lahti

Hargreaves, A. & Bate, R. (2009). *Skills and strategies for coaching soccer*. 2nd ed. The Complete Soccer Coaching Manual. USA: Human Kinetics.

Haselwood, D.M., Joyner, A. B., Burke, K. L., Geyerman, C. B., Czech, D. R., Munkasy, B. & Zwald, A. D. (2005). Female athletes' perceptions of head coaches' communication competence. *Journal of Sport Behaviour*, 28(3), 216–230.

Harvey, D. (1998). Assessment of the flexibility of athletes using the modified Thomas test. *British Journal of Sports Medicine* 32, 68–70.

Haywood, K.M & Getchell, N. (2009). *Lifespan motor development* (5th Ed.). Champaign, IL: Human Kinetics.

Hedstrom, R. & Gould, D. (2004). Research in youth sports: Critical issues status. Available from <http://edweb3.educ.msu.edu/ysi/project/CriticalIssuesYouthSports.pdf> (Accessed 28 May 2014).

Hedstrom, R. & Gould, D. (2004). Research in youth sports: Critical issues status. Available from <http://edweb3.educ.msu.edu/ysi/project/CriticalIssuesYouthSports.pdf> (Accessed 28 May 2012).

Helsen, W.F., Holmes, N.J., Van Winckel, J. & Starkes, J.L. (2000). The roles of talent, physical precocity and practice in the development of soccer expertise. *Journal of Sports Sciences*, 18, 727–736.

Henriksen, K., Stambulova, N. & Roessler, K. K. (2010). Successful talent development in track and field: Considering the role of environment. *Scandinavian Journal of Medicine and Science in Sports*, 20(2), 122–132.

Hoare, D. G. (2000). Talent identification, selection and development plan. Available from <http://www.srsa.gov.za> (Accessed 28 January 2013).

Hoare, D.G. & Warr, C.R. (2000). Talent identification and women's soccer: An Australian experience. *Journal of Sports Sciences*, 18, 751–758.

Hodges, N.J., Starkes, J.L. & MacMahon, C. (2006). Expert performance in sport: A cognitive perspective. In: K.A. Ericsson, N. Charness, P.J. Feltovich & R.R. Hoffman (Eds). *The Cambridge handbook of expertise and expert performance*. Nueva York: Cambridge University Press: 471–488.

Hodges, N. J. & Franks, I. M. (2004a). Instructions and demonstrations: Creating and constraining movement options. In A. M. Williams & N. J. Hodges (Eds), *Skill acquisition in sport: Research, theory and practice*. London: Routledge: 145–174.

Hodges, N. J. & Franks, I. M. (2004b). The nature of feedback. In M. Hughes & I. M. Franks (Eds.), *Notation analysis of sport*. (2nd ed). London: E & FN Spon: 17–39.

Hoffmann, R., Ging, L.C. & Ramasamy, B. (2002). The socio-economic determinants of international soccer performance. *Journal of Applied Economics*, 5 (2), 253–272.

Holcomb, B. (2000) Stretching and warm-up. In Baechle, T.R. & Earle, R.W. (Eds) *Essentials of strength and conditioning*. Champaign, IL; Human Kinetics.

Hopper, T. & Bell, D. (2000). A tactical framework for teaching games: Teaching strategic understanding and tactical awareness. *Physical and Health Educator*, 66(4):14–19.

Horton, S., Baker, J. & Deakin, J. (2005). Expert in action: A systematic observation of 5 national team coaches. *International Journal of Sport Psychology*, 36(4),299.

Howe, M.J.A., Davidson, J.W. & Sloboda, J.A. (1998). Innate talents: Reality of myth? *Behavioural and Brain Sciences*, 21(3), 399–407.

Hughes, M., Maynard, I., Lees, A. & Reilly, T. (2002). *Science and racket sports II.* : Taylor & Francis.

IFNA Basic Coaching Manual. (2008). Lead Nature Achieve. 40 Princess Street, Manchester, M1 6DE: available www.netball-academy.org

ITF Coaches Education Programme. (2007). Level 2 Coaching Course: Technical Diagnosis and correction: Analysis and development/improvement.

Innes, E. (1999). Handgrip strength testing: A review of the literature. *Australian Occupational Therapy Journal*, 46, 120–140.

Jennings, C.L., Viljoen, W., Durandt, J. & Lamber, M.I. (2005). The reliability of the FitroDyne as a measure of muscle power. *J Strength Cond Res*, 19, 859–863.

Jones, R.L. (2006). The sports coach as educator: Re-conceptualising sports coaching. Brunel University, UK: Routledge.

Jowett, S. & Chaundy, V. (2004). An investigation into the impact of coach leadership and coach-athlete relationship on group cohesion. *Group Dynamics: Theory, Research, and Practice*, 8:302–311.

Kariong Netball Club. (2013). Umpire Handbook. Available at http://www.kariongnet.com/general_files/2013/Kariong (Accessed 5 March 2013).

Kemppinen, P. (1998). Skilful football player skill coaching manual, Cost Coaching P. & K. Oy, Vantaa

Kemppinen, P. (2003). *Taitajan road, Tanoke coaching manual*. Oy, Vantaa: Cost Coaching P. & K.

Kerlinger, F. N. & Lee, H. B. (2000). Foundations of behavioural research (4th ed.). Holt, NY: Harcourt College.

Kidman, L. & Hanrahan, S. (2004). *The coaching process: A practical guide to improve your effectiveness*. Palmerston North, NZ: Dunmore: 63–86.

Kidman, L. & Hanrahan, S. (2011). *The coaching process – A practical guide to improving your effectiveness*. (3rd Ed). New York, NY: Routledge.

Kidman, L. (2005). *Athlete-centered coaching: Developing inspired and inspiring people*. Christchurch, New Zealand: Innovative.

Kinnear, T.C. & Taylor, J.R. (1996). *Marketing research: An applied approach*. New York: McGraw-Hill.

Kirk, D., Nauright, J., Hanrahan, S., Macdonald, D. & Jobling, I. (1996). *The sociocultural foundations of human movement*. Melbourne: Macmillan.

Kluka, D. A. (1999). *Motor behaviour: From learning to performance*. Englewood, CO: Morton Publishing.

Kosinski, R.J. (2005). Reaction Time. Newsletter on the internet. Available from: @<http://biology.Clemson.edu> (Accessed on 25 November 2013).

Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners*. Los Angeles, CA: Sage.

Krustrup, P., Mohr, M., Amstrup, T., Rysgaard, T., Johansen, J., Steensberg, A., Pedersen, P. K. & Bangsbo, J. (2003). The yo-yo intermittent recovery test: Physiological response, reliability and validity. *Medicine and Science in Sports and Exercise*, 35, 697–705.

Krustrup P., Mohr M., Steensberg A., Bencke J., Kjaer, M. & Bangsbo, J. (2006). Muscle and blood metabolites during a soccer game: Implications for sprint performance. *Medicine and Science in Sports and Exercis*, 38,1165–1174.

LA 84 Foundation Soccer Coaching Manual. (2012). Life ready through sport. www.LA84Foundation.org.

Lampinen, K. & Forsman, H. (2008). *Motor learning concepts and applications*. Oy, Lahti: VK Kustannus.

LaPrath, D. (2009). *Coaching girls' soccer successfully*. USA: Human Kinetics.

Larson, R. (2000). Toward psychology of positive youth development. *American Psychologist*, 55(1), 170–183.

Lauer, L., Gould, D., Roman, N. & Pierce, M. (2010). Parental behaviours that affect junior tennis player development. *Psychology of Sport and Exercise*, 11,487–496.

Lauder, A. (2001). *Play practice: The games approach to teaching and coaching sports*. Champaign, IL: Human Kinetics.

Lee, M.J, Whitehead, J., Ntoumanis, N. & Hatzigeorgiadis, A. (2008). Relationships amongst values, achievement orientations, and attitudes in youth sport. *Journal of Sport and ExercisePsychology*, 30(5), 588–610.

Lemyre, F., Trudel, P. & Durand-Bush, N. (2007). How youth sport coaches learn to coach. *The Sport Psychologist*, 21,191–209.

Letts, L., Wilkins, S., Law, M., Stewart, D., Bosch, J. & Westmorland, M. (2007). Critical Review Form – Qualitative Studies (Version 2.0). McMaster University.

Lichtenberger, M. (2006). Promoting self-discipline in your athletes. ??

Li, M., Pitts, B.G. & Quarterman, J. (2008). *Research methods in sport management*. West Virginia University.

Locke, E. A. & Latham, G. P. (2002). Building practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, 57, 705–717.

Luger, D. & Pook., P. (2004). *Complete conditioning for rugby*. USA: Human Kinetics.

Luondo, AM. (1996). *The soccer handbook for players, coaches and parents*. Jefferson, NC: McFarland & Company.

Lyle, J. (2002). *Sport coaching concepts: A framework for coaches' behaviour*. London: Routledge.

MacKenzie, B. (1997). Skill Development. Available from <http://www.brianmac.co.uk/tech.htm> (Accessed 17 June 2015).

Mageau, G.A. & Vallerand, R.J. (2003). The coach–athlete relationship: A motivational model. *Journal of Sport Sciences*. 21, 883–304.

Magill, R.A. (1993). *Motor learning concepts and applications*. (4th Ed). Dubuque, IA: Brown & Benchmark.

- Maguire, J. & Pearton, R. (2000). The impact of elite labour migration on the identification, selection and development of European soccer players. *Journal of Sports Sciences*, 18:759–769.
- Marshall, C. & Rossman, G. B. (1999) *Designing qualitative research*. (3rd Ed). Thousand Oaks, CA: Sage Publications.
- Martens, R. (2004). *Successful coaching*. (3rd Ed). Champaign, IL: Human Kinetics.
- Martindale, R. J. J., Collins, D., Wang, J., McNeill, M., Lee, S. K., Sproule, J. & Westbury, T. (2010). Development of the talent development environment questionnaire for sports. *Journal of Sport Sciences*, 28 (11), 209–1221.
- Martindale, R. J. J., Collins, D. & Abraham, A. (2007). Effective talent development: The elite coach perspective in UK sport. *Journal of Applied Sport Psychology*, 19:187–206.
- Martindale, R. J. J., Collins, D. & Daubney, J. (2005). Talent development: A guide for practice and research within sport. *Quest*, 57, 353–375.
- Martins, R. (1990). *Successful coaching*. London: Human Kinetics.
- Mason, J. (2002). *Qualitative researching*. 2nd ed. London: Sage Publications.
- Maulder, P. & Cronin, J. (2005). Horizontal and vertical jump assessment: Reliability, symmetry, discriminative and predictive ability. *Physical Therapy in Sport*6:74–82.
- McGrinty, G. (2013). Warm-up and cool-down – Essential for optimal performance! Available at OhioHealth.com/SportsMedicine (25 May 2015)

- McKenzie, T.L., Sallis, J.F., Broyles, S.L., Ziue, M.M., Nader, P.R, Berry, C.C. & Brennan, J.J. (2004). Childhood movement skills: Predictors of physical activity in Anglo-American and Mexican-American adolescents? *Research Quarterly of Exercise in Sports*, 73, 238–244.
- McNorris, T. (2001). *Acquisition performance of sports skills*. West Sussex: John Wiley & Sons.
- McPherson, G.E. (1997). Giftedness and talent in music. *Journal of Aesthetic Education*, 31(4), 65–77.
- Memmert, D. (2011). Sports and Creativity. In Runco & Pritzker (Eds.) *Encyclopedia of Creativity*. (2nd Ed), Academic Press. San Diego, 2, 373-378.
- Mielke, D. (2003). *Soccer fundamentals*. Sport Fundamentals Series. Champaign, IL: Human Kinetics.
- Microsoft Encarta Encyclopaedia, (2014) (Accessed on November. 24, 2013)
- Morgan, T.K & Giacobbi, P.R. (2006). Toward two grounded theories of the talent development and social support process of highly successful collegiate athletes. *The Sport Psychologist*, 20, 295–313.
- Moon, S. M. (2003). Personal talent. *High Ability Studies*, 14, 5–21.
- Moreno-Briseño, P., Díaz, R., Campos-Romo, A. & Fernandez-Ruiz, J. (2010). Sex-related differences in motor learning and performance. (Retrieved 30 October 2013 from <http://www.behaviouralandbrainfunctions.com/content/6/1/74>)
- National Sports and Recreation Plan (2011). Available at <http://www.srsa.gov.za> (Accessed 24 May 2013).

- Nelson, L.J., Cushion, C.J. & Potrac, P. (2006). Formal, non-formal and informal coach learning: A holistic conceptualisation. *International Journal of Sports Science and Coaching*, 1, 247–259.
- Netball Australia (2005). Annual Report. Available at <http://www.netball.asn.au/uploads/res/>
- Netball South Africa (NSA) (2011). Long Term Participant Development. Technical document. Available at www.netball-sa.co.za
- Nicholson, R. (2003). Fit to play: Foot speed development in netball. *Australian Netballer*, 10, 26–27.
- Nixon, H.L. & Frey, J.H. (1996). *A sociology of sport*. Belmont, CA: Wadsworth.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5 (1), 14–37.
- Nortje, J.J., Coopoo, Y. & Lazarus, T. (2005). Views of elite swimmers on achieving swimming excellence in South Africa. *South African Journal of Sport Medicine*, 17(2):8–12.
- O'Connor, D., & Cotton, W. (2009). Community Junior Sport Coaching. Final Report.
- O'Donoghue, P. (2014). *An introduction to performance analysis of sport*. Champaign, IL: Human Kinetics.
- Okely, A.D., Booth, M.L. & Patterson, J.W. (2001). Relationship of physical activity to fundamental skills among adolescents. *Medicine in Sports & Exercise*, 33 (11), 1899–1904
- Ollis, S., MacPherson, A. & Collins, D. (2006). Expertise and talent development in rugby refereeing: An ethnographic enquiry. *Journal of Sport Sciences*, 24 (3), 309–322.

Ommundsen, Y. (2009). Who's talents, we must specialize early, and what is a good coach? In B.T. Johansen, R. & J. Høigård Fjeld (Eds). *Newer perspective in sports and sport pedagogy*. Kristiansand: Norwegian Academic Press.

Oreck, B. (2005). A powerful conversation: Teachers and artists collaborate in performance-based assessment. *Teaching Artist Journal*, 3 (4), 220–227.

Pain, G. (2001). The physical education teacher as coach: A fundamental conflict of interest? Oxford University Press.

Paolucci, E.O. & Violato, C. (2004). A meta-analysis of the published research on the affective, cognitive and behavioural effects of corporal punishment. *Journal of Psychology*, 138 (3), 197–124.

Payne, V.G & Isaacs, L.D. (2008). *Human movement development. A lifespan approach*. (7th Ed). Boston, MA: McGraw-Hill.

Peltola, E. (1992). Talent identification. *Sport Psychology Bulletin*, 3 (5), 10–11.

Perry, I., Phil, B. & Tangai, S. (2006). Knowledge management and organisational culture, management and marketing. *Challenges for Knowledge Society*, 4, 51–62.

Peterson, M.D., Alvar, B.A. & Rhea, M.R. (2006). The contribution of maximal force production to explosive movement among young collegiate athletes. *Journal of Strength and Conditioning Research*, 20, 867–873.

Pienaar, A.E. (2012). KinderKinetics: An investment in the total wellbeing of children. *South African Journal for Research in Sport Physical Education and Recreation*, 31(1), 49–67.

Pienaar, A.E., Spamer, M.J. & Steyn, H.S. (1998). Identifying and developing rugby talent among 10-year-old boys: A practical model. *Journal of Sports Sciences*, 16, 691–699.

Pienaar, A.E., & Spamer, E.J. (1996). A scientific approach to the identifying of rugby talent among ten and eleven-year-old boys. *Kinesiology*, 28 (1), 48–53.

Pike, E. (1996). Contemporary issues. In P. Beashel & J. Taylor (Eds), *Advanced studies in physical education and sport*. Surrey, UK: Thomas Nelson and Sons: 34–58.

Pill, S. (2008). Play with purpose: Teaching games for understanding. *Active and Healthy*, 15 (1), 7–10.

Polit, D.F., Beck, C.T. & Hungler, B.P. (2001). *Essentials of nursing research methods, appraisal, and utilisation* (5th Ed). Philadelphia, PA: Lippincott.

Posthumus, M. & Durandt, J. (2009). *Physical conditioning for rugby*. Boksmart.

Powers, S.K. & Howley, E.T. (2007). *Exercise physiology: Theory and application to fitness and performance*. (6th Ed). New York, NY: McGraw-Hill: 444.

Prentice, W. E. (1999). *Fitness and wellness for life*. Dubuque, IA: McGraw-Hill.

Pressley, M. & Harris, J.R. (2006). Cognitive strategies instruction: From basic research to classroom instruction. In P. A. Alexander & P. H. Winne (Eds.), *Handbook of educational psychology* .(2nd Ed). Mahwah, NJ: Erlbaum: 265–286.

Pyke, F.S. (1991). *Better coaching: Advanced coach's manual*. Belconnen: Australian Coaching Council.

- Quarrie, K.L., & Wilson, B.D. (2000) Force production in the rugby union scrum. *Journal of Sports Sciences*, 18, 237–246.
- Rainer, P., Cropley, B. & Adams, D. (2010). Learning through reflection. *Coaching Edge*, 18, 12–13.
- Rapley, T. (2004). Interviews. In Seale, C., Gobo, G., Gubrium, J. F. & Silverman, D. (eds.) *Qualitative research practice*. London: Sage Publications: 15–33.
- Raudsepp, L. & Pall, P. (2006). The relationship between fundamental motor skills and outside school physical activity of elementary school children. *Pediatric Exercise Science*, 18, 426–435
- Regnier, G., Salmela, J.H. & Russell, S.J. (1993). Talent detection and development in sport. In *A handbook of research on sports psychology*. New York, NY: Macmillan.
- Reilly, T. & Doran, D. (2003). Fitness assessment. In T. Reilly & A. M. Williams (eds.), *Science and soccer* 2nd ed. London: Routledge: 21–46.
- Reilly, R., Bangsbo, J. & Franks, A. (2000). Anthropometric and physiological predispositions for elite soccer. *Journal of Sports Sciences*, 18, 669–683.
- Reilly, T. (1996). *Fitness assessment. Science and soccer*. London: E and FN Spon.
- Reilly, T. & Stirling, A. (1993). Flexibility, warm-up and injuries in mature games players. In W. Duquet & J. A. P. Day (eds), *Kinanthropometry IV*. London: E and FN Spon: 119–123.
- Renshaw, I. & Fairweather, M. M. (2000). Cricket bowling deliveries and the discrimination ability of professional and amateur batters. *Journal of Sport Sciences*, 18 (12), 951–957.

Rhodewalt, F. (1994). Conceptions of ability, achievement goals, and individual differences in self-handicapping behaviour: On the application of implicit theories. *Journal of Personality*, 62, 67–85.

Roşca, V. (2010). Knowledge management in the rugby team: a factor of England's 2003 Rugby World Cup Success. *Management and Marketing. Challenges for Knowledge Society*, 5(30), 135–148.

Ruhan, Z. (2011). Player/coach relationships Level 3 – Task 13. Available at <http://www.rugby.com.au> (Accessed 13 February 2015)

Russel, K. (1989). Athletic talent: From detection to perfection. *Science Periodical on Research and Technology in Sport*, 9, 1–6.

Rushall, B.S. & Pyke, F.S. (1990). *Training for sports and fitness*. South Melbourne: Macmillan Education Australia.

Ryan, H. (2009). The development of a reliable and valid netball intermittent activity test. Retrieved from Australasian Digital Theses Programme. (269448) [Accessed 15 September 2016)

Sabino, D. (2009). MLB draft rankings: How has each team fared over the past 10 years? *Sports Illustrated*. (Accessed 31, August 2014 from:

sportsillustrated.cnn.com/2009/writers/david_sabino/06/07/draft.rankings

Sabock, R.J., & Sabock, M.D. (2008). *Coaching: A realistic perspective*. Lanham, MD: Rowman & Littlefield.

Scanlan, T. & Lewthwaite, R. (1986). Social psychological aspects of competition for male youth sport participants: IV. Predictors of enjoyment. *Journal of Sport Psychology*, 8, 5–35.

Saipe, R. (1999). *Working in sport and recreation: A practical approach*. Cheltenham: Thornes.

Salmela, J.H. & Reigner, G. (1983). A model for sport talent detection. *Science Periodical on Research and Technology in Sport*, GY–1.

Schmid, R., & Lee, D. (2005). *Motor learning concepts and research methods. Motor control and learning behavioural emphasis*. 4th ed. USA: Human Kinetics.

Schmidt, R.A., & Wrisberg, C.A. (2000). *Motor learning and performance. A problem-based learning approach*. Champaign, IL: Human Kinetics.

Science of Sport. Winter. (2003). Analysing Sport Skills: Available from: <http://academic.evergreen.edu/curricular/scienceofsport/analyze.htm> (Accessed 2 June 2015)

Seefeldt, V. (1996). The future of youth sports in America. In F. L. Smoll & R. E. Smith (Eds.), *Children and youth in sport: A biopsychosocial perspective*. Mountain View, CA: Mayfield: 423–435.

Sellers, C. (2001). Feedback – When should a coach provide feedback? *Journal of Sport Sciences*, 19, 203-222

Sherrill, C. (1993). *Adapted physical activity, recreation and sport– cross disciplinary and lifespan*. Dubuque, IA: Brown Benchmark.

Shields, D.L. & Bredemeier, B.L. (2009). *True competition: A guide to pursuing excellence in sport and society*. Champaign, IL: Human Kinetics.

Simonton, D. (1999). Talent and its development: An emergenic and epigenetic model. *Psychological Review*, 106:435–57.

Simonton, D.K. (2001). Talent development as a multidimensional, multiplicative and dynamic process. *Current Directions in Psychological Sciences*, 10, 39–43.

Smith, M. (2010). *Research methods in sport*. Exeter: Learning Matters.

Smith, R. E., Smoll, F. L. & Cumming, S. P. (2007). Effects of a motivational climate intervention for coaches on young athletes' sport performance anxiety. *Journal of Sport & Exercise Psychology*, 29 (1), 39-59

Smith, M. & Cushion, C.J. (2006). An investigation of the in-game behaviours of professional, top-level youth soccer coaches. *Journal of Sport Sciences*, 24,355-366

Smith, S. L., Fry, M. D., Ethington, C. A. & Li, Y. (2005). The effect of female athletes' perceptions of their coaches' behaviours on their perceptions of motivational climate. *Journal of Applied Sport Psychology*, 17, 170-177

Smoll, F.L. & Smith, R.E. (2002). *Children and youth in sport: A biopsychosocial perspective*. Dubuque, IA: Kendall/Hunt.

Smith, R. E. & Smoll, F. L. (1997). Coaching the coaches: Youth sports as a scientific and applied behavioural setting. *Current Directions in Psychological Science*, 6(1), 16-21

Smoll, F. L. & Smith, R. E. (1993). Educating youth sport coaches: An applied sport psychology perspective. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* 2nd ed. Mountain View, CA: Mayfield.:36–57.

Snow, S. & Thomas. J. (2009). *Skills School: Fundamental Ball Skills: US Youth Soccer Coaching Department.*

Sosniak, L. A. (1990). The tortoise, the hare, and the development of talent. In Howe, M. J. A. (Ed.) *Encouraging the development of exceptional skills and talents.* Leicester: The British Psychological Society:149–164.

South African Rugby Football Union (SARFU) (2001). *Advanced rugby techniques and tactics.* Johannesburg: South African Rugby Football Union.

South African Football Association (SAFA). (2009). SAFA Development. Available from: <http://www.safa.net/development/index.asp> (Accessed 16 January 2015)

South African Football Association (SAFA). (2012). SAFA Technical Master Plan: technical document: Available from: <http://www.safa.net/development/index.asp> (Accessed 16 January 2014)

South African Sports Confederation and Olympic Committee (SASCOC) (2011). Model for Long-Term Coach Development (LTCD): technical document. Johannesburg: SASCOC, web document available at www.sascoc.co.za.

Special Olympics Football Guide. (2004). Football coaching guide: Planning a football training and competition season.

Sport and Recreation South Africa (SRSA). (2012). White paper on sport and recreation: Available from: <http://www.srsa.gov.za> (Accessed 22 January 2015)

- Starkes, J. & Ericsson, K.A. (2003). *Expert performance in sport: Recent advances in research on sports expertise*. Champaign, IL: Human Kinetics.
- Steuerwald, B. (2002). Communicating with the athlete and their readiness to change GSSI The Clipboard, www.gssiweb.com
- Stimson, K. (1996). Game sense: Understanding how to play the game. *Aussie Sports Action*. Winter:24–25.
- Strauss, A. & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. (2nd Ed). Thousand Oaks, CA: Sage.
- Subotnik, R.F., Olszewski-Kulius, P. & Arnold, K.D. (2003). Beyond Bloom: Revisiting environmental factors that enhance or impede talent development. Available from: http://www.apa.org/ed/beyond_bloom.pdf (Accessed 11 May 2012).
- Svensson, M. & Drust, B. (2005). Testing soccer players. *J Sports Sc*, 23(6),601-618
- Tallir, I., Philippaerts, R., Valcke, M., Musch, E. & Lenoir, M. (2012). Learning opportunities in 3 on 3 versus 5 on 5 basketball game play: an application of nonlinear pedagogy. *International Journal of Sport Psychology*, 43(5),420
- Taylor, J. & Wilson, S. (2005). *Applying sport psychology: Four perspectives*. Champaign, IL: Human Kinetics.
- Terblanche, E. & Venter, R. (2009). The effect of backward training on the speed, agility and power of netball players. *South African Journal for Research in Sport, Physical Education and Recreation*, 31(2), 135–145.

Tetley, C. (2012). Eight recommendations for coaching decision making in sport. RFL Education & Training Specialist. Available:<http://www.sportscoachuk.org/blog/eight-recommendations-coaching-decision-making-sport>.

The Council for European Sports Charter. (2001)

<http://www.coe.int/t/dg4/epas/resources/charter> (Retrieved 25 January 2013)

The State of New South Wales through the NSW Department of Education and Communities (2012). Web document available at <http://www.curriculumsupport.nsw.edu.au/>

Thomas, A., Dawson, B. & Goodman, C. (2006). The Yo-Yo Test: Reliability and Association with a 20-m Shuttle Run and VO_{2max} . *International Journal of Sports Physiology and Performance*, 1, 137-149

Thomas, J.R., Nelson, J.K. & Silverman, S.J. (2001). *Research methods in physical activity*. (4th Ed). Champaign, IL: Human Kinetics.

Tomlin, D. L. & Wenger, H. A. (2001). The relationship between aerobic fitness and recovery from high intensity intermittent exercise. *Sports Medicine*, 31, 1-11

Tranckle, P. & Cushion, C.J. (2006). Rethinking giftedness and talent in sport. *Quest*, 58:265–282.

Turner, A. & Martinek, T. (1995). Teaching for understanding: A model for improving decision making during game play. *Quest*, 47, 44-63

Try Rugby (2007). *Skills and Drills Complete Manual*. [Australian Rugby Union]

Tull, D.S. & Hawkins, D.I. (1993). *Marketing research: Measurement and method*. London: Prentice-Hall International.

University of Pretoria. (1999). *University of Pretoria Code of Ethics for Research*. South Africa: University of Pretoria.

Van Rossum, J. (2001) Talented in dance: The Bloom Stage Model revisited in the personal histories of dance students. *High Ability Studies*, 12(2), 181-197

Vaeyens, R., Güllich, A., Warr, C. & Philippaerts, R. (2009) Talent identification and promotion programmes of Olympic athletes. *Journal of Sports Sciences*, 27 (13), 1367–1380.

Veale, J., Pearce, A., Koehn, S. & Carlson, J. (2008). Performance and anthropometric characteristics of prospective elite junior Australian footballers: A case study in one junior team. *Journal of Science and Medicine in Sport*, 11(2), 227-230.

Vealey, R.S. (2005). *Coaching for the inner edge*. Morgantown, WV: Fitness Information Technology. (pp. 75–103)

Vickers, J.N. & Bales, J.D. (1996). *Decision training in hockey*. University of Calgary, Canada.

Walker, K & Stevens, M. (2009). *Coaching Softball Technical and Tactical Skills*. American Sport Education Programme.

Walliman, N. S. R. (2001) *Your research project: A step by step guide for the first-time researcher*. London: Sage Publications.

Wann, D.L. (1997). *Sport psychology*. New Jersey: Prentice Hall.

Ward, P., Hodges, N. J., Williams, M. A. & Starkes, J. L. (2004). Deliberate practice and expert performance. In Williams, M. A. & Hodges, N. J. (eds.) *Skill acquisition in sport*. London: Routledge, pp.231–258.

Weeks, D.L & Anderson, L.P (2000). The interaction of observational learning with overt practice: Effects on motor skill learning. *Acta Psychologica*, 104,259-271.

Weinberg, R.S. & Gould, D. (2007). *Feedback, reinforcement and intrinsic motivation. Foundations of sport and exercise psychology* (4th Ed. USA: Human Kinetics.

Welman, C. & Kruger, F. (1997). *Research methodology for the business and administrative services*. Upper Saddle River, NY: Prentice Hall.

Welsh Rugby Union. (2001). Rugby Pathway for all players – Under 8 to Under 19

Wells, G., Elmi, M. & Thomas, S. (2009) Physiological correlates of golf performance. *Journal of Strength and Conditioning Research*, 23(3),741-750.

Whittemore, R., Chase, S. K. & Mandle, C. L. (2001) Validity in qualitative research. *Qualitative Health Research*, 11(4),522-537.

Williams, A.M. & Hodges, N.J. (2005). Practice, instruction and skill acquisition in soccer: challenging tradition. *Journal of Sports Sciences*, 23(6),637-650.

Williams, A.M. & Reilly, T. (2003). *Science and soccer* (2nd Ed).London: Routledge.

Williams, A.M. & Reilly, T. (2000). Talent identification and development in soccer. *Journal of Sports Sciences*. 18,657-650.

- Williams, J.N. (1994). *Applied sport psychology: Personal growth to peak performance* (5th ed.) Boston: McGraw-Hill, 404–422.
- Wilson, V.E., Peper, E. & Schmid, A. (2006). Training strategies for concentration. In Williams, J.N. (Ed) *Applied sport psychology: Personal growth to peak performance* (5th Ed). Boston, MA: McGraw-Hill, 404–422.
- Winder, P. (1990). *Rugby Training*. Bedford Row, London: A & C Black.
- Wolfenden, L.E. & Holt, N.L. (2005). Talent development in elite junior tennis: Perceptions of players, parents and coaches. *Journal of Applied Sport Psychology*, 17,108-126.
- Wolstencroft, E. (2004). Academic review: Summary Sport Scotland talent identification and development programme (p13). [Hyperlink<http://www.ausport.gov.au/info/topics/officiating-asp.ausport.gov.au>]. 26 July 2014.
- Wrisberg, G. A. (2007). *Sport skill instruction for coaches*. Champaign, IL: Human Kinetics.
- Wulf, G. (2007). *Attention and motor skill learning*. Champaign, IL: Human Kinetics.
- Young, W., MacDonald, C. & Heggen, C. (1997). An evaluation of the specificity, validity and reliability of jumping tests. *Journal of Sports Medicine and Physical Fitness*, 37,240-245.
- Yukl, G. (2006), *Leadership in organizations* (6th Ed.) Pearson Hall, New Jersey.
- Zemper, E.D. (2010). Catastrophic injuries among young athletes. *British Journal of Sports Medicine*, 44, 13-20.

WEBSITES

Right to Play (<http://www.richtoplay.com> (Retrieved 25 January 2013))

<http://www.defence.gov.au/army/hq8bde/jobs/fitness.htm> (Retrieved 20 November 2015)

www.Englandnetball.co.uk (Retrieved 15 July 2014)

[http://www.ausport.gov.au/participating/gottalent/news2/test_your_sporting_talent_on_this_web site](http://www.ausport.gov.au/participating/gottalent/news2/test_your_sporting_talent_on_this_web_site) (Retrieved 20 November 2014)

www.rugbycanada.ca (Retrieved 20 June 2014)

www.saschoolssports.co.za (Retrieved 20 June 2014)

www.netball-sa.co.za (Retrieved 31 May 2013)

www.usyouthsoccer.org.za (Retrieved 31 May 2013)

www.soccerforbeginners.com (Retrieved 21 November 2014)

<http://www.coe.int/t/dg4/epas/resources/charter> (Retrieved 25 January 2013)

<http://www.netball.org/IFNA> (Retrieved 24 May 2013)

<http://www.netball.asn.au> (Retrieved March 2014)

LIST OF APPENDICES

APPENDIX A: INFORMATION LEAFLET AND INFORMED CONSENT

SECTION ONE

APPENDIX B: INTERVIEW GUIDE: SOCCER

APPENDIX C: INTERVIEW GUIDE: RUGBY

APPENDIX D: INTERVIEW GUIDE: NETBALL

FACULTY OF HUMANITIES

RESEARCH ETHICS COMMITTEE



**UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA**

RESEARCH PROPOSAL AND ETHICS COMMITTEE(RESPEthics)

FACULTY OF HUMANITIES

UNIVERSITY OF PRETORIA

DECLARATION OF ETHICAL INTENT

We declare that we are fully aware of the stance taken by the RESPEthics Committee, Faculty of Humanities, regarding the importance of obtaining informed consent from research participants.

We acknowledge their concerns and reservations regarding the lack of written informed consent documents due to the fact that we deem it impossible to obtain these in the current research project.

We declare that, in the course of the research, we will take due care to protect and safeguard the rights and autonomy of all parties, which includes the participants, the University of Pretoria, RESPEthics, our Department and all outside parties with whom we make contact either physically, verbally or through documents and documentation.

We undertake to be ethical in all our dealings and at all times during the research endeavour.

STUDENT: Mankopane Jacob Manamela

SUPERVISOR: Dr J.G.U. van Wyk

HEAD OF DEPARTMENT: Prof. Lourens Human

PROJECT TITLE: Challenges for sustainable talent detection, identification and development in selected sporting codes in Mamelodi, Tshwane primary schools

FACULTY OF HUMANITIES

Dear Respondent

You are invited to participate in a research study that will contribute to an MA (Human Movement Sciences) thesis conducted by Mankopane Jacob Manamela (the researcher) and supervised by Dr J.G.U. van Wyk at the University of Pretoria. Your thoughts and opinions as a soccer/netball/rugby coach would be highly valuable to this research.

The research purpose of the interview is to find out how coaches apply test protocols for talent identification in soccer/netball/rugby in Tshwane/Pretoria primary schools.

Participation would be voluntary and would involve an interview at your facility lasting around 30 minutes.

There are no known or anticipated risks to your participation in this study. You will retain the right to decline to answer any questions and any information you provide will be considered strictly confidential. All data collected will be kept and stored in an electronic format and hardcopy. Meas the researcher and my supervisor will be the only persons with access to this data for the purposes of analysis and conducting the study. All data will be preserved and accessible for a minimum of 10 years.

The names of the interviewees and of other persons mentioned in the interviews will be changed into pseudonyms to ensure anonymity. The same procedure will be used for the names of

organisations/institutions and place names. Research findings will be reported in a manner that prevents identification of any participant or person mentioned in the interviews.

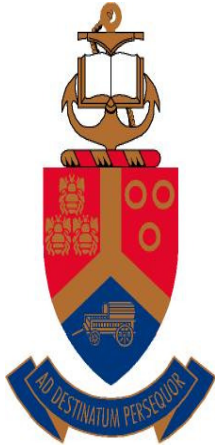
You will be free to withdraw your consent to further involvement in the research project at any time up until the point before interview transcriptions are finalised. You may also refuse to answer any questions you don't want to answer and still remain in the study. Information garnered from any participants who withdraw will be destroyed immediately. Once the research is complete a copy of the study will be available for those interested.

Attached please find an informed consent form to be signed for completing the interview.

Your co-operation in this regard will be appreciated.

Kind regards,

Mankopane Jacob Manamela



UNIVERSITEIT VAN PRETORIA UNIVERSITY OF PRETORIA YUNIBESITHI YA PRETORIA

DEPARTMENT OF SPORT AND LEISURE STUDIES

LETTER OF CONSENT: SCHOOL PRINCIPAL

I hereby request permission from the School Principal to conduct research at your school in the investigation titled:

Challenges for sustainable talent detection, identification and development in selected sporting codes in Mamelodi, Tshwane primary schools

conducted by the researcher through the Department of Biokinetics, Sport and Leisure Sciences.

The research purpose of the study is to find out how coaches apply test protocols for talent detection, identification and development in soccer, rugby and netball in Tshwane/Pretoria primary schools.

I understand that, upon request, I may have full description of the results of the study after its completion.

I understand that the researcher intends to publish the findings of the research, that results will only be reported on collectively and my anonymity is guaranteed. I also understand that data will be stored electronically for 15 years.

I understand that participation is voluntary, and that the school is free to withdraw from this study at any time without negative consequences.

I HAVE READ AND UNDERSTOOD THIS CONSENT FORM.

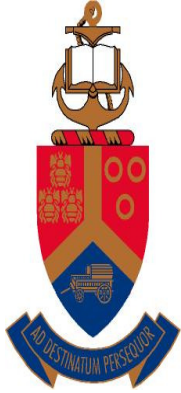
I AGREE TO PARTICIPATE IN THE PROJECT.

Name and Surname (Please print): _____

Signature: _____

Date: _____ **Telephone Number:** _____

E-Mail address: _____



**UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA**

DEPARTMENT OF SPORT AND LEISURE STUDIES

INTERVIEW TEMPLATE: SOCCER

Challenges for sustainable talent detection, identification and development in selected sporting codes in Mamelodi, Tshwane primary schools

STUDENT: MR MANKOPANE JACOB MANAMELA (04394720)

STUDY LEADER: DR J.G.U. VAN WYK

CO-STUDYLEADER: PROF. A.E. GOSLIN

2014

INTERVIEWEE: SOCCER

.....

THEME 1: BACKGROUND INFORMATION OF THE RESPONDENTS

- 5.2.1 Did you participate in soccer, and if so at what level?
- 5.2.2 What qualifications in sport coaching (soccer) do you have?
- 5.2.3 What age groups do you coach?.....
- 5.2.4 What is your coaching experience?
- 5.2.5 What follow-up actions did you take in order to improve your coaching abilities?

THEME 2: TALENT-RELATED CONCEPTS

5.3. TALENT

5.3.1 Define talent.

5.3.2 TALENT DETECTION

- 5.3.2.1 Define talent detection.
- 5.3.2.2 What methods/techniques do you use to detect talent in soccer?

5.3.3 TALENT IDENTIFICATION

- 5.3.3.1 How would you define talent identification?
- 5.3.3.2 When do you identify talented soccer players?
- 5.3.3.3 Which elements are priorities in soccer when you identify talented players at primary school level?

5.3.3.4 IDENTIFICATION OF FITNESS RELATED COMPONENTS

(a) What are the fitness components relevant to soccer?

(i) Flexibility

How do you assess the flexibility of soccer players?

(ii) Speed

What types of test are used to measure speed?

(iii) Power

What kind of power test do you use in measuring soccer players'abilities?

(iv) Strength

How do you measure strength in soccer players?.....

(vi) Endurance

- How do you measure muscular endurance in soccer?.....

5.3.3.5 IDENTIFICATION OF SPORTING CODE-RELATED SKILLS

(i) Jumping

- What kind of identification skills are you looking for in jumping?
- Demonstrate:.....

(ii) Running

- What is the correct technique for running in soccer?
- Demonstrate:

(iii) Dribbling

- What are the techniques for dribbling a ball in soccer?
- Demonstrate:

(iv) Defending

- In defending what skills are you looking for?.....
- Demonstrate:

(vi) Passing

- What are the identification skills for passing a ball in soccer?.....
- Demonstrate:

(vii) Throwing

- What catching skills are important in identification of a soccer player?
- Demonstrate:

(viii) Shooting

- What techniques are necessary in the identification of shooting?
- Demonstrate:

5.3.4 TALENT DEVELOPMENT

5.3.4.1 Define talent development.

5.3.4.2 What methods/procedures do you use to develop the following skills of soccer players?

- (a) Jumping
- (b) Defending
- (c) Passing
- (d) Scoring
- (e) Throwing
- (f) Running

5.3.4.3 What methods/procedures do you use to develop the following motor fitness-related skills of soccer players?

- (a) Flexibility
- (b) Speed

- (c) Power
- (d) Strength
- (e) Endurance

THEME 3: TEACHING OF SPORT-RELATED SKILLS (TECHNICAL AND TACTICAL)

5.4.1 TEACHING TECHNICAL SKILLS

- 5.4.1.1 Define technical skills:
- 5.4.1.2 What are your specific activities during a coaching session? What do you do as coach during a coaching session?

(a) STEP 1: INTRODUCING THE SKILL

- (i) What methods do you use to get the players' attention?
- (ii) How do you arrange/organise the players at the beginning of a session?.....
- (iii)With what kind of physical activity do you start your session (warm-up)? Who conducts the warm-up – you or a player?
- (iv) How do you accommodate physical fitness in your session?
- (ii) Do you announce the activities of the session?

(b) STEP 2: DEMONSTRATING AND EXPLAINING OF THE SKILL

- (i)Do you revise previous activities and for what reason?
- (ii)How do you explain the new skill?
- (iii)Do you or a player demonstrate the new skill? – whole versus the part method?
- (iv) What do you do to see if the players understand?

(c) STEP 3: PRACTISING THE SKILL

- (i) Discuss in detail your involvement (role/activities) when the players are practising a new skill?.....
- (ii) How do you arrange/organise the players for the practise of the new skill?.....
- (iii) Do you have to demonstrate the activity in this phase of practising again?.....

7 Principles for skill practice

- (i) Is the technique that you teach the correct one?
- (ii) How do you relate an activity to game-like conditions?
- (iii) What is the duration of your coaching session?
- (iv) Are all the players actively involved? How do you ensure that?
- (v) Do you have enough facilities and equipment, and if not how do you address the problem?
- (vi) What do you do to ensure that all the players experience success?
- (vii) How do you handle the inabilities of players?
- (viii) When and how do you give feedback to the players?

(e) Questions related as behavioural principles that do not influence the teaching of technical skills

- (i) How do you ensure discipline?
- (ii) How do you motivate the players?
- (iii) What is the importance of your communication with the players?.....
- (iv) How do you differentiate between the abilities of the players?.....
- (vi) Do you ask a player to demonstrate an activity?.....
- (vii) What do you do to enable players to perform an activity successfully?.....
- (viii) How do you correct the errors that players make?

(f) STEP 4: CLOSING THE SESSION

- (i) How do you end the practice session?.....
- (ii) Do you or the players summarise the activities?.....
- (iii) Do they perform cool-down activities?.....
- (iv) Do you ask for feedback from the players?.....
- (vi) Do you make any announcements?.....

(g) Coaches perceptions of the enjoyable activities and difficult facets of teaching new skills

- (i) most enjoyable activities in teaching a new skill.....
- (ii) most difficult facets of teaching a new skill.....

5.4.2 TEACHING OF TACTICAL SKILLS

- 5.4.2.1 Define tactical skills.
- 5.4.2.2 What tactical skills do you teach your athletes?

TRIANGLE 1: READING THE PLAY OR SITUATION

- (i) Do your athletes have the cognitive abilities to read the play or situation?
- (ii) How do you improve the players' ability to concentrate and give attention on the teaching of tactical skills?
.....

TRIANGLE 2: KNOWLEDGE AS PREREQUISITE FOR DECISIONMAKING

- (i) How do you introduce the athletes to the nature and importance of rules?
- (ii) How do you introduce the players to the strategic plan for the season and for that particular game?
.....
- (iii) How important are the physical playing conditions in a competition?

(iv) How do you introduce the players to the strengths and weaknesses of your opponents?.....

(vi) How do the players become familiar with their own strengths and weaknesses?

(vii) How do you teach the ethics of sport to your athletes?

TRIANGLE 3: DECISION-MAKING SKILLS

(i) What method do you use in teaching tactical skills? (whole versus part)

(ii) Do you teach your players to observe the decision making of the opponents?

(iii) Why is it necessary for players to observe decision making amongst themselves?

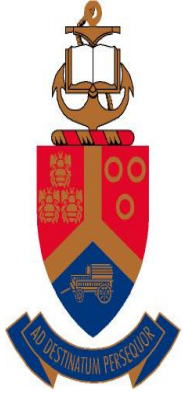
(iv) What variables may influence decision making in players?.....

(vi) How do you give feedback to your players on the execution of tactical skills?

5.4.2.3 Perceptions of enjoyable activities and difficult facets of teaching tactical skills

(i) most enjoyable activities in teaching of tactical skills.....

(ii) most difficult facets of teaching tactical skills.....



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DEPARTMENT OF SPORT AND LEISURE STUDIES

INTERVIEW TEMPLATE: RUGBY

Challenges for sustainable talent detection, identification and development in selected sporting codes in Mamelodi, Tshwane primary schools

STUDENT: MR MANKOPANE JACOB MANAMELA (04394720)

STUDY LEADER: DR J.G.U. VAN WYK

CO-STUDYLEADER: PROF. A.E. GOSLIN

2014

INTERVIEWEE: RUGBY

.....

THEME 1: BACKGROUND INFORMATION OF THE RESPONDENTS

- 5.2.1 Did you participate in rugby, and if so at what level?
- 5.2.2 What qualifications in sport coaching (rugby) do you have?
- 5.2.3 What age groups do you coach?.....
- 5.2.4 What is your coaching experience?
- 5.2.5 What follow-up actions did you take in order to improve your coaching abilities?

THEME 2: TALENT-RELATED CONCEPTS

5.3. TALENT

5.3.1 Define talent.

5.3.2 TALENT DETECTION

- 5.3.2.1 Define talent detection.
- 5.3.2.2 What methods/techniques do you use to detect talent in rugby?

5.3.4 TALENT IDENTIFICATION

- 5.3.4.1 How would you define talent identification?
- 5.3.4.2 When do you identify talented rugby players?
- 5.3.4.3 Which elements are priorities in soccer when you identify talented players at primary school level?

5.3.3.4 IDENTIFICATION OF FITNESS-RELATED COMPONENTS

(a) What are the fitness components relevant to rugby?

(i) Flexibility

How do you assess the flexibility of rugby players?

(ii) Speed

What types of test are used to measure speed?

(iii) Power

What kind of power test do you use in measuring rugby players' abilities?

(iv) Strength

How do you measure strength in rugby players?.....

(vi) Endurance

- How do you measure muscular endurance in rugby players?.....

5.3.3.5 IDENTIFICATION OF SPORTING CODE-RELATED SKILLS

(i) Jumping

- What kind of identification skills are you looking for in jumping?
- Demonstrate:.....

(ii) Running

- What is the correct technique for running in rugby?
- Demonstrate:

(iii) Dribbling

- What are the techniques for dribbling a ball in rugby?
- Demonstrate:

(iv) Defending

- In defending what skills are you looking for?.....
- Demonstrate:

(vi) Passing

- What are the skills for passing a ball in rugby?.....
- Demonstrate:

(vii) Throwing

- What catching skills are important in identification of a rugby player?
- Demonstrate:

(viii) Shooting

- What techniques are necessary in the identification of shooting?
- Demonstrate:

5.3.4 TALENT DEVELOPMENT

5.3.4.1 Define talent development.

5.3.4.2 What methods/procedures do you use to develop the following skills of rugby players?

- (a) Jumping
- (b) Defending
- (c) Passing
- (d) Scoring
- (e) Throwing
- (f) Running

5.3.4.3 What methods/procedures do you use to develop the following motor fitness-related skills of rugby players?

- (a) Flexibility
- (b) Speed

- (c) Power
- (d) Strength
- (e) Endurance

THEME 3: TEACHING SPORT-RELATED SKILLS (TECHNICAL AND TACTICAL)

5.4.1 TEACHING TECHNICAL SKILLS

- 5.4.1.3 Define technical skills:
- 5.4.1.4 What are your specific activities during a coaching session? What do you do as coach during a coaching session?

(a) STEP 1: INTRODUCING THE SKILL

- (i) What methods do you use to get the players' attention?
- (ii) How do you arrange/organise the players at the beginning of a session?.....
- (iii)With what kind of physical activity do you start your session (warm-up)? Who conducts the warm-up – you or a player?
- (iv) How do you accommodate physical fitness in your session?
- (vi)Do you announce the activities of the session?

(b) STEP 2: DEMONSTRATING AND EXPLAINING THE SKILL

- (i)Do you revise previous activities and for what reason?
- (ii)How do you explain the new skill?
- (iii)Do you or a player demonstrate the new skill? Whole versus the part method?
- (iv) What do you do to see if the players understand?

(c) STEP 3: PRACTISING THE SKILL

- (i) Discuss in detail your involvement (role/activities) when the players are practising a new skill.....
- (ii) How do you arrange/organise the players for the practise of the new skill?.....
- (iii) Do you have to demonstrate the activity in this phase of practising again?.....

7 Principles for skill practice

- (i) Is the technique that you teach the correct one?
- (ii) How do you relate an activity to game-like conditions?
- (iii) What is the duration of your coaching session?
- (iv) Are all the players actively involved? How do you ensure that?
- (v) Do you have enough facilities and equipment, and if not how do you address the problem?
- (vi) What do you do to ensure that all the players experience success?
- (vii) How do you handle the inabilities of players?
- (viii) When and how do you give feedback to the players?

(e) Questions related as behavioural principles that do not influence the teaching of technical skills

- (i) How do you ensure discipline?
- (ii) How do you motivate the players?
- (iii) What is the importance of your communication with the players?.....
- (iv) How do you differentiate between the abilities of the players?.....
- (vi) Do you ask a player to demonstrate an activity?.....
- (vii) What do you do to enable players to perform an activity successfully?.....
- (viii) How do you correct the errors that players make?

(f) STEP 4: CLOSING THE SESSION

- (i) How do you end the practice session?.....
- (ii) Do you or the players summarise the activities?.....
- (iii) Do they perform cool-down activities?.....
- (iv) Do you ask for feedback from the players?.....
- (vii) Do you make any announcements?.....

(g) Coaches' perceptions on the enjoyable activities and difficult facets of teaching new skills

- (i) Most enjoyable activities in teaching of a new skill.....
- (ii) Most difficult facets of teaching a new skill.....

5.4.2 TEACHING TACTICAL SKILLS

- 5.4.2.1 Define tactical skills.
- 5.4.2.2 What tactical skills did you teach your athletes?

TRIANGLE 1: READING THE PLAY OR SITUATION

- (i) Do your athletes have the cognitive abilities to read the play or situation?
- (ii) How do you improve the players' ability to concentrate and give attention to the teaching of tactical skills?
.....

TRIANGLE 2: KNOWLEDGE AS PREREQUISITE FOR DECISIONMAKING

- (i) How do you introduce the athletes to the nature and importance of rules?
- (ii) How do you introduce the players to the strategic plan for the season and for that particular game?
.....
- (iii) How important are the physical playing conditions in a competition?

(iv) How do you introduce the players to the strengths and weaknesses of your opponents?.....

(vi)How do the players become familiar with their own strengths and weaknesses?

(vii) How do you teach the ethics of sport to your athletes?

TRIANGLE 3: DECISION-MAKING SKILLS

(i) What method do you use in teaching tactical skills? (whole versus part)

(ii) Do you teach your players to observe the decision making of the opponents?

(iii) Why is it necessary for players to observe decision making amongst themselves?

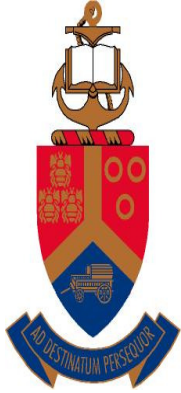
(iv) What variables may influence decision making in players?.....

(vi) How do you give feedback to your players on the execution of tactical skills?

5.4.2.3 Perceptions of enjoyable activities and difficult facets of teaching tactical skills

(i)most enjoyable activities in teaching of tactical skills?.....

(ii) most difficult facets of teaching tactical skills?.....



**UNIVERSITEIT VAN PRETORIA
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DEPARTMENT OF SPORT AND LEISURE STUDIES

INTERVIEW TEMPLATE: NETBALL

Challenges for sustainable talent detection, identification and development in selected sporting codes in Mamelodi, Tshwane Primary schools”

STUDENT: MR MANKOPANE JACOB MANAMELA (04394720)

STUDY LEADER: DR J.G.U. VAN WYK

CO-STUDYLEADER: PROF. A.E. GOSLIN

2014

INTERVIEWEE: NETBALL

.....

THEME 1: BACKGROUND INFORMATION OF THE RESPONDENTS

- 5.2.1 Did you participate in netball, and if so at what level?
- 5.2.2 What qualifications in sport coaching (netball) do you have?
- 5.2.3 What age groups do you coach?.....
- 5.2.4 What is your coaching experience?
- 5.2.5 What follow-up actions did you take in order to improve your coaching abilities?

THEME 2: TALENT RELATED CONCEPTS

5.3. TALENT

5.3.1 Define talent?

5.3.2 TALENT DETECTION

5.3.2.1 Define talent detection.

5.3.2.2 What methods/techniques do you use to detect talent in netball?

5.3.5 TALENT IDENTIFICATION

5.3.5.1 How would you define talent identification?

5.3.5.2 When do you identify talented netball players?

5.3.5.3 Which elements are priorities in netball when you identify talented players at primary school level?

5.3.3.4 IDENTIFICATION OF FITNESS RELATED COMPONENTS

(a) What are the fitness components relevant to netball?

(i) Flexibility

How do you assess the flexibility of netball players?

(ii) Speed

What types of test are used to measure speed?

(iii) Power

What kind of power test do you use in measuring netball players abilities?

(iv) Strength

How do you measure strength in netball players?.....

(vi) Endurance

How do you measure muscular endurance in netball players?.....

5.3.3.5 IDENTIFICATION OF SPORTING CODE RELATED SKILLS

(i) Jumping

- What kind of identification skills are you looking for in jumping?
- Demonstrate:.....

(ii) Running

- What is the correct technique for running in netball?
- Demonstrate:

(iii) Dribbling

- What are the techniques for dribbling a ball in netball?
- Demonstrate:

(iv) Defending

- In defending what skills are you looking for?.....
- Demonstrate:

(vi) Passing

- What are the skills for passing a ball in netball?.....
- Demonstrate:

(vii) Throwing

- What catching skills are important in identification of a netball player?
- Demonstrate:

(viii) Shooting

- What techniques are necessary in the identification of shooting?
- Demonstrate:

5.3.4 TALENT DEVELOPMENT

5.3.4.1 Define talent development.

5.3.4.2 What methods/procedures do you use to develop the following skills of netball players?

- (a) Jumping
- (b) Defending
- (c) Passing
- (d) Scoring
- (e) Throwing
- (f) Running

5.3.4.3 What methods/procedures do you use to develop the following motor fitness-related skills of netball players?

- (a) Flexibility
- (b) Speed
- (c) Power

(d) Strength

(e) Endurance

THEME 3: TEACHING OF SPORT-RELATED SKILLS (TECHNICAL AND TACTICAL)

5.4.1 TEACHING TECHNICAL SKILLS

5.4.1.5 Define technical skills:

5.4.1.6 What are your specific activities during a coaching session? What do you do as coach during a coaching session?

(a) STEP 1: INTRODUCING THE SKILL

(i) What methods do you use to get the players' attention?

(ii) How do you arrange/organise the players at the beginning of a session?.....

(iii)With what kind of physical activity do you start your session (warm-up)? Who conducts the warm-up – you or a player?

(iv) How do you accommodate physical fitness in your session?

(vi)Do you announce the activities of the session?

(b) STEP 2: DEMONSTRATING AND EXPLAINING THE SKILL

(i)Do you revise previous activities and for what reason?

(ii)How do you explain the new skill?

(iii)Do you or a player demonstrate the new skill? – whole versus the part method?

(iv) What do you do to see if the players understand?

(c) STEP 3: PRACTISING THE SKILL

- (i) Discuss in detail your involvement (role/activities) when the players are practising a new skill.....
- (ii) How do you arrange/organise the players for the practice of the new skill?.....
- (iii) Do you have to demonstrate the activity in this phase of practising again?.....

(d) SEVENPRINCIPLES FOR SKILL PRACTICE

- (i) Is the technique that you teach the correct one?
- (ii) How do you relate an activity to game-like conditions?
- (iii) What is the duration of your coaching session?
- (iv) Are all the players actively involved? How do you ensure that?
- (vi) Do you have enough facilities and equipment, and if not how do you address the problem?
- (vii) What do you do to ensure that all the players experience success?
- (vii) How do you handle the inabilities of players?
- (viii) When and how do you give feedback to the players?

(e) Questions related as behavioural principles that do not influence the teaching of technical skills

- (i) How do you ensure discipline?
- (ii) How do you motivate of your communication with the players?.....
- (iv) How do you differentiate between the abilities of the players?.....
- (vi) Do you ask a player to demonstrate an activity?.....
- (vii) What do you do to enable players to perform an activity successfully?.....
- (viii) How do you correct the errors that players make?

(f) STEP 4: CLOSING THE SESSION

- (i) How do you end the practice session?.....

- (ii) Do you or the players summarise the activities?.....
- (iii) Do they perform cool-down activities?.....
- (iv) Do you ask for feedback from the players?.....
- (vi) Do you make any announcements?.....

(g)Coaches' perceptions on the enjoyable activities and difficult facets of teaching new skill

- (i) Most enjoyable activities in teaching of a new skill.....
- (ii) Most difficult facets of teaching a new skill.....

5.4.2 TEACHING TACTICAL SKILLS

- 5.4.2.1 Define tactical skills.
- 5.4.2.2 What tactical skills do you teach your athletes?

TRIANGLE 1: READING THE PLAY OR SITUATION

- (i) Do your athletes have the cognitive abilities to read the play or situation?
- (ii) How do you improve the players' ability to concentrate and give attention to the teaching of tactical skills?
.....

TRIANGLE 2: KNOWLEDGE AS PREREQUISITE FOR DECISIONMAKING

- (i) How do you introduce the athletes to the nature and importance of rules?
- (ii) How do you introduce the players to the strategic plan for the season and for that particular game?
.....
- (iii) How important are the physical playing conditions in a competition?
- (iv) How do you introduce the players to the strengths and weaknesses of your opponents?.....
- (vi) How do the players become familiar with their own strengths and weaknesses?
- (vii) How do you teach the ethics of sport to your athletes?

TRIANGLE 3: DECISION-MAKING SKILLS

- (i) What method do you use in teaching tactical skills? (whole versus part)
- (ii) Do you teach your players to observe the decision making of the opponents?
- (iii) Why is it necessary for players to observe decision making amongst themselves?
- (iv) What variables may influence decision making in players?.....
- (vi) How do you give feedback to your players on the execution of tactical skills?

5.4.2.3 Perceptions of enjoyable activities and difficult facets of teaching tactical skills

- (i) most enjoyable activities in teaching of tactical skills?.....
- (ii) most difficult facets of teaching tactical skills?.....