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CHAPTER 1

ORIENTATION OF THE STUDY

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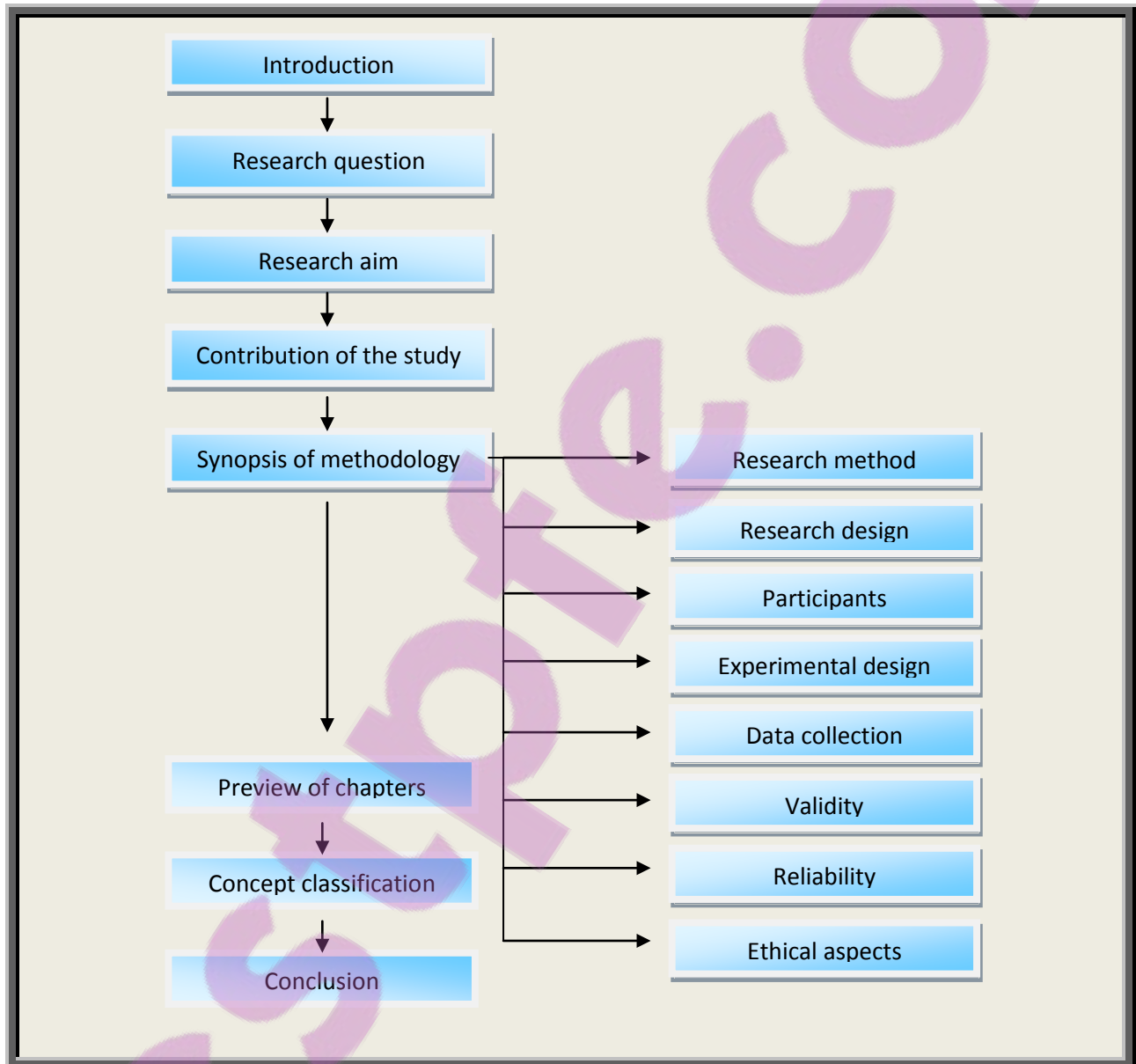
1.1. Introduction and background

The purpose of this study is to introduce a psychological training program for secondary school cricket players. This program will focus on various psychological skills and psychological techniques that will be used to enhance the mental toughness of secondary school cricket players. There has been a greater awareness in the psychological aspects of sport over the past decade, and in particular, how the psyches of the athletes affect their performance. The game of cricket has been no exception. Psychological skills and psychological techniques have been used successfully in different sport settings. Internationally there has been various research done in the field of mental toughness and cricket. Some of the researchers in this field are Duffield, (1998); Portus, (2002); Mc Rober, (2004); Muller, (2000); Bull, (2008); Shambrook, (2003); James, (2001); Brooks, (2009) and Gordon, (2004). Very little research on this topic has been done in South Africa. The research done by Saunders, (2009) and Tallep, (2008) helped to understand how mental toughness could improve cricket performance in a South-African context.

Most of the international and local research on this topic made use of elite adult cricket players. My decision to make use of secondary school cricket players is based on the following reasons:

- This study will be done from an educational psychological perspective.
- Internationally there has been very little research (Balaji & Jesudass, 2001) done on psychological skills and psychological techniques to enhance the mental toughness of secondary school cricket players.
- In South Africa there has been no research done on the role of psychological skills and psychological techniques in the process of enhancing the mental toughness of secondary school cricket players.

Gardner and Moore (2006:7) are of the opinion that the field of Sport Psychology has simply not noticed the recent advances in Behavioural Psychology. The literature in Applied Sport Psychology has remained largely fixed on skills-based conceptualisations of human performance and its dysfunctions.

Psychological performance enhancement interventions have gone practically unchanged. Modern behavioural psychology emphasises such issues as acceptance, mindfulness, values, spirituality, and relationships (Hayes, Masauda & De May, 2003:70). One of the primary aspects that I will focus on in this research is how psychological skills and psychological techniques can be used to achieve a zone state of performance. Shread (2010:61) states that a zone state will be achieved more frequently if the cricketer uses psychological techniques and psychological skills that enhance his mindfulness. Many studies over the last forty years have looked into the power of psychological training in sport. These studies found that:

- Psychological training improves general motor skills;
- Psychological techniques can improve sport specific skills;
- Improved psychological skills benefit athletes at all levels and abilities;
- A positive state of mind leads to more confidence and motivation.

Although there have been many theoretical studies in the field of Sport Psychology over the last forty years, which focused on psychological training, there is still a need for the theoretical knowledge to be implemented practically. Many theoretical resources are available, but very little hands on practical explanations of these psychological techniques exist in these sources. I want to design a holistic practical hands-on psychological program that will be user friendly for cricket coaches as well as for secondary school cricket players. This program will not only enhance the mental toughness of secondary school cricket players, but it will also empower the cricket player and the cricket coach with valuable life skills that will enrich their sport as well as their personal lives.

The program will be based on the psycho-educational model. The coach will fulfil the role of the *"teacher"* and the cricket player will fulfil the role of the *"student".* The psycho-educational model is a humanistic approach to changing the behaviour patterns, values, and interpretations of events and life outlook of individuals (Anderson, 2000:238). Appropriate psychological techniques will be developed by helping the cricket player to use life skills to display better cricket behaviour choices.

The psychological skills that will be explored are not only excellent cricket skills, but these skills are also vital life skills. I have been involved in the game of cricket for the last 25 years. I played the game at different levels, including provincial level. I coached various school teams as well as provincial school teams. During this time it became clear to me that cricket is just as much a mental game as it is a physical game. The game of cricket gives many opportunities to learn valuable life skills.

The combination of cricket, psychological skills, psychological techniques and psycho-education will give the secondary school cricket player valuable opportunities to learn life skills, these life skills will enrich his experience of cricket and life. In the research of Thelwell and Maynard (2003:139) on the effectiveness of psychological techniques on sport performance, they found that cricket players who use psychological techniques would experience more performance consistency and improved performance than cricket players who never use psychological techniques. Despite all the evidence that point towards the effective use of psychological techniques when coaching cricket, are most of the primary school and high school cricket coaches in South Africa still reluctant to make use of psychological techniques as part of their coaching program.

It is unfortunate that most school coaches still believe that cricket is just a physical game. Cricket coaches spend too much time working on physical training, but more often than not psychological skills training is ignored anywhere other than in elite training (Ward, 2010:3). Any cricket player serious about his cricket performance, with dreams of success would never leave his skills and fitness to chance. *"So why ignore mental toughness?"*

"Sport Psychology is the least studied of all cricket skills, even if it is widely accepted as being the most important ingredient of cricket success" Justin Langer.

This study will make a valuable contribution to Educational Psychology, Sport Psychology and to the game of Cricket. I hope that this research will show cricket players and their coaches, that the mental game of cricket is just, or even more important than the physical game of cricket.

1.2.   Research question, Problem statement and Hypothesis.

What is the influence of a psycho-educational intervention program, using psychological skills and psychological techniques, on the mental toughness of secondary school cricket players?

Problem statement

I wanted to establish the boundaries of the problem area within which the research would take place. I will focus on answering the following questions:

- How effective can psychological techniques and psychological skills used to enhance the mental toughness of secondary school cricket players?
- Which psychological skills are used by the participants?
- Which psychological techniques and skills will be best suited to be incorporated in the mental toughness training program for secondary school cricket players?

Hypotheses

- The psycho-educational intervention program will enhance the mental toughness of the secondary school cricketers who partake in this study.
- Secondary school cricket players can use psychological techniques and psychological skills to enhance their mental toughness.
- Cricket coaches, psycho-educators and sport psychologists can use psychological techniques and skills productively as part of their coaching sessions.
- A questionnaire (CMTQ) can be designed and used as a measuring tool to assess the mental toughness of secondary school cricketers.

1.3. Aim of the study

The aim of this study is to use psychological skills and techniques to enhance the mental toughness of secondary school cricket players, within a psycho-educational framework.

This will be accomplished through:

- Undertaking a literature review in order to investigate and evaluate different psychological skills and techniques that might have a positive effect on the mental toughness of secondary school cricket players;
- Constructing a psycho-educational intervention program for enhancing the mental toughness in secondary school cricket players with the use of psychological skills and techniques.
- Designing and employing a questionnaire to evaluate the mental toughness of secondary school cricketers.
- Compiling guidelines for the cricket coach, psycho-educator and sport psychologist to follow when coaching mental toughness.
- To undertake an empirical study to determine the effectiveness of using psychological skills and techniques as a coaching tool, to enhance the mental toughness of secondary school cricket players.

1.4. Contribution of the study

The value of this study is based on the following:

- The program will enable the secondary school cricket player to use psychological skills and techniques without becoming dependant on the psycho-educator.
- The program can be used individually or in a group format.
- The secondary school cricket player learns how to apply himself, with mindfulness, to his cricket game and to life.
- The secondary school cricket players will learn psychological skills and psychological techniques which they can use effectively in cricket, other sports and in the game of life.

1.5.   Methodology

Research method

The Qualitative and Quantitative research methods are accepted as the two main methods for research. Qualitative and Quantitative research differs mainly due to the type of data that are collected and processed. Quantitative researchers focus on numerical data while Qualitative researchers focus mainly on non-numerical data. I will make use of the Quantitative research method for this study. Quantitative research is the design that wants to answer questions. Quantitative research wants to explain, predict and verify a phenomenon through the process of answering questions about the variables (Mc Millan & Schumacher, 2006:12). Leedy and Ormrod (2005:94-96) state that the Quantitative research design is also known as the traditional, experimental, or positivistic design. Numbers are used to interpret results scientifically and formally. I will use statistical analysis when I apply the Quantitative research design.

Research design

The research design is the plan or strategy that the researcher will apply in order to gather and analyse data. Leedy and Ormrod (2005:94) pointed out that the researcher's choice regarding the specific research design to apply will be influenced by the researcher's research abilities and the specific hypothesis of the study. I will make use of questionnaires for this empirical study. After I compared different questionnaires available to evaluate the psychological performance of athletes, I decided on designing a questionnaire to investigate the Mental Toughness of the participants (CMTQ).

This decision, to design the Cricket Mental Toughness Questionnaire, was only made after consulting numerous psychological inventories, none satisfied my specific need to evaluate the mental toughness of secondary school cricket players. I consulted the Psychological Performance Inventory, designed by Loehr (Loehr, 1986) as a guideline. A pilot test will help to evaluate the effectiveness of the questionnaire. After conducting the pilot test an item analysis (Cronbach's Alpha) will be performed to evaluate the reliability of the questionnaire. The questionnaire research design is Quantitative research, because of the use of numbers and statistical methods (Leedy & Ormrod, 2005:94).

Selection of the participants

Secondary school cricket boys will be selected for the research (age group 14 – 18 years).

Sample

Random sampling will be used. Random sampling is the procedure for the selection of participants where each participant in the population has an equal chance of being selected and where the selection of any one participant will not affect the probability of selecting any other participant. I will select twenty all-round cricket players (cricket players who can bat and bowl). This random selection will be taken out of a pre selected cricket academy (Red Cap Cricket). This sample will be taken out of a possible group of more or less 110 boys (Gragiano & Raulin, 2006: 276).

The *"True Random Number Generator"* computer program will be employed to select randomly twenty numbers (Haahr, 2011:4).

- *Experimental group:* Ten names will be randomly selected out of the sample of twenty. The *"True Random Number Generator"* will be used for this purpose.

- *Control group:* The rest of the sample will be in the control group.

Experimental design

Pre-test, post-test control design

This design is one of the most effective designs for assessing the impact of an intervention on two groups. If there is a positive significant change in the outcome of the experimental group in the post-test and none in the control group, it could be stated that the intervention program was successful (Babbie 2002:305).

This design was chosen to establish whether the intervention program (independent variable) would have an effect on the mental toughness (dependent variable) of the participants.

Figure 1.2: The Experimental design

Experimental group ⟶ pre test ⟶ 6 week program ⟶ post test

Control group ⟶ pre test ⟶ post test
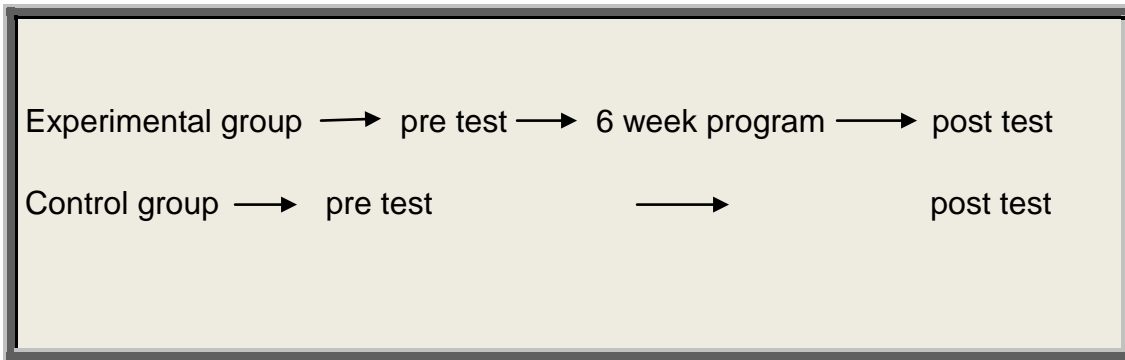
The experimental group and the control group will complete the Cricket Mental Toughness Questionnaire (CMTQ) for the pre-test as well as for the post-test. The psycho-educational intervention program will extend over a period of six weeks and will include individual as well as group sessions. The experimental group will be seen twice a week, except for the last week, when they will be seen once.

Variables

The psycho-educational program is the independent variable, while the dependent variable is the overall mental toughness of the secondary school cricket players.

Performance scores

According to Loehr (1986:2) the main psychological skills athletes need to master in order to become mentally tough are: Self-Confidence, Concentration, Visualisation, Motivation, and Arousal Control. These psychological skills will be pre tested in the experimental group as well as in the control group. The success of the intervention program will be tested during the post-test.

Data analysis

A quantitative data analysis will be performed. I will conduct all the testing myself; after I received the results it will be processed statistically. The empirical study will be completed in two phases. The first phase will take place before the presentation of the intervention program. During this phase I want to evaluate the cricketer's current utilisation of psychological skills.

I would also want to determine the participants' previous exposure to psychological skills and techniques. In order to achieve this, I will need to calculate the z-scores.

The second phase of the empirical study will only take place after the six week intervention program. The results from the pre-test and post-test will be statistically compared to determine if there is a significant difference between the means of these tests. The t-test for dependent samples will be employed in the process of data analysis. This form of the t-test is used for a paired (related) sample, or when the same sample group is measured, or when the same variable is measured at two points in time (Cohen, Morrison & Manion, 2007:546). The dependent t-test is an effective statistical analysis to compare the means of two groups. I want to compare the means of the pre-test and post-test of the experimental group and control group in order to establish if the psycho-educational program is effective.

Validity of the research

Validity with reference to the collection of data means that the results need to be a reflection of what needs to be measured. The researcher needs to investigate all possible factors that can have a negative influence on the validity of his research (Babbie 2002:305).

Internal validity

Mistakes in the study or problems with the research instruments can have a negative influence on the internal validity of the research (Huberman & Miles, 2002:42).

External validity

The external validity of a study is threatened if the researcher wants to generalise the results of the study to a bigger population (Babbie, 2002:305).

Reliability of the research

The reliability of the research will be high if the researcher aspires to the high quality of his research. Reliability refers to the manner in which the reader of the study can be convinced of the usefulness and high quality of the research (Howitt & Cramer, 2005:376).

Ethical considerations

Ethical considerations fulfil a paramount role in this study. These considerations play the role of setting strict guidelines throughout the study that I will adhere to. Behaviour guidelines serve as a standard that I will use in order to evaluate the validity of the research. Behaviour guidelines serve as a protection for the research, researcher and all the participants in the study (Creswell, 2005:369). Strict ethical measures will be adhered to throughout this study, as stipulated by The University of South Africa's Ethics Committee. A research proposal was submitted and ethical approval has been obtained from the ethics committee of the school of Education.

The following ethical considerations will be focused on during the study. These considerations will be discussed in full in Chapter Five as I adhered to the considerations:

- Informed participants.
- The privacy of the participants.
- The prevention of prejudice and excruciation.
- The accurate publishing of results.

The cricket players and their parents/guardians will be assured of the researcher's ethics:

- Letters of consent (cricket players and their parents) will be signed.
- A cricket player's name will never be mentioned.
- The cricket player can at any time withdraw from the study.

1.6.   Preview of Chapters (outline of the study)

*Chapter one***:** In chapter one, the statement of the problem, the aim of the study, the methodology and the contribution of the study with its limitations will be described.

Chapter two: The evolvement of Sport Psychology and the game of Cricket will be discussed briefly. Psycho-education as a theoretical framework will be outlined.

The task of the psycho-educator, psycho-educational methods, and learning through experience will be explained. Information will be given on how psycho-education can be used in Cricket coaching.

Chapter three: This chapter will cover all aspects of the psychological skills and techniques that will be used in the study. Self-confidence, self-esteem, self-belief, concentration, motivation, emotional control and commitment are the psychological skills that will be focused on. The following psychological techniques will be discussed and explored: Goal setting, positive self-talk, positive thinking, affirmations, modelling, routines, body language, visualisation, arousal control, Autogenic training and meditation.

Chapter four: A cricket-psycho-educational program will be presented and described in detail. The content of each session and meeting will be clarified. Guidelines on mental toughness coaching will also be provided. These guidelines will aim to assist the secondary school cricket coach and secondary school cricketer in their understanding and implementation of mental toughness coaching.

Chapter five: The research design of the study will be covered here with attention being given to the experimental design and sampling process. The ethical considerations will be set out. The process of questionnaire design will be explained and the collection and analysis of the data will be described.

Chapter six: This chapter will focus on the research findings. The pre-test and post-test findings and the results of the data analysis will be presented in this chapter. The null hypothesis will be tested and the research questions answered.

Chapter seven: Final conclusions, recommendations, limitations and the contributions of the study will be discussed. The chapter will conclude with final remarks by the researcher. References and the appendices will form the final part of chapter seven.

1.7. Definitions of terms/concepts

Psycho-education

The Psycho-educational model aims at integrating psychotherapeutic and educational interventions. The psycho-educational model can be implemented on its own or as a supplementary treatment to other ongoing interventions. Psycho-education is concerned with the individual's mind, perceptions of reality and feelings (Dulcan, 2009:828).

Psycho-educator

The psycho-educator uses the psycho-educational approach as an educational approach that involves people in learning to cope with and adapt to life. He/she must be a good listener and be able to develop understanding of the client receiving the intervention (Townsend, 1998:99).

Psychological techniques

Psychological techniques refer to practices that lead to the development of psychological skills. Examples of psychological techniques are: goal setting, imagery, relaxation, meditation, self-talk and hypnosis (Carr, 2010:24).

Psychological skills

Psychological skills refer to learned characteristics of an athlete that make it possible for him to succeed in his sport. Examples of psychological skills are: intrinsic motivation, self-belief, self-confidence, commitment and mindfulness (Carr, 2010:24).

Optimal self-confidence

Optimal self-confidence is the ideal state of self-confidence. Optimal self-confidence in a cricket context means that the cricket player is so convinced that he can achieve his goals that he will strive with a focused mind to achieve his goals (Weinberg and Gould, 2010:323).

Mental Toughness

Ward (2010:3) states that mental toughness is a combination of self confidence, self esteem, self belief, concentration, motivation, emotional control and commitment.

Mental toughness can be trained, especially with all the psychological techniques at hand. Mental toughness is a bit like *"talent"* or *"charisma":* instinctively recognizable, but endlessly tricky to put down in a definition. Mental toughness characteristics are not shown exclusively in adverse circumstances. There is more to mental toughness than mere reaction.

Secondary school cricket players

Secondary school cricket players refer to learners in the age group 14 to 18 years of age who play cricket, and attend high school.

Cricket self-confidence

Self-confidence is constructed through a complex process of self-persuasion. The cricketer chooses and interprets internal and environmental sources of information that affect his beliefs about his cricket abilities (Weinberg & Gould: 2010:137). Sellars (2004:104) argue that the cricketer's self-confidence is linked with his successful cricket achievements.

Cricket concentration

Concentration is the ability of the cricketer to maintain focus on relevant environmental cues. When the environment changes rapidly, the cricketer's attention focus needs to change rapidly. When he thinks about the past or future he raises irrelevant cues that will often lead to performance errors (Weinberg & Gould, 2010:364).

Cricket commitment

The cricket player's commitment is defined by Scanlan and Carpenter (2010:5) as a psychological state representing the desire to continue cricket participation. They propose that cricket commitment is determined by cricket enjoyment, involvement alternatives, personal investments, social constraints, and involvement opportunities.

1.8. Conclusion

This chapter dealt with the statement of the problem, described the aim of the research and the contribution of the study. The methodology was set out with reference to the participants, sampling, the research question, data collection and data analysis. Ethical considerations relating to participation were discussed, including voluntary participation, informed consent, anonymity and confidentiality. The chapter concluded with definitions of various concepts and a demarcation of the research report as an organizational framework. The following chapter will outline a survey study of cricket and psycho-education.

CHAPTER 2

LITERATURE STUDY OF CRICKET AND PSYCHO-EDUCATION

Figure 2.1: Overview of Chapter Two

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Introduction
    │
    ▼
The Psycho – education     ──────►   The task of the psycho -
model defined                         educator

                          ──────►   Psycho – education can be
                                      offered in different formats

                          ──────►   The psycho – educational
                                      process

                          ──────►   Incorporating psycho-education
                                      in Sport Psychology

                          ──────►   The integrated instructional role
                                      of the coach

Conclusion                ◄──────
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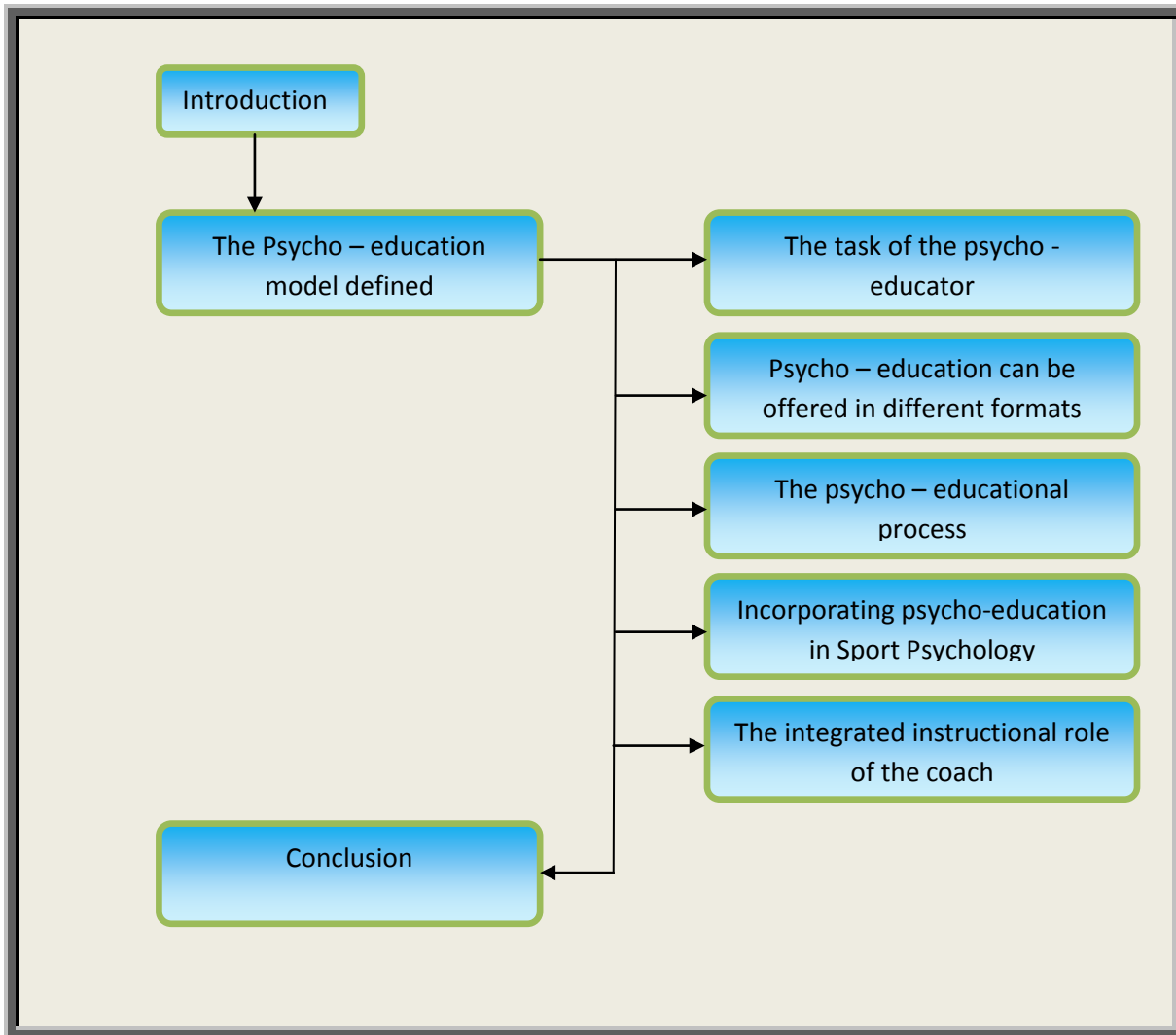
2.1. Introduction

Sport Psychology is the study of the psychological factors that affect and are affected by participation and performance in sport, exercise, and physical activity. Anderson (2000:238) is also of the opinion that Sport Psychology is a specialisation within Brain Psychology and Kinesiology, which seeks to understand performance in sport and apply psychological techniques to enhance individual and team performance.

2.1.1. A brief history of Sport Psychology

The study of sport psychology has a rich history. Shread (2010:61) maintains that Coleman Griffith's pioneering work in 1926 on the psychology of coaching led the way for studying sport and exercise as a science.

Figure 2.2: The three stages of the evolvement of Sport Psychology (Gardner & Moore, 2006:7).
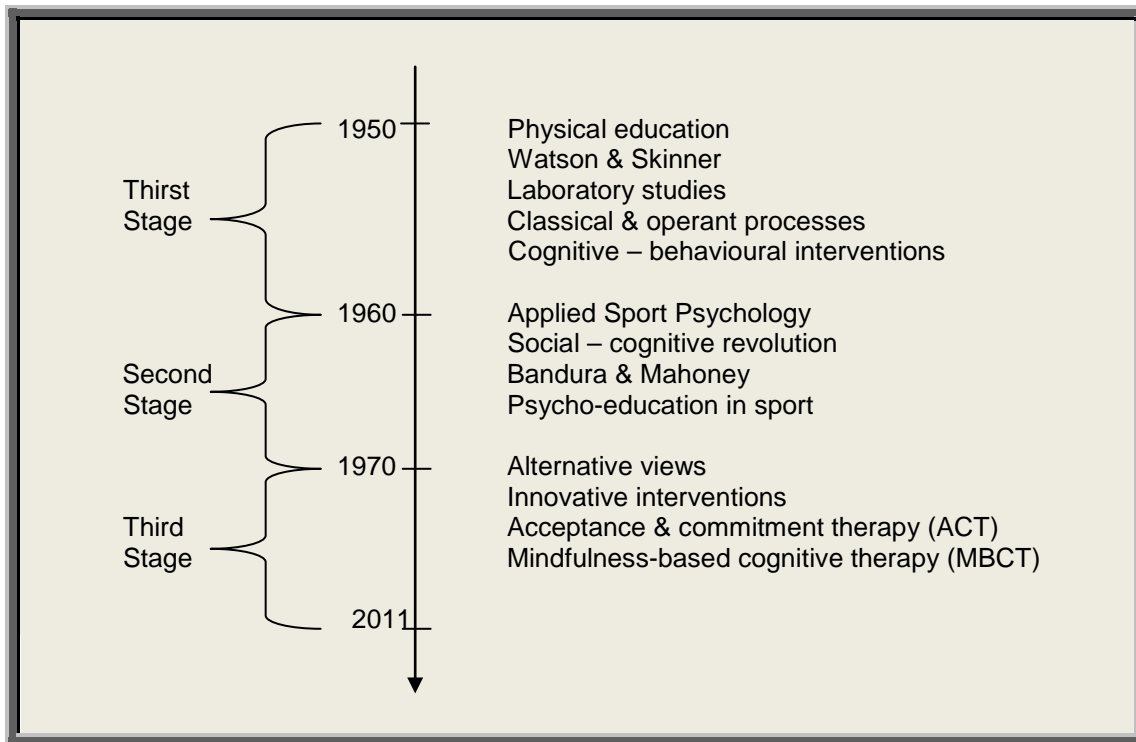
Gardner and Moore (2006:7) claim that the first stage of the evolvement of Sport Psychology was until the early sixties.

During this stage the main focus was on laboratory studies of classical and operant processes. Especially the traditions of Watson and Skinner played a major role during these early days of Sport Psychology. Sport Psychology grew dramatically during the late sixties and seventies as part of the social-cognitive revolution in professional psychology, which was part of the second stage in Sport Psychology evolvement. The second stage of the evolvement of Sport Psychology was marked by the social-cognitive revolution in Psychology, as embodied by Bandura, Mahoney and Meichenbaum (cited in Gardner & Moore, 2006:7).

The use of psycho-education in Sport Psychology became popular during the late sixties and early seventies. Skills-based cognitive-behavioural interventions were delivered in a structured psycho-educational format. Psychological interventions were a psycho-educational process aimed at the development of specific behaviours that could enhance the performances of athletes. Recently, the third stage of Sport Psychology has emerged. During this stage, alternative views of cognitive-affective processes have been presented and innovative interventions have emerged. Such third-stage interventions include Acceptance and Commitment Therapy (ACT) and Mindfulness-Based Cognitive Therapy (MBCT) (Gardner & Moore, 2006:7).

According to Gardner and Moore (2006:7) it appears that the field of Sport Psychology has simply not noticed the recent advances in Behavioural Psychology. The literature in applied Sport Psychology has remained largely fixed on early second-stage skills-based conceptualisations of human performance and its dysfunctions: performance enhancement interventions have gone practically unchanged. Hayes, Masauda and May (2003:70) state that the third stage of the evolvement of Sport Psychology emphasises such issues as acceptance, mindfulness, values, spirituality, and relationships. Griffiths (1999:56) makes it clear that athletes need training and guidance to achieve peak performance. He explains that every athlete's experience is unique and therefore intervention should be implemented according to the athlete's needs. Amateur and professional athletes and coaches have come to realise the importance of the mind and body connection in sport.

2.1.2. A brief history of Cricket

Research suggests that the game of Cricket has a history spanning from the sixteenth century to the present day, with international matches played since 1844. During this time, the game of Cricket developed from its humble origins in England in a game which is now played professionally in most countries around the world (Winter, 1992: 87). Leach (2007:65) states that the origins of Cricket are very vague, and that many theories have been put forward suggesting its origins. He maintains that it is commonly accepted that the game originated from a very old leisure activity indulged by shepherds. The shepherds used crooks and other farm equipment to hit a ball, which used to be made up of wool or stone. He maintains that Cricket used to thrive greatly as a gambling game. Gamblers used to place huge amounts of bets on matches. The first match played between countries in England is recorded to be on the 29th of June 1709, this match was played between Seirrey and Kent at Dartford Brent. Altham (cited in Leach 2007:66) believes that the first evidence of Cricket being played was recorded in the year 1550, by pupils of the Royal Grammar School in Guildford, England.

In the year 1611 it is reported that two young men from Sussex were punished for playing Cricket instead of going to church. The first match is recorded to have been played at Coxheath in Kent in the year 1646. Cricket in its initial days was restricted to the aristocratic class of England. Cricket gradually went on to become the national game of England. The late eighteenth century was a very crucial phase for the development of the game, both within and outside England. The game was spread far and wide mainly due to England's imperialism. The first official match was held between Canada and the United States (Leach, 2005:66).

Birley (2003:62) and Boven (1970: 54-66) believe that a number of words are possible sources of the term *"Cricket".* In the earliest known reference to the sport in 1598, it is called *"Creckett".* In the present times, Cricket has its own following of loyal fans. The International Cricket Council, better known as the ICC is the governing body in world Cricket. The ICC was founded in 1909. All laws related to ODIs and test Cricket are framed and implemented by the ICC (Birley, 2003: 62).

2.1.3. A brief history on Psycho-Education

Chrystal (2008:145) believes the origins of the psycho-educational orientation can be found in the humanitarian writings of the early 1800's by individuals such as Pestalozzi, Itar and Howe. Pestalozzi emphasised learning through doing, self discovering and the dignity of an individual. Itar's interest was on long-term development of the child and Howe is known for his devotion to human rights and social justice.

Dulcan (2009:827) reports that *"the mental hygiene movement in the early 1900's strengthened and promoted psycho-education".* He also maintains that the mental hygiene movement was originally implemented for the treatment of those who experienced psychological and behaviour disorders. Psycho-education emerged according to him from efforts to improve the prognosis of schizophrenia. At the beginning of the twentieth century, information about mental illness and how to cope with it was introduced via books or biblio-therapy. Biblio-therapy derives from the Greek words for book (biblio) and therapy (therapeia) and has been used as a therapeutic method since ancient Greece. Psycho-education is one type of biblio-therapy professionally delivered by therapists, rather than books alone.

Psycho-education's development has its roots in the concept of Expressed Emotions. Psycho-education targets Expressed Emotions (EE), which may be a factor contributing to perpetration of symptoms. EE refers to the type and quality of interactions and attitudes regarding a person who is mentally ill. Psycho-education was developed to lower EE through parent support and education. Psycho-education can help families adapt a strategy of problem focused coping, leading to better family communication and symptom management. Lowering EE through psycho-education may lead to an improved environment for the child who has an emotional or behavioural disability (Dulcan, 2009:830). Morse (2004:87) is of the opinion that psycho-education was originally based on individual psychology, a holistic approach to understanding what being human meant. The therapeutic interventions from other psychological models are employed in this holistic approach to understanding and helping individuals. Cognitive-behavioural therapy, client-centred therapy and systems approaches are some of the therapies that form part of this approach.

2.2. The Psycho-educational model defined

The Psycho-educational model aims at integrating psychotherapeutic and educational interventions. The psycho-educational model can be implemented on its own or as a supplementary treatment to other ongoing interventions (Dulcan, 2009:828). Dulcan makes it clear that the emphasis of the psycho-educational model is not only on observable changes in behavioural. Psycho-educators are concerned with the individual's mind, perceptions of reality and feelings.

Dulcan (2009:828) explains the psycho-educational model as a systematic model that uses patient information, which is meant for informing the patient and/or the family members about different challenges that the patient might face. This model is a humanistic approach that may be used in changing the behaviour patterns, values, interpretations of events and life outlooks of individuals who are not adjusting well to their environments. It is a systematic and structured model that involves a combination of both psychology and education (Leong, 2008:2480). Dulcan (2009:828) philosophizes that psycho-educational programs are structured around ideas and beliefs that psychological education can enable people to better attend to their own mental needs.

Psycho-education works by increasing knowledge and improving skills. When administered in a group format, it also provides social support. Allen, Fonagy and Bateman (2008:148) have gone beyond the traditional disorder–focused approach to psycho – education by developing psycho-educational groups on mentalizing, to enhance clients participation in treatment as a whole; this new approach has been based on a conviction about the central role of mentalizing in treatment coupled with a belief that patients are better able to collaborate when they understand what the therapist are trying to do with them. The psycho-educational model employs therapeutic interventions from other therapeutic models. Cognitive-behavioural therapy, client-centred therapy and systems approaches are some of the therapies that the psycho-educator combine with specific information relevant to the presenting concern of the client in order to design the best possible psycho-educational intervention program for his client (Dulcan, 2009:828).

Psycho-educational therapies have always emphasised the importance of working with the patient's family both to obtain collateral information and to provide education and support. Weiss, Hechtman and Weiss (2001:129) found that this approach lends itself to exploring the developmental issues of the patient. These developmental issues may be explored during initial and subsequent contacts throughout the interventions. Cartwright (2007:143) points out that psycho-education is based on a bio psycho-social model of mental health. The psycho-educational model promotes an information-based, intellectual form of learning through simulation of real behaviour associated with interpersonal and group interaction and with personal growth. The more information on assertiveness or stress management a person has the better the prognosis.

2.2.1. The task of the psycho-educator

Dulcan (2009:828) believes that behaviour change comes not only from the manipulation of environmental variables, but from the development of a better understanding of oneself and others. The client is taught new ways of responding and self control to refrain from using inappropriate actions. The psycho-educator is helping the client to more accurately understand himself, the futility of the present pattern of behaviour and the need to adopt pro social alternative responses. The psycho-educator needs to be empathetic and supportive, while maintaining appropriate boundaries in the relationship with the client. The psycho-educator will not tolerate unacceptable behaviour from the client. Unacceptable behaviour will have consequences for the client. Weis et al (2001:74) pointed out that the tone the psycho-educator use needs to be neutral and calm. This is a non-judgemental, problem-solving approach that does not dwell on resolution of deep internal conflicts or on redressing past wrongs.

Dulcan (2009:829) contends that psycho-educators must consider the current psychological and emotional state of their clients, especially if the interventions will lead to emotional and behavioural change in their clients. The interaction between the psycho-educator and the client is an active interaction, which actively involve the client in developing better actions. Interventions based upon the psycho-educational model rely on the establishment of trust and mutual acceptance between the psycho-educator and the client.

Appropriate behaviours are developed by helping the client to recognise the need for change, and then helping that person to display better behaviour choices. The main focus for the psycho-educator needs to be in the present and the future. While the influences of life experiences and feelings of the clients are considered, the main focus is to empower the client with appropriate skills.

While recognising influences of past events, psycho-educators must focus primarily on the present and future. Interaction sessions offer individual and group counselling in which simulation exercises are often used as a stimulus for thinking about and reflecting on real life (Dulcan, 2009:829). Murphy (1995:36) feels that positive behaviour change is more likely to occur when the psycho-educator is able to develop and maintain positive and mutually respectful interaction with his client. The psycho-educator must be a good listener and be able to develop understanding of the client receiving the intervention.

Townsend (1998:99) recommends that the psycho-educator needs to prompts his client to set assertiveness goals. The standardised format for setting assertiveness goals in psycho-educational programs must be used when setting assertiveness goals. These assertiveness goals must be stated as positive statements. He briefly summarised the psycho-educational approach as an educational approach that involves people in learning to cope with and adapt to life.

2.2.2. The psycho-education formats

Dulcan (2009:830) states that psycho-education can be provided in a variety of settings, including hospitals, schools, businesses, mental health centres, and the internet using discussion groups or individual contact. The format of the psycho-education interventions varies according to the setting and client's presenting concern. Ettin (1999:263) focuses on the different formats of the psycho-educational interventions, it can be provided in individual, family, or group formats. Each has its advantages and disadvantages.

The individual format:

An individual format allows the psycho-educator more time to devote to topic areas relevant to the client, and it provides increased flexibility in covering material. A disadvantage of this format is that the client is not exposed to participants with the same concerns. No interaction with group members leads to no opportunities for social learning (Ettin, 1999:262).

The family and Group psycho-education format

Family psycho-education allows the psycho-educator and the client to address concerns affecting the family unit, and it provides increased opportunities for members to learn the same skills and assist each other. Working with the family allows members to support each other and facilitate ongoing skills practice inside and outside of sessions. The group psycho-educational approach provides opportunities for social learning, development of an additional support system, networking, and reinforcement for positive change. Unfortunately, group approaches have less flexibility in scheduling, they lack the ability to focus exclusively on any client's specific needs, and some clients are uneasy sharing personal information in a group setting (Ettin, 1999:262).

The main identified psycho-educational formats are: The individual format, Family psycho-education and Group psycho-education. These formats are illustrated in Figure 2.3.

Figure 2.3: Formats of Psycho-education (Ettin, 1999:263)
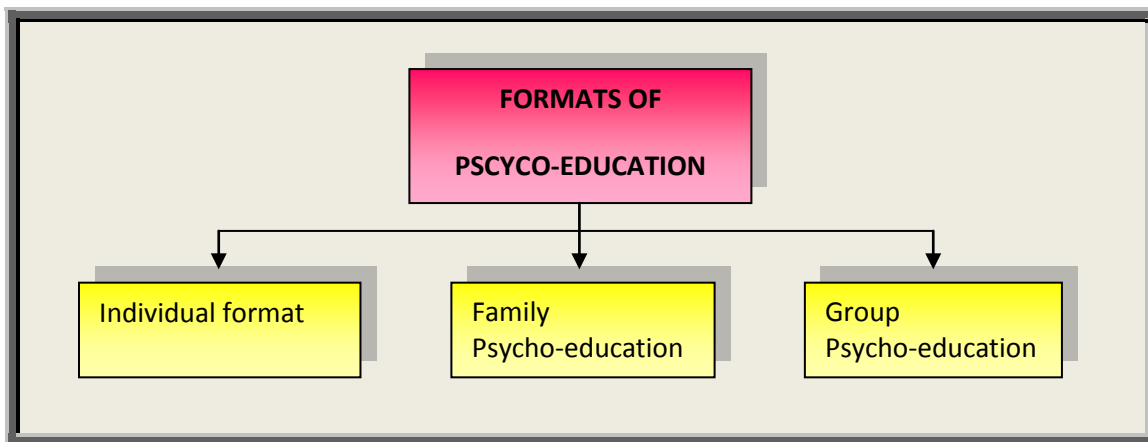
2.2.3. The psycho-educational process

The actual psycho-educational process is complex and is often dynamic in nature. To try to simplify this process Adams and Caplan (2007:161) view it as a cyclical process consisting of three distinct phases:

The planning phase: During this phase the psycho-educator identifies what it is he is aiming to achieve in a session and how he intend achieving it.

The presentation phase: During this phase the psycho-educator will present the different psychological techniques, which will be practised during the specific session. The client will get the opportunity to complete different activities.

The e*valuation phase*: The psycho-educator needs to review how effective the psycho-educational session was. He must evaluate the session in light of the original aims that he set out to achieve.

Figure 2.4: The psycho-educational process
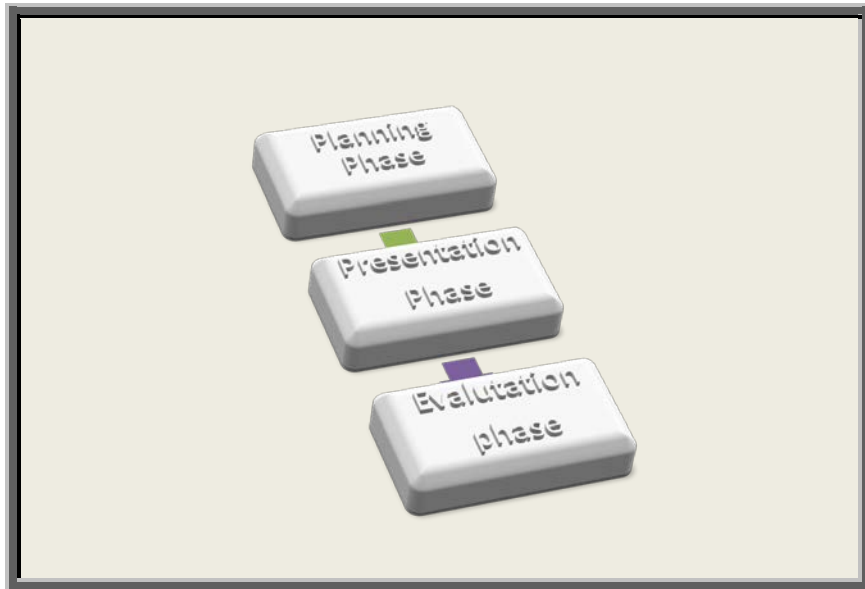
Adams and Caplan (2007:167) emphasise that no amount of introduction or demonstration can replace the need for the clients to practise the psychological skills, which the psycho-educator introduced, for themselves.

The repeated execution of a skill by the clients is the only way of effectively learning it. The psycho-education session should include plenty of opportunities for the clients to execute the skills or techniques for themselves. As the clients practice a new skill it is important that psycho-educators watch them and offer them guidance and positive comments as to how well they are performing the skill. Dulcan (2009:830) suggests that psycho-educators use a fixed but flexible model.

Most psycho-educational interventions have common traits and techniques. Psycho-educational interventions begin in most settings with a comprehensive assessment of the client's needs, strengths and weaknesses. The comprehensive assessment allows the psycho-educator to form a trust-relationship with the client, while gaining valuable understanding of how to best tailor the intervention to fit the client. Building on the client's strengths allows for a focus on the present. The client's past experiences are also recognised to identify areas of improvement. The second stage usually involves a didactic component. Dulcan (2009:830) explains that this stage can be fairly structured or more informally. The Psycho-educator shares the course outline with the client during this session. However, new topics the client presents can be integrated into the prepared session content. Dulcan contends that the transfer of information is the primary function of the psycho-educational model.

The second stage is often a large proportion of the psycho-education intervention. Additionally, it is frequently integrated with other steps in a program, rather than presenting the educational information on its own. Ettin (1999:262) states that the psycho-educator and clients need to establish the length of the sessions and treatment duration during the first session. The learning material and techniques can be taught through a variety of methods including lectures, DVDs, role playing, reading, and discussions. Most psycho-educational programs consist of one session to twenty one sessions. The duration of a session is most of the time sixty to ninety minutes.

2.2.4. Incorporating psycho-education in Sport Psychology

Anderson (2000:122) believes that psychologists who wish to work in the field of psycho-education and Sport Psychology must be more than sport fans.

Psycho-educators must be prepared to become familiar with a new area with all its inherent challenges, frustrations and opportunities. Incorporating psycho-education in Sport Psychology may produce innovative approaches to improving sports performance, psychological well-being, and physical health. Anderson (2000:122) reports that the purpose of using the psycho-educational approach during sport training is to educate athletes on normal and healthy ways of feeling, thinking, and behaving. The psycho-educational approach during sport training focuses on such issues as food, body size, relationships, exercise and training. Applying Sport Psychology to enhance positive youth development is a psycho-educational approach to Educational Psychology.

Research done by Anderson (2000:239) suggests that several communities orientated approaches to teach life skills through sport have been developed and evaluated. These approaches have been shown to be effective to promote positive youth development. He philosophises that when we describe life skills as skills, the process of learning these skills parallels the learning of any skill, whether it is throwing a ball or baking a cake. Sport-based psycho-educational programs are designed to help individuals learn both sport and life skills. There are a number of benefits that psycho-educational interventions may offer to Sport Psychology and to all the different sports that athletes participate in. Anderson (2000:239) mentions that affordability, capacity to reach large numbers of individuals, numerous physical health benefits apart from mental health, and applicable to all ages are a few of the benefits.

However, despite the empirical evidence many psychologists and coaches fail to use Sport Psychology interventions using the psycho-educational model. Anderson (2000:239) feels that the main reasons for this lack of implementation is a lack of experience and knowledge about how to use and monitor psycho-educational interventions. He is of the opinion that further research and training, particularly continuing education is needed to teach psychologists how psycho-educational interventions can be used as a Sport Psychology as well as an Educational Psychology tool.

The literature (Anderson 2000; Mercier & Hutchinson, 1998; Sherman 1999) suggests different mental skills and concepts to include when integrating psychological and physical skills. The process of how to integrate those skills is unfortunately not clear.

Research suggests that participation in sport activities on a regular basis might have a positive effect on the ability of those participants to handle other life events (Auerbach, 1986; Meichenbaum & Turk, 1987).

Anderson (2000:239) pointed out that the following factors need to be present for Psychological skills to generalise to other life domains:

- A belief that the acquired skills and qualities are valued in other settings.
- Awareness of current skills, both physical and psychological.
- Knowledge of how and in what context skills were learned.
- Confidence in the ability to apply skills in different settings.
- A willingness to explore non-sport roles.
- The desire and ability to seek sources of social support.
- The ability to adjust to initial failures or setbacks.

2.2.5. Psycho-education used in Sport Psychology as a life development intervention model

Tebbe (2007:19) states that the life development intervention model is based on the perspective of human development. According to him is the major assumption of this design the emphasis on continuous growth and change. Changes in a cricketer's life might result in problems or a crisis. These changes are to be viewed as critical life events. He philosophises that if an athlete has handled past critical life events successfully he will be able to cope with a present critical life event, due to feelings of confidence and anticipation of success.

Tebbe (2007:19) explains that the central strategy of the life development intervention model is the teaching of goal setting as a means of empowerment. He believes that athletes shape rather than respond to their environments. The goals are the source of energy that motivates athletes in action. Thompson (2003:284) suggests that the life development intervention psycho-educator needs to focus on the psychological growth of his athletes. Life events are considered by him as processes that include anticipation, actual occurrence and aftermath.

Thompson (2003:284) classifies psycho-educational Intervention strategies according to when critical life events occur in the life of the athlete. Thompson classifies intervention strategies that occur before an event as enhancement strategies, interventions occurring during an event are classified as supportive strategies and interventions that occurred after a critical life event are classified as counselling strategies.

Figure 2.5: Athletes have three basic ways to cope with critical life event
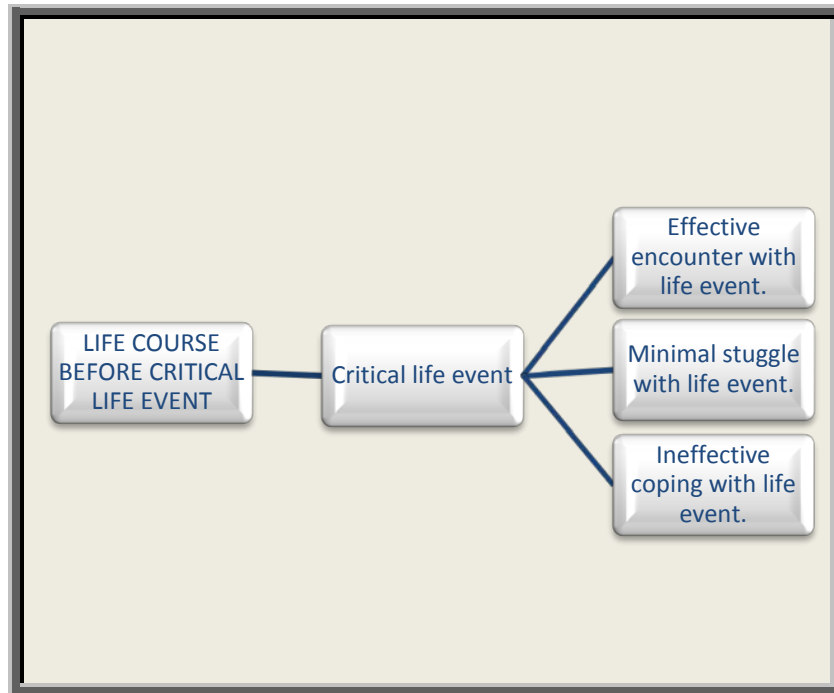
Thompson (2003:284) also believes that the life developing intervention model allows the psycho-educator to be better able to identify the conditions that build character and enhance personal competence in the athletes he coach.

2.2.6. The integrated instructional role of the coach

The integrated instructional role of the coach refers to coaches who provide physical and psychological skills instructions in their coaching sessions**.** Brewer (2009:127) stresses that these coaches need to be aware of dual-role relationships**.** Dual-role relationships include functioning as a coach and as a sport psychologist for athletes and can be potentially problematic from an ethical and practical standpoint. He reminds coaches to work within their competencies.

Most coaches providing psycho-educational instructions are not functioning as psychologists and are not bound by the ethical principles and codes of psychologists. Coaches providing psycho-educational instruction as part of their coaching techniques should effectively prepare themselves for this additional facet of their coaching skills, through graduate coursework or degrees, workshops, supervised experiences or preferably a combination of all three. When a cricket coach teaches psychological skills, some cricketers may feel that they may approach the coach to talk about more personal states and conflict. When cricketers present issues to coaches that are of a clinical nature, coaches need to refer these cricketers to qualified professionals (Williams 2009:165). Brewer (2009:127) proposes that coaches must also adopt a psycho-educational role to teach their cricketers psychological skills that may have applicability within and outside of sport.

Brewer (2009:127) recommends a number of ways that coaches can incorporate Sport Psychology into their coaching practice:

- To foster a team environment conducive to the pursuit of optimal sport performance;
- To teach sport skills;
- To teach general psychological skills;
- To practice sport specific psychological skills;
- And to prepare for competitions.

Anderson (2000:243) is of the opinion that the application of psycho-education to sport coaching is only limited by the characteristics of the sport and the imagination, creativity and experience of the coach. Thelwell, Greenlees and Weston (2006:12) found in their research on soccer players that psycho-educational interventions may enhance the mental toughness of soccer players. Their study focused on relaxation, self-talk and imagery as the main psychological techniques employed in their research. This study suggests that psycho-educational intervention programs can be tailored to fit the needs of cricketers. The specific interventions that the cricketers receive need to be tailored to fit the specific psychological needs of the cricketers.

The psycho-educator needs to be focused on the appropriate timing of his intervention. Figure 2.6 illustrates the *"timing"* factors that the psycho-educator needs to consider.

Figure 2.6: The timing of the intervention
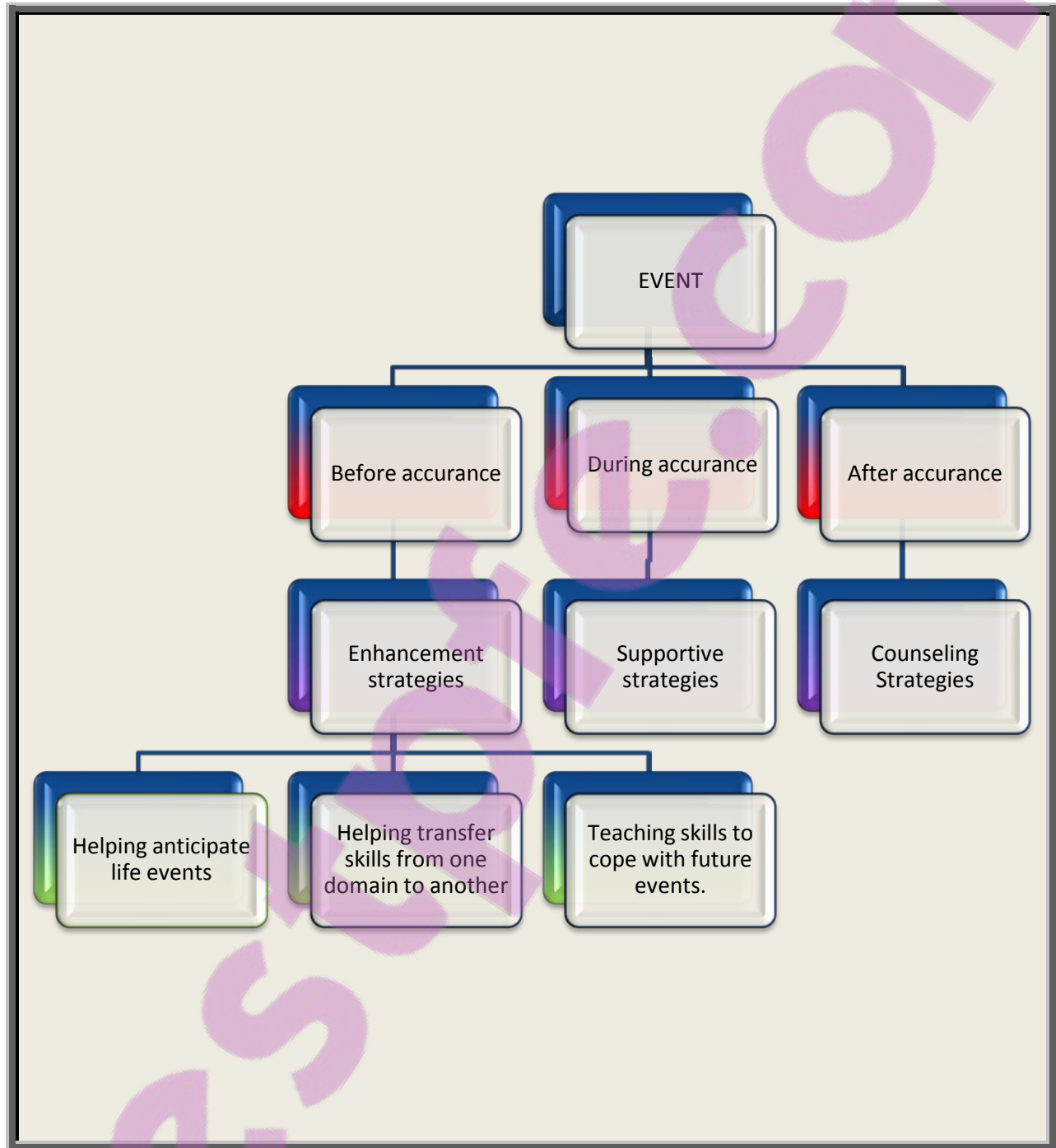
Figure 2.7: The psycho-educational intervention model used in this study
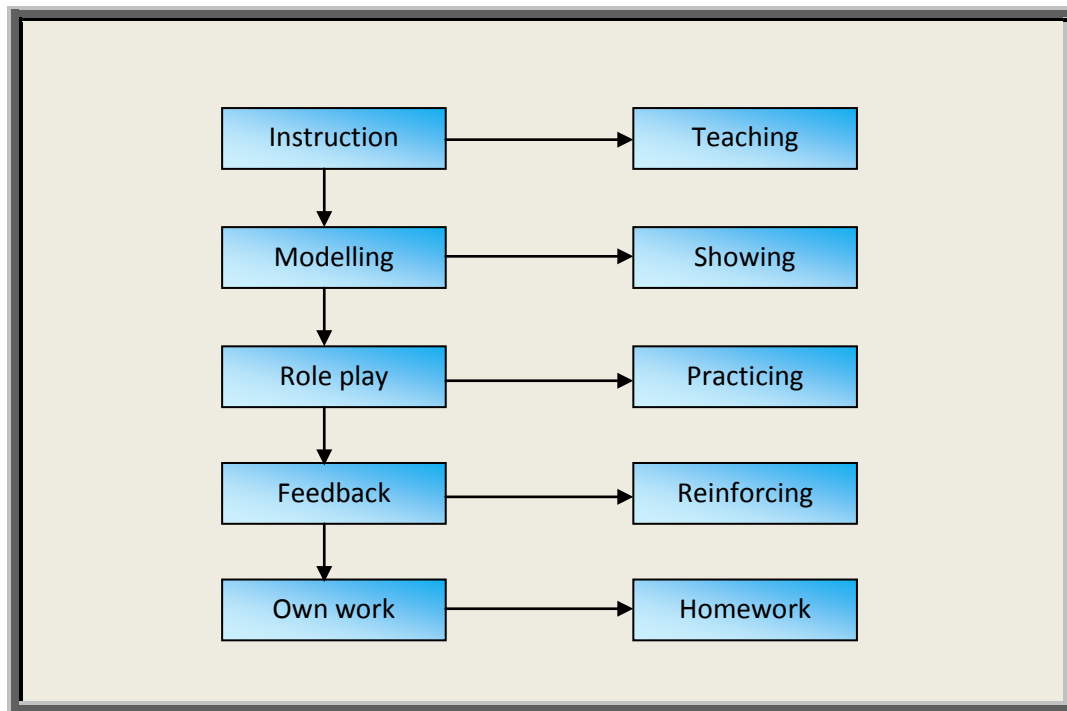
2.3.   Conclusion

This chapter aimed to provide a literature review focussing on a brief history of Sport Psychology, Cricket and Psycho-Education. The psycho-educational model was subsequently discussed in light of its definitions, format and psycho-educational process. The task of the psycho-educator was described and the methods that the psycho-educator employs to do psycho-education were mentioned. A discussion of the incorporation of psycho-education into Sport Psychology pointed out how the psycho-educational model can be tailored as a life development intervention model. The chapter closed with a description of the integrated instructional role of the coach. This review made it clear that the psycho-educational model can be successfully employed as a theoretical framework in which the psycho-educator can teach psychological skills and psychological techniques to secondary school cricketers. The next chapter will focus on the psychological skills and psychological techniques that may enhance the mental toughness of secondary school cricketers.

CHAPTER THREE

PSYCHOLOGICAL SKILLS AND TECHNIQUES TO ENHANCE MENTAL TOUGHNESS

Figure 3.1: Overview of Chapter Three
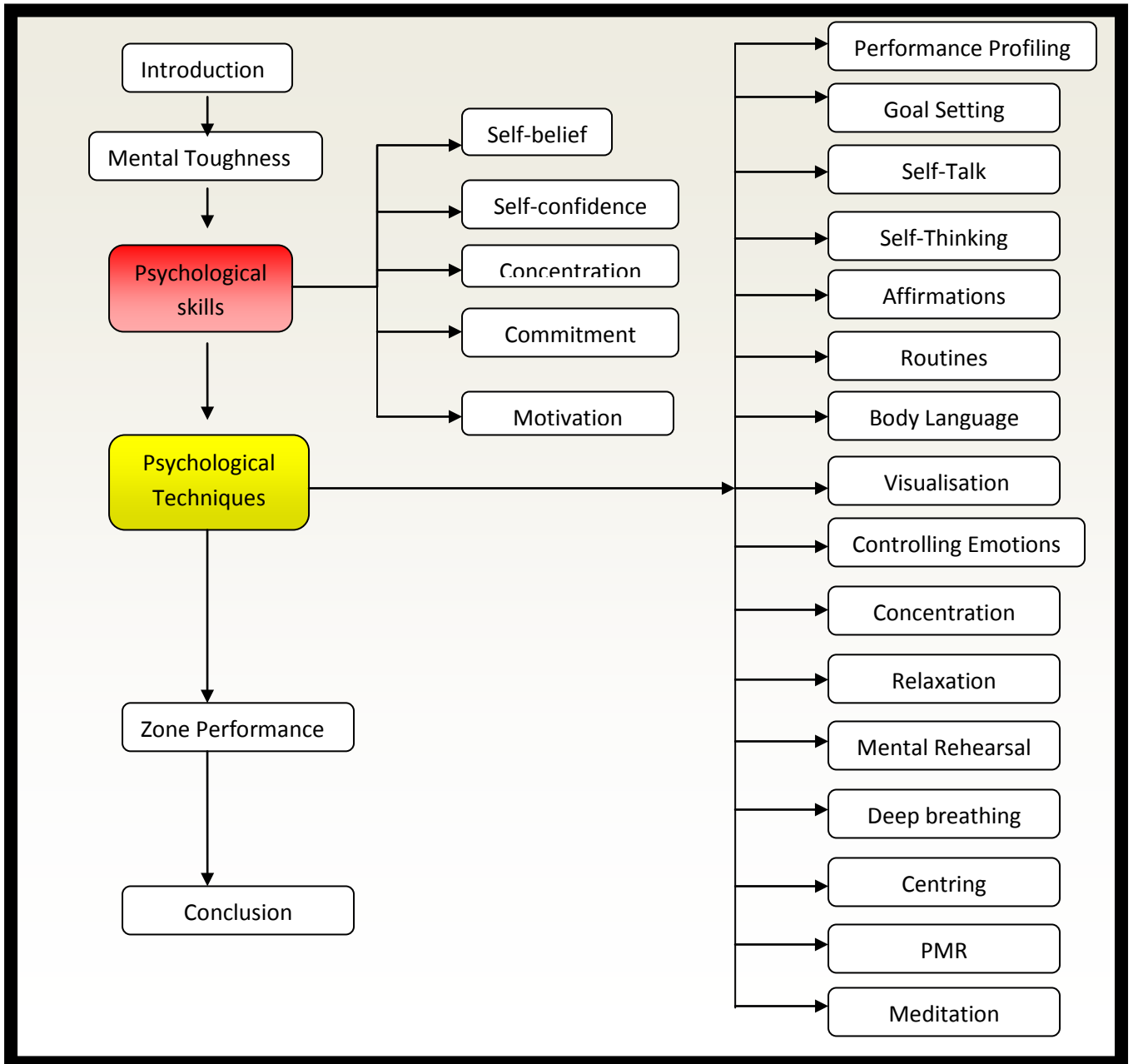
You have to use your mind; it's the most important part of your equipment." Kevin Andrews - extreme skiing champion.

3.1. Introduction

It has been recognized by Bull, Shambrook, James and Brooks (2003:173) that mental toughness as a concept needs greater individual research. This chapter will explore the various definitions of mental toughness and it will clarify if mental toughness is a state of mind, personality trait, or set of psychological characteristics. In this chapter I will focus on the major psychological skills and psychological techniques that a cricket player needs as part of his psychological armour in order to strengthen his mental toughness. The first section of this chapter will focus on the psychological skills. In the second section of the chapter the focus will shift to the psychological techniques that will be employed to help the cricketer to reach his full peak mental toughness performance. At this stage it is important to stress that psychological skills and psychological techniques work together as a unit and not as separate entities.

Tebbe (2007:19) is of the opinion that coaches, sport psychologists and athletes often use the terms psychological skills and psychological techniques as synonyms, when these two terms have actual different meanings. He believes that psychological techniques refer to psychological practices that lead to the development of psychological skills. Examples of psychological techniques are: goal setting, imagery, relaxation, meditation, self-talk and hypnosis. Psychological skills refer to learned characteristics of a cricketer that makes it possible for the cricketer to build on his mental toughness. The more the cricketer's mental toughness strengthens the more his chances to succeed in his cricket game will increase. Examples of psychological skills are: intrinsic motivation, self-belief, self-confidence, commitment and mindfulness.

3.2. Mental toughness defined

Shread (2010:61) makes a comparison between mental toughness and talent, he says that *"Mental toughness is a bit like talent or charisma: instinctively recognizable, but endlessly tricky to put down in a definition."*

Gould, Dieffenbach, and Moffett (2002:186) identify perseverance, resilience, and persistence as some of the main characteristics of mental toughness. Cashmore (2002:241) also states his concern of an adequate definition for the term *"mental toughness",* he states that: *"The term mental toughness is intuitively appealing and used equally generously by players, coaches, and sport media, but an adequate definition has been elusive*".

Several definitions have been stated to address this lack of conceptual clarity, including:

- An ability to cope with stress and pressure.
- To rebound from failures.
- To show resilience.

Jones, Hanton, and Connaughton (2002:193) state in their research that there have been various references to the concept of mental toughness. Mental toughness has suffered from a general lack of conceptual clarity. The construct has been criticized as being rather nebulous. Carr (2010:24) defines mental toughness as the ability of the athlete to continue to perform at peak performance levels no matter what. Mental toughness is the cricketer's ability to take charge of himself and consistently do whatever he can physically, mentally and emotionally to achieve the level of performance he is capable of performing. Moran (2004:145) maintains that mental toughness can be seen as a crucial prerequisite for achieving success in any sport. Determination and resilience are two of the most important attributes of mental toughness. The mastering of mental toughness is for the cricketer of the utmost importance in order for him to take his cricket performance to a high level. Ward (2010:3) reminds cricketers that they also need to be physically fit if they want to tap into their mental toughness abilities. The cricketer determines the realities in his sport performance by the way he thinks about disappointments and opportunities. Carr (2010:24) makes it clear that cricketers can control their thoughts. Cricketers will be able to control their mental toughness as well as their performance, if they control their thoughts. As part of his pioneering Sport Psychology work, Coleman Griffith (1926) examined the personality profiles of top athletes.

The Athletic Motivation Inventory (AMI; Tutko, Lyon & Ogilvie, 1969), more than 40 years later, reveals a striking commonality (Table 3.1) with Griffith's inter-war characteristics. Particularly is the AMI's ninth character – mental toughness.

Table 3.1: Personality characteristics associated with mental toughness (Carr, 2010:21).

Griffith (1926)	AMI (1969)
Ruggedness	Drive
Courage	Determination
Intelligence	Leadership
Exuberance	Guilt proneness
Emotional adjustment	Emotional control
Optimism	Self-confidence
Conscientiousness	Conscientiousness
Alertness	**Mental toughness**
Loyalty	Trust
Respect for authority	Coach ability

3.2.1. Mental toughness redefined in a secondary school cricket context.

Mental toughness is a psychological by-product that the secondary school cricketer gains through the progressive development of psychological skills. Mental toughness enhancement occurs gradually. Figure 3.2 illustrates the progressive cycle of mental toughness enhancement of secondary school cricketers. Effective utilization of psychological techniques evolves the psychological skills of the cricketer. This evolvement of the cricketer's psychological skills improves his enjoyment and commitment to the game of cricket. Gaining mental toughness is the by-product of this evolvement of psychological skills improvement. A mentally tough state of mind results in cricket achievements. These achievements fuel the mental toughness evolvement cycle. Mental toughness can be described as a state of mind and as psychological characteristics in action. The secondary school cricketer's willpower, resilience and perseverance in pursuit of a cricket goal form part of this compilation.

Figure 3.2: The progressive cycle of Cricket mental toughness evolvement.
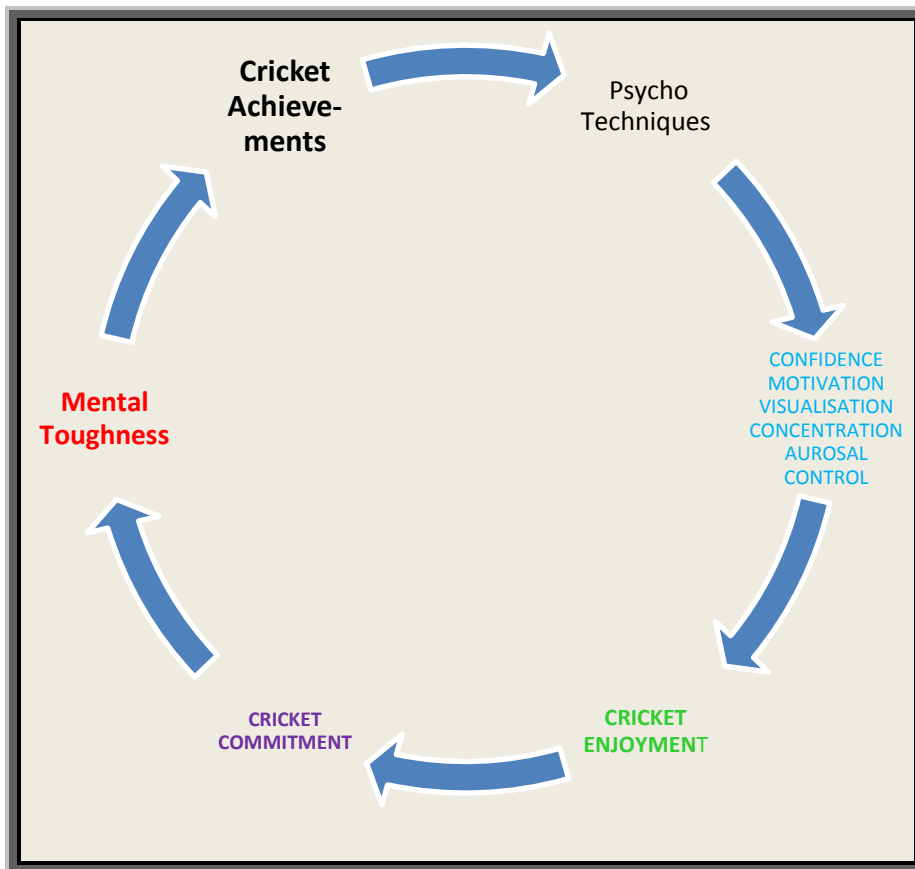
Mental toughness redefined in a secondary school cricket context can be summarised as the capacity of the cricketer to maintain self-belief, clear thinking, resilience and determination when the cricketer is under pressure to deliver optimal performance in his cricket activities. Mental toughness can be seen as a psychological by-product of the secondary school cricketer's ability to apply psychological skills effective in his game of cricket and in his game of life. The strength of the cricketer's mental toughness will be determined by the quality of the implementation process of the psychological techniques. The successful utilisation of psychological techniques improves his psychological skills. Mastering of his psychological skills will strengthen his mental toughness.

In order to justify the above definition an investigation needs to be done to explore the role that psychological skills and psychological techniques play in the development of the mental toughness of the secondary school cricketer. This investigation will start by exploring the psychological skills that determine the mental toughness of a cricketer, the second part of this investigation focuses on the psychological techniques.

3.3.   Psychological skills that determine the mental toughness of a cricket player

Carr (2010: 24) views mental toughness as a combination of self-confidence, self-esteem, self-belief, concentration, motivation, emotional control and commitment. These vital personality characteristics can be seen as psychological skills that the cricketer needs to master in order to fulfil his optimal mental toughness state of mind.

Figure 3.3 summarise the psychological skills that determine the mental toughness strength of the secondary school cricket player.

Figure 3.3: Psychological skills that determine the mental toughness of cricketers
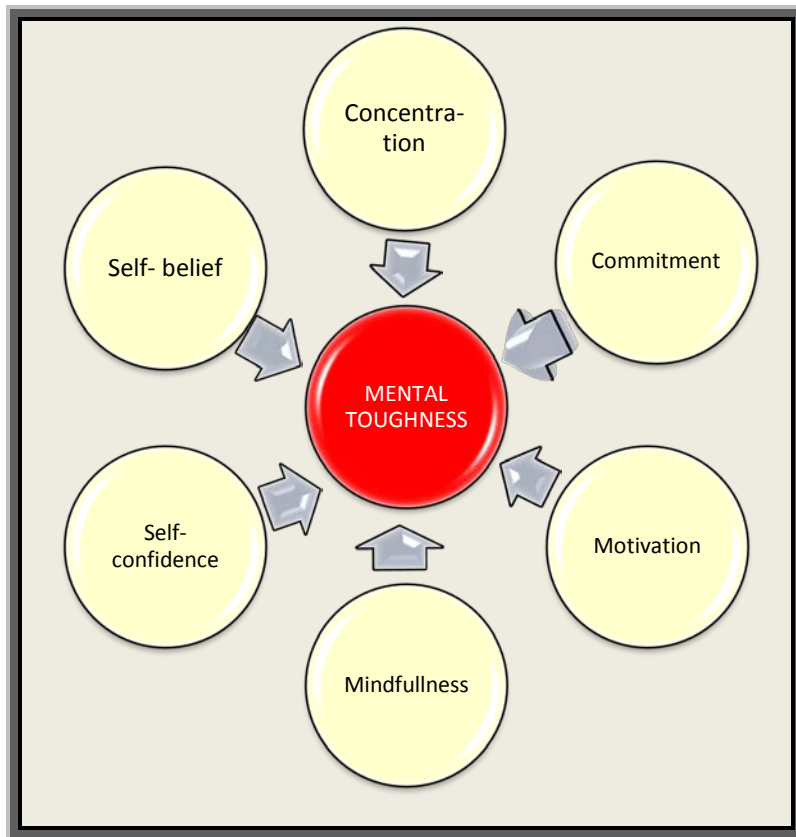
3.3.1. Self-belief

"I don't think it's bragging to say I believe I'm something special." – Mohammed Ali.

Jones (2010:87) explains that self-belief is one of the key skills underpinning mental toughness in cricket players. Self-belief can be developed by cricket players to levels that deliver extraordinary performance. The cricket player who has a strong self-belief rarely takes criticism personally and views any negative feedback he receives as a means of helping him further his cricket ambitions. The self-belief of the cricket player is embedded in the foundations of who the cricket player is, having been formed through patterns of thought, emotions and behaviour over many years. These self-beliefs of the cricketer are so ingrained and subconscious that they are not immediately apparent to the conscious mind of the cricketer. The cricketer's self-beliefs are formed through patterns of thought, emotions and behaviour that he experienced in his every day life on and off the cricket field (Burwell, 2010:170).

The cricket player cannot expect to experience regular cricket success if he has a negative self-belief in his abilities as a cricketer. A lack of self-belief usually has its roots in a fear of some sort and in cricket it's often of the unknown, this fear is manifested in self-doubt. The cricketer's self-belief in himself is the starting point for successful cricket participation. Self-belief is the fundamental building block that needs to be in place before the cricketer can start his journey to peak mental toughness performance (McNaughton, 2011:4).

Figure 3.4: The journey to mental toughness performance (McNaughton, 2011:4).

A positive self-believe creates a positive self-image – the cricketer feels good about himself.

Positive self-image creates a positive attitude – the cricketer feels confident about his ability.

Self-confidence creates in the cricketer's mind a winning attitude – the cricketer believes he can produce peak performance;

This winning attitude helps the cricketer to be focused – the cricketer gives himself every opportunity to perform at his best by utilising all his psychological skills;

The focused mind of the cricketer creates a winning result. This positive self-belief strengthens his overall mental toughness

Figure 3.5: Building blocks for top cricket performance

WINNING

FOCUS

SELF-CONFIDENCE

SELF-IMAGE

SELF-BELIEF

3.3.2. Self-confidence

"*You need to play with supreme confidence, or else you will lose again, and then losing becomes a habit." Joe Paterno (Penn State football Coach).*

Self-confidence is constructed through a complex process of self-persuasion. The cricketer chooses and interprets internal and environmental sources of information that affect his beliefs about his cricket abilities (Weinberg & Gould: 2010:137). Sellars (2004:104) argue that the cricketer's self-confidence is linked with his successful achievements. The more the cricket player is able to achieve success, the greater will be his self-confidence. The coach's role as a psycho - educator in helping the cricket player to develop positive self-confidence is emphasised by Sellars (2004:104): *"The coach needs to develop a training climate in which the cricketer can experience regular success."* Changes in self-confidence can make the difference between a top performance and a mediocre one, even when other factors remain constant. Self-confidence is usually used to refer to a positive attitude.

The cricketer's self-confidence may be influenced by personal or internal factors. Example: The current batting form of the cricket player can influence his self-confidence. External factors may also influence the cricketer's self-confidence. Example: The attitude of team members towards the cricketer (Sellars, 2004: 104). Self-confidence in cricket is uniquely multidimensional based on the competitive demands on cricket players. Cricket players need to believe in their abilities to execute physical skills. Cricketers also need to be able to make correct decisions, execute mental skills such as focusing attention, managing nervousness and bounce back from mistakes and overcome obstacles and setbacks (Hays et al, 2007:76). The integration of psychological training is a powerful achievement approach to enhancing self-confidence in cricket players. Studies (Weinberg & Gould 2010:121) have reported that top cricketers and coaches perceive self-confidence to be a crucial psychological requisite for success in cricket. Research (Hays et al, 2007:76) indicated performance self-confidence, self-regulatory self-confidence, physical self-confidence and outcome self-confidence as the various important types of self-confidence for cricket players.

Different types of self-confidence (Hays et al, 2007:76)

- Outcome self-confidence – the cricket player develops and maintains beliefs about his ability to consistently reach a level of peak performance;

- Performance self-confidence – The cricketer reach a point where he performs successfully in relation to certain standards that he sets for himself;

- Self-regulating self-confidence – The cricketer can master his thoughts and emotions effectively, he can also demonstrate an attitude of resilience;

- Physical self-confidence – The cricketer executes physical cricket skills successfully, he achieves fitness on training levels, and learn new skills needed to be more successful in cricket.

Figure 3.6 illustrates the different types of self-confidence that strengthen the mental toughness of the cricketer.

Figure 3.6: Types of self-confidence (Hays et al, 2007:76)

Performance self-confidence

Self-regulatory self-confidence
- Cognitive management self-confidence
-Emotional management self confidence
-Resilient confidence

TYPES OF SELF-CONFIDENCE

Physical self-confidence
-Skills execution
-Physical fitness self-confidence

Outcome self-confidence
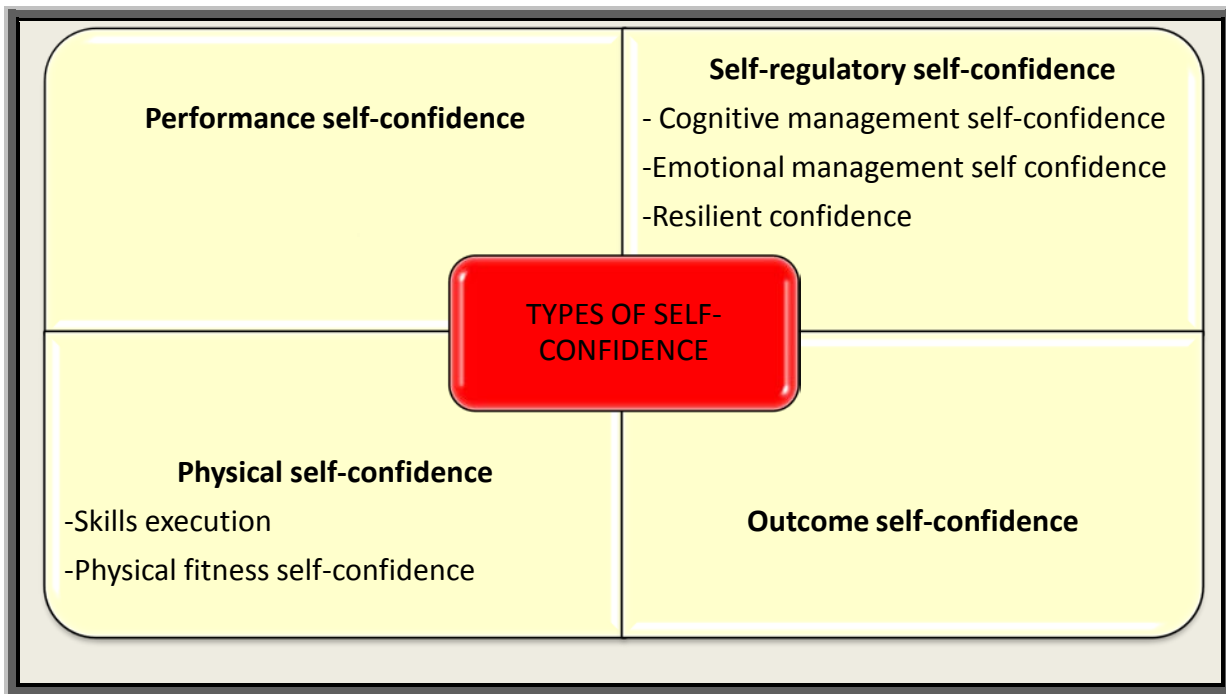
3.3.1.1.   Optimal self-confidence

Weinberg and Gould (2010:323) use the term *"optimal self-confidence"* to describe the ideal state of self-confidence that the cricket player can experience. Optimal self-confidence means that the cricket player is so convinced that he can achieve his goals that he will strive with a focused mind to achieve his goals. Self-confidence will not overcome incompetence. Cricket performance improves as the level of self-confidence increases up to an optimal point, where upon further increases in self-confidence produce corresponding decrements in performance. They make it clear that each individual cricketer has an optimal level of self-confidence, and performance problems can arise with either too little or too much confidence. Weinberg and Gould (2010:322) illustrate the relation between confidence and performance using an inverted U, with the highest point skewed to the right. According to this illustration can a cricketer expects peak performances when he is neither over confident nor under confident. A well balanced state of confidence will lead to the ideal confidence-performance relationship.

Figure 3.7: The inverted U.
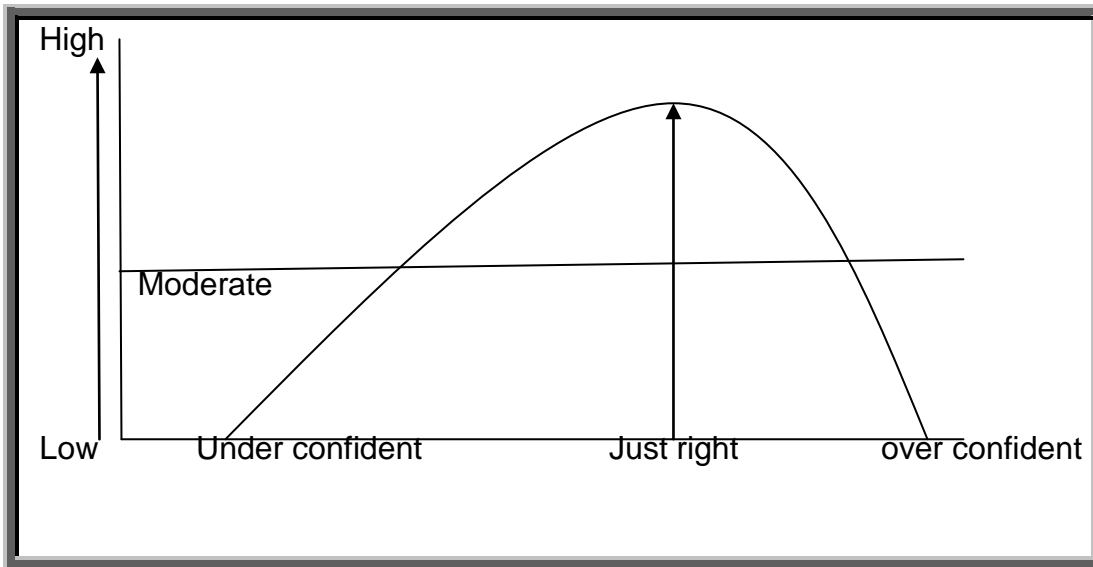
3.3.2. Concentration

"I just took it ball by ball, trying to give every delivery 100% concentration." Michael Atherton - International cricket player. Sir Ian Botham explains how he uses concentration effectively: *"I switch off the moment the ball is dead, then I relax completely and have a chat and a joke, but as soon as the bowler reaches his mark. I switch back on to the game. I think anybody who can concentrate totally all the time is inhuman. I certainly can't."* Sir Ian Botham – International cricket legend.

Weinberg and Gould (2010:362) maintain that physical fitness is a vitally important prerequisite for obtaining optimum concentration levels. The cricketer's concentration span depends on his fitness levels, especially in cricket. The average match takes so long that players can easily fatigue if they are not in top physical form; placing a huge strain on concentration.

Figure 3.8 summarises the six most important concentration principles according to Lidor and Henchen (2007:172).

Figure 3. 8: Concentration principles.

Moran (2004:169) claims that effective concentration requires intentional and psychological effort from the cricket player. The cricketer's focus needs to be fixed on the most important information. The cricketer needs to ignore unimportant information. Moran uses the spot light metaphor to illustrate focused concentration: The cricketer uses concentration as a spotlight that he shines on internal or external information. The cricketer can divide his concentration between two or more actions, but he cannot divide his concentration between different thoughts. He loses his concentration when he focuses on information that he cannot control.

Concentration is the ability of the cricketer to maintain focus on relevant environmental cues. When the environment changes rapidly, the cricketer's attention focus needs to change rapidly.

When he thinks about the past or future he raises irrelevant cues that will often lead to performance errors (Weinberg & Gould, 2010:364). Concentration is about focusing all the attention of the cricket player on those things which are relevant to whatever he is busy doing.

Optimum Concentration in cricket is not achieved by trying harder to concentrate – in fact peak performances are often accompanied by a state of relaxed or effortless concentration. In this relaxed, but focus state is the cricketer likely to experience high levels of mental toughness (Weinberg & Gould, 2010:364).

3.3.2.1. The dimensions of concentration

Although every sport has unique cues, there are some common denominators and it is helpful to analyse the attention demands of cricket by considering Nideffer's model (in Maynard and Crisfield, 2007:18):

The width of attention – A very broad focus of attention may be desirable in certain cricket situations, such as when a batsman is analysing the opposition's fielding placements. A narrower focus is preferred when the batsman hit the ball, because it forces his concentration on a limited number of important cues.

The direction of attention – An external focus is frequently needed to concentrate on the position or movement of other fielders and the ball. An internal focus is preferred when there is a need to analyse what is happening in the match, plan strategy or rehearse a specific batting shot. The ability of the cricket player to gain the right attention focus and to switch from one type of attention to another type is crucial if he wants to achieve mental toughness. This concentration skill, in creating and maintaining a particular focus and indeed of switching effortlessly between the different dimensions of the cricket match, varies from one cricketer to another

The cricketer's concentration during a cricket match can be described as a shifting of attention process. This process is illustrated in Figure 3.9 (Cox, 2007:138).

Figure 3.9: Shifting of attention during a cricket match

BROAD -EXTERNAL Outside fielders in cricket	**NARROW-EXTERNAL** Hitting a cricket ball
BROAD-INTERNAL Analysing &planning (eg. developing a game plan,analysing what the opposition is doing	**NARROW -INTERNAL** Releasing a performance or controlling an emotional state (eg. getting psyched up)
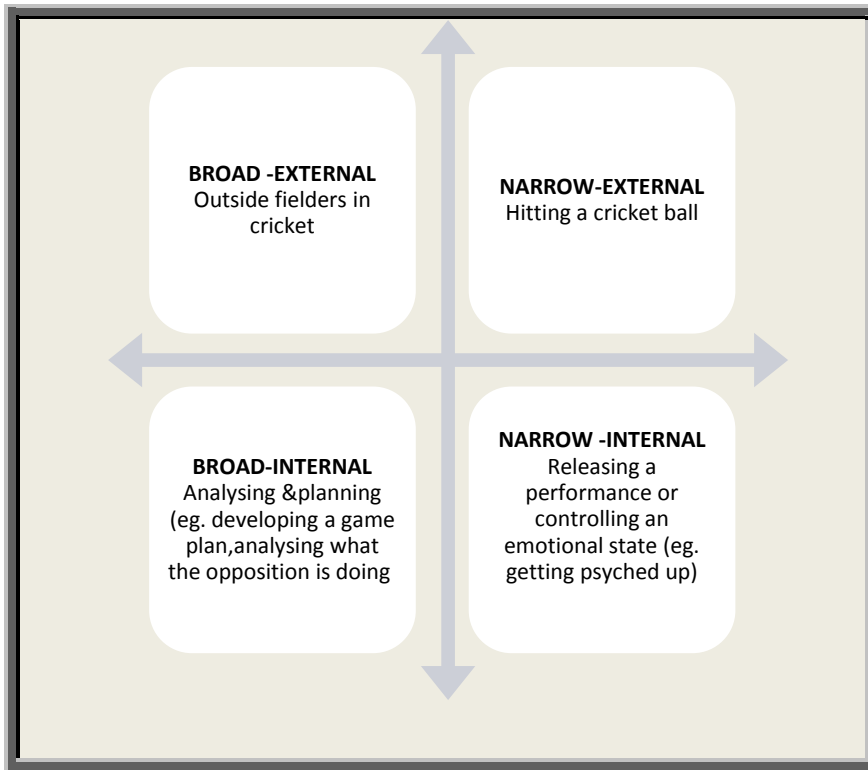
3.3.2.2.   The attention system

Moran (cited in Murphy, 2005:114) shows that the attention system is a bridge between perception, cognition and action (Figure 3.10). This system has three major components: selective processing (focused concentration), cognitive co- ordination of skills and regulation of awareness.

Figure 3.10: The attention system (Murphy 2005:114)

cognition

perception

actions
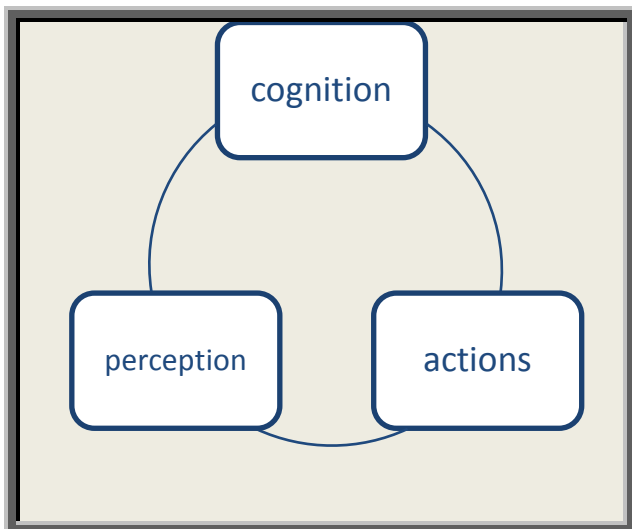
3.3.2.3. The building blocks of effective concentration

Figure 3.11: The building blocks of effective concentration (Kremer & Moran, 2008:107)
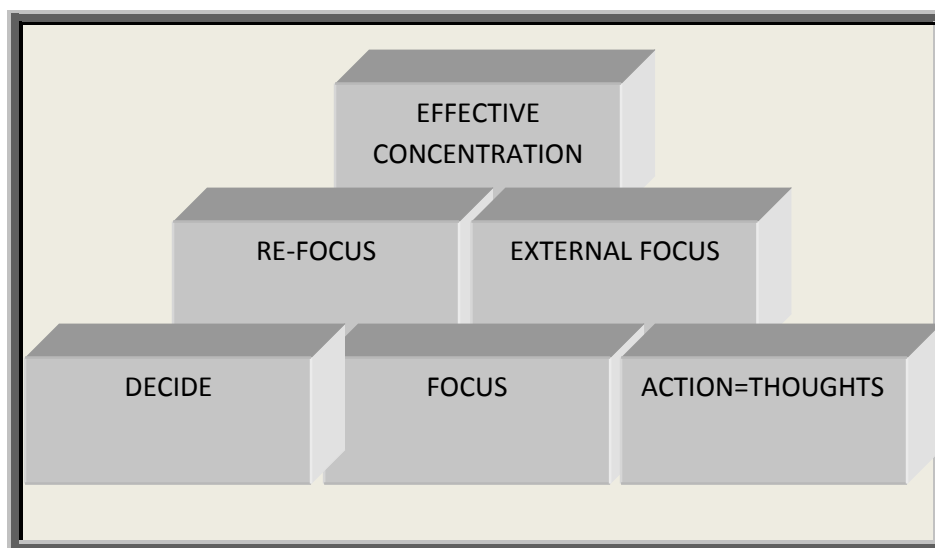
The five building blocks of effective concentration fulfil a vital role in any psychological technique that the secondary school cricket player wishes to use. The interaction between these components is illustrated in Figure 3.11.

3.3.3. Commitment

The cricket player's commitment is defined by Scanlan and Carpenter (2010:5) as a psychological state representing the desire to continue cricket participation. They propose that cricket commitment is determined by cricket enjoyment, involvement alternatives, personal investments, social constraints, and involvement opportunities. Clark (2005:158) suggests that a possible way in which interest and enjoyment in cricket could be maintained and enhanced is through the delivery of psychological skills. The enjoyment of cricket is the key predictor of commitment and a primary reason for initiating and maintaining involvement in cricket. Considering the impact enjoyment has on cricket commitment, it may be worthwhile intervening at youth cricket level to enhance enjoyment for cricket players and thereby increase cricket participation.

Schmidt and Steins' (cited in Shaw, Garely and Corban, 2005:409) Sport Commitment Model of burnout suggests that there are three primary determinants that influence cricket players' commitment:

The determinants of cricket commitment are:

- Satisfaction based on rewards and costs associated with cricket;
- Attractiveness of alternative options;
- Resources cricketers have invested in cricket.

Schmidt and Stein (in Shaw et al, 2005:409) explain that burnout is likely to occur in cricket players who display an entrapment profile, where they are participating in cricket because they have to rather than want to. Entrapment occurs when the cricketer experiences high costs and low rewards, but remains in cricket because he feels that he invested a lot in terms of resources and perceive a lack of attractive alternatives.

Figure 3.12: Reasons why cricketers commit to the game of Cricket
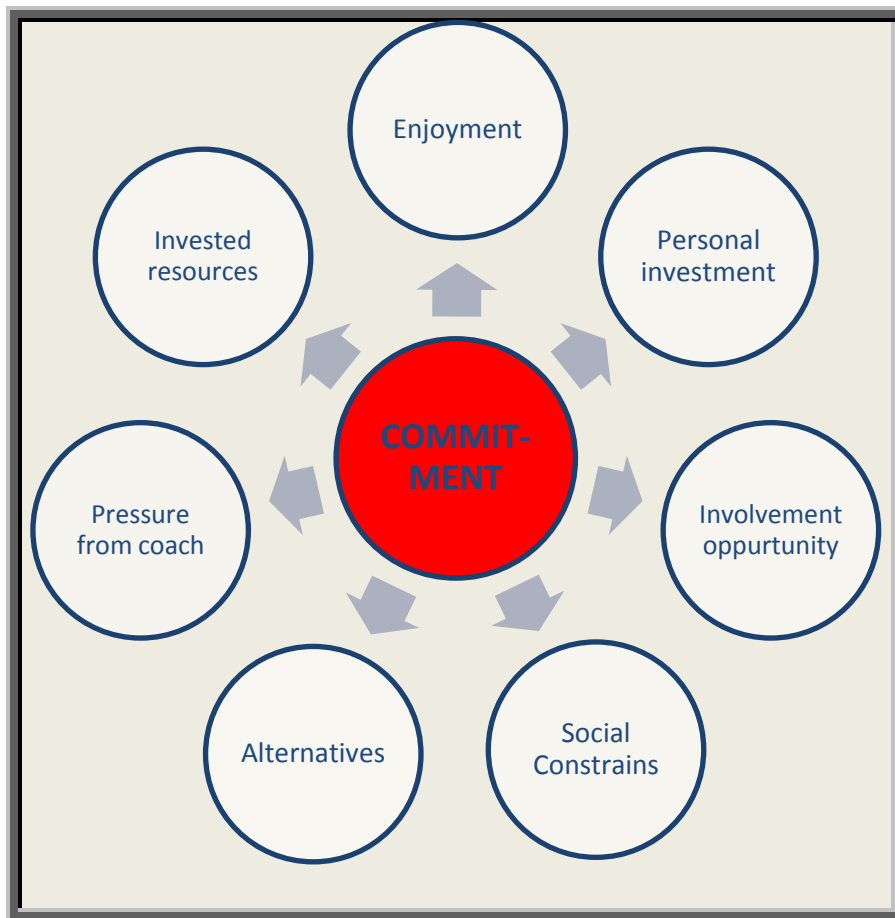
3.3.4. Motivation

"To succeed you need to find something to hold on to, something to motivate you, something to inspire you." Tony Dorsett (NFL Football legend)

Schempp (2003:44) describes motivation as a key factor in both learning and performing sport skills. Motivation is a cricketer's drive to accomplish and achieve a goal. Motivation helps explain what cricketers do and why. In learning motor skills, motivation influences cricketers' selection of skills to be learned and the commitment they make to master those skills. Smith and Biddle (2008:361) propose three important general motivational profiles that differentiate people with regard to their motivation in any given context: intrinsic motivation, extrinsic motivation, and amotivation. Intrinsic motivation is the most desirable type of motivation for the cricket player because it is self-determined, which means that it is under the control of the cricket player. Amotivation can be described as the lack of motivation of the cricketer to engage in a given achievement context, as the cricketer has neither intrinsic nor extrinsic reasons to be engaged in cricket participation. Maughan (2009:275) claims that intrinsic motivation refers to playing cricket *"for its own sake",* for the satisfaction inherent in participating in cricket. While both extrinsic and intrinsic motivation may exert a salient influence, it is believed by Maughan that the enduring positive impact of intrinsic motivation on cricket performance holds the greatest benefit for cricket players.

Smith and Biddle (2008:316) believe that motivation is more likely to be self-determined when three fundamental needs are met: autonomy, competence, and social relatedness:

- Autonomy is the feeling that the cricketer has that he is the originator and the regulator of his own actions.
- Competence refers to knowledge that the cricketer has that gives him the feeling that he has the necessary skills and abilities to realize desired outcomes in a given achievement context.
- Social relatedness refer to the positive feelings that the cricketer can attain and maintain with other cricketers in a particular achievement setting.

Mull, Bayles and Jamieson (2005:77) philosophise that perhaps the most important factor in motivating cricketers is the delivery style and personality of the cricket coach.

When the coach believes in the benefits of participation in cricket it is conveyed to the participants. Psycho-educators, coaches and sport psychologists must understand the importance of motivation as it relates to all aspects of cricket performance. Taylor and Wilson (2005:17) state that motivation is likely to be the psychological skill over which the cricket player has more personal control than any other psychological skill.

3.3.4.1. Two dimensions of motivation

Schempp (2003:44) identifies two dimensions of motivation that he claims to be particularly important for coaches trying to stimulate learning: level of aspiration and goal setting. Emerson (in Schempp, 2003:45) emphasises that *"nothing great was ever achieved without enthusiasm."* A cricketer's desire to learn is a major determiner of his potential to master a psychological technique. Aspiration is measured by a cricketer's expectation for his performance. Emerson explains that participation motivation must be conceptualised as an ongoing process with different motivating factors kicking in at different points during the course of a cricket player's cricket career. Participation motivation is a highly complex phenomenon comprising individual, social and situational factors.

3.3.4.2. The interaction model of motivation

The interaction model of motivation can be used to explain certain behaviour that cricketers may display when they find themselves in different cricket performance situations. Two cricket players may behave differently in the same situation. The same cricket player may behave differently in different situations and a cricket player may behave differently in the same situation during different occasions (Cashmore, 2002:127).

Figure 3.13: The interaction model of motivation (Cashmore, 2002:127)
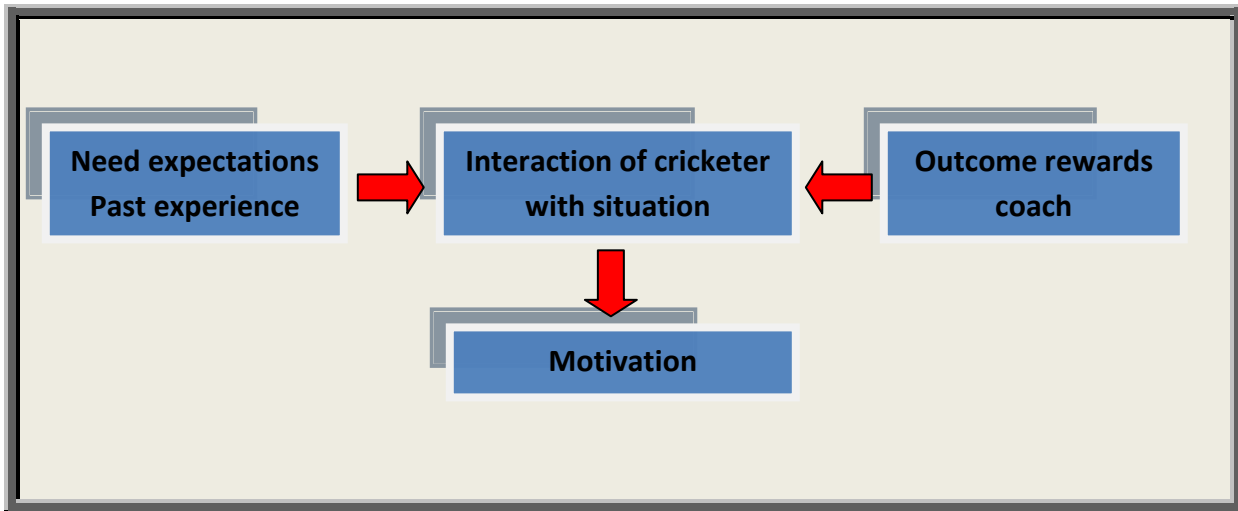
3.3.5. Mindfulness

"Do not dwell in the past; do not dream of the future, concentrate the mind on the present moment." Buddha made this statement more that 2000 years ago and still we find this concept hard to understand. Williams (2009:329) claims that mindfulness is the ability of the cricketer to stay in the moment with his thoughts and actions despite external distractions. This ability to stay in the moment will help the secondary school cricketer to lift his game to levels of peak performance. One of the aims of Mindfulness, in cricket, is to get the cricketer to focus on the basics of cricket discipline. One of these basic disciplines is: *"Take it one ball at a time".* Mindfulness is the non-judgemental focus of a cricketer's attention on the experience that occurs in the present moment. Research on mindfulness done by Kee and Wang (cited in Weinberg & Gould, 2010:163) found that athletes that apply mindfulness techniques in their sport performance; score higher in skill-challenges than athletes who did not use mindfulness techniques. Germer, Siegal and Fulfon (2005:4) see mindfulness as a skill that allows cricketers to be less reactive to what is happening in the moment.

Kaufman (2008:24) argues that the term *"mindfulness"* is relatively new to the world of sport, but he points out that the concepts underlying mindfulness has been used by coaches and sport psychologists for decades. Sport psychologists have described mindfulness principles without necessarily labelling them as mindfulness.

Letting go of memories of bad shots, staying in the present, accepting whatever happens without judgement or evaluation and looking for a feeling of rhythm within the cricket match are all examples of mindfulness principles. Gardner and Moore (2006:7) developed the Mindfulness-Acceptance-Commitment therapy (MAC) technique. MAC is a mindfulness technique that focuses on sport performance enhancement.. MAC can help cricketers to focus their attention on performance-relevant cues and improve their behavioural flexibility as competitive demands and internal experiences fluctuate. This technique stresses the importance of accepting internal experiences. The MAC approach focuses on replacing inappropriate behaviour with more appropriate behaviour.

According to an extensive study done by Brown and Ryan (cited in Hagger & Chatzisarantis: 2002:19) on the concepts of motivation and mindfulness, is it clear that mindfulness is associated with more autonomous motivation orientations and lower stress levels. A state of mindfulness helps cricketers to experience a greater sense of well-being. Studies (Burton and Raedeke: 2008:71) have reported that mindfulness can enhance sustained motivation and sport performance. They are also of the opinion that mindfulness can be developed under a need-supportive condition.

Collard and Walsh (in Labbe 2011:155) reported on training coaches in mindfulness that the coaches felt less stressed and calmer after the mindfulness training. The coaches stated that mindfulness training has helped them to find a better balance between coaching and other aspects of their life. Educating secondary school coaches in the effective utilisation of mindfulness techniques will give them more confidence in applying the techniques during their coaching sessions. Mindfulness stimulates awareness and acceptance of all the internal experiences that the secondary school cricket player experience. This awareness of negative and positive experiences helps the cricketer to understand the temporary nature of both negative and positive cricket experiences. Mindfulness in a cricket context can be seen as the way the secondary school cricketer relates to all his cricket experiences – positive, negative, and neutral – such that the cricketer's overall level of well-being increases.

To be mindful is to wake up, to recognize what is happening in the present moment.

3.4. Psychological techniques that will help develop psychological skills

Gary Kirsten (cited in Cooper and Goodenough, 2007:62) - international cricket coach and cricket player - regrets that he never had the opportunity to learn the psychological techniques to help him deal with what was making him anxious during his cricket career. Kirsten is of the opinion that coaching psychological techniques will enhance the mental toughness of cricket players. Murphy (2005:306) emphasises that coaching psychological techniques do not automatically improve cricket performance and mental toughness. Psychological techniques need to be implemented carefully and judiciously, because some psychological techniques are not suitable for some cricketers or situations. To be helpful, psychological skills training needs to be applied in thoughtful and creative ways. Psycho-educators, sport psychologists, and coaches need to realize that there is a difference between knowing that psychological techniques can improve cricket performance and being able to assist secondary school cricketers in making productive use of psychological techniques.

Psychological techniques are commonly described in applied Sport Psychology literature, yet training secondary school cricketers use psychological techniques effectively, to enhance their mental toughness, is not easy or straightforward. Coaches, psycho-educators, and sport psychologists who are capable of teaching psychological skills effectively can substantially contribute to the mental toughness of their cricketers. In contrast, coaches, psycho-educators, and sport psychologists who are unable to use psychological interventions effectively can distract cricketers from their competitive preparation and ultimately compromising their attempts to achieve optimal cricket performance (Murphy, 2005:307).

Curaso (2005:85) states that most of the psychological techniques of Sport Psychology are integrated. Developing any one of the psychological techniques facilitates the development of other psychological techniques and helps the cricketer's total performance. In order for the cricketer to become proficient at applying psychological techniques, the cricketer must have an abundance of repetitions. Once the cricketer's psychological training becomes as much a habit as his physical training, he will be extremely glad that he made the effort. Practice and conditioning have prepared the cricketer for all the physical challenges of the game.

The psychological training of goal setting, visualisation, focus and relaxation are proven methods of bringing the cricketer to that higher level by preparing him for the psychological challenges of the game of cricket.

Tebbe (2007:19) states that psychological techniques can be taught through a series of interactive steps:

➢ The psychological technique is described in behavioural terms, and a rationale is given for its use. This step is critical in assuring that cricketers don't only understand what the technique looks like but also has some faith that it will improve their performance.

➢ If the cricket player questions the utility of a particular technique it is doubtful that he will invest sufficient time or energy to acquire it. Once the cricketer understands how and why a particular skill can improve performance, the technique should be demonstrated.

➢ Many secondary school cricket players must see both successful and unsuccessful attempts at using the technique to learn to differentiate the two and refine their mental picture of what is necessary for successful execution.

➢ From this point the cricketer is ready to attempt the psychological technique, and with continual feedback based on his progress he can establish reasonable levels of mastery.

The psychological techniques explored in this literature review can be categorised in four main categories. The following psychological skills fulfil the role of the main psychological categories:

- Motivational techniques
- Confidence building techniques
- Visualisation techniques
- Arousal control techniques.

The psychological categories can be seen as the outcomes of the secondary school cricketer's effective utilization of psychological techniques. The categories and techniques are summarized in Figure 3.14.

Figure 3.14: The different categories of the psychological techniques

CATEGORIES OF PSYCOLOGICAL TECHNIQUES

Motivational techniques
-Performance profiling
-Goal setting

Confidence building techniques
-Positive self-talk
-Positive self-thinking
-Affirmations
-Modelling
-Routines
-Body language

Visualisation techniques
-Energising imagery
-Controling emotions
-Concentration
-Confidence building
-Relaxation
-Mental rehearsal

Arousal control
-Breathing
-Autogenic training
-Centring
-PMR
-meditation

3.4.1. Motivational techniques

3.4.1.1. Performance Profiling

Adams and Caplan (2007:154) claim that performance profiling is one of the most effective psychological techniques within Sport Psychology.

The principles of the personal construct theory play a major role in the implementation of performance profiling. Performance profiling has been proposed as a means of understanding a cricketer's perspective of his notions of self and his cricket performance.

Clark (2005:167) states that performance profiling helps identify perceived strengths and weaknesses in the cricketer's mental toughness. The engagement process of performance profiling may help the cricketer to develop an intrinsic interest in developing his psychological skills. Performance profiling as a psychological technique helps the cricketer to take greater responsibility in developing his psychological skills. Ahmed (2005:83) suggests that cricket coaches and sport psychologists may use performance profiling as a technique to motivate the cricket player to remain focused on the goals of the psychological skills training program. Performance profiling gives the cricket player a greater feeling of being in control of his performance preparation of his cricket and psychological skills. With performance profiling the cricket player is self-determining and his perspective becomes a central rather than peripheral focus.

Ahmed (2005:83) states three major purposes of performance profiling:

- To aid the cricket coach in identifying an appropriate intervention program. .
- To maximise the cricketer's motivation and adherence to the intervention program.
- To monitor any changes in the cricketer's motivation and practice of psychological skills over time.

MacKenzie (2011:3) reports the following benefits of doing a performance profile:

- The performance profiling process strengthens the relationship between the coach and the cricket player.
- The strengths and weaknesses of the cricket player are highlighted.
- Clarifying the cricketer's understanding and interpretation of the major psychological skills of elite cricket players.
- Highlighting discrepancies between the cricketer's and coach's interpretation of the elite cricketers' psychological skills.

- Performance profiling is an excellent monitoring technique. The cricketer and the coach can evaluate the progress of the cricketer.
- Performance profiling is a valuable technique that is particularly useful for aiding in the design of a specific psychological training program.
- The implementation of performance profiling will help the coach and sport psychologists have a well informed psychological picture about their cricket players.
- The coach can use the information that he collected, during the performance profiling process, as a useful starting point in the planning process of the psychological intervention program.

The psycho-educator needs to keep *"the five step performance profiling model"* in mind when he does performance profiling with his cricketers. He must make sure that the cricketers understand what he expects of them.

Figure 3.15: The five step Performance Profiling model (Clark, 2005:167).

step 1 Explain the process

step 2 Focus on elite cricketer

step3 Self-assessment

step 4 Psycho-educator assessment

step 5 Analize results
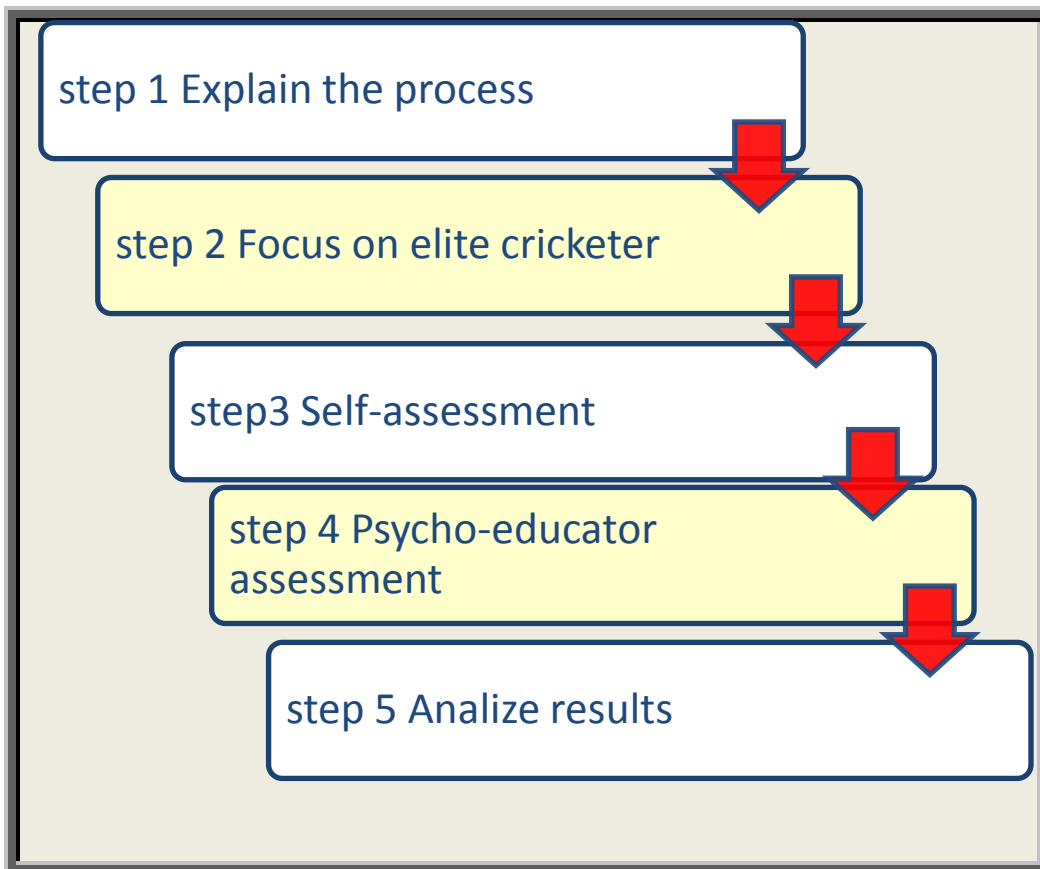
3.4.1.2. Goal setting

"Don't set your goals too low. If you don't need much you won't become much".-Jim Rohn

Robinson (2009:144) defines goal setting as attaining a standard of proficiency on a task, usually within a specified period of time. Goal setting influences behaviour and helps increase motivation and self-confidence while reducing anxiety and social conflict. Schempp (2003:46) defines goal setting as a process in which long-term goals and short-term goals are established. Goal setting is the action that the cricketer performs to state what he wants to achieve. The goals that the cricket player achieves are the intended consequence of efforts and activities.

The process of goal setting motivates the cricket player to be focused on his goals. Cricket players with clear goals will be much more motivated compared to cricket players with a general idea of what they would like to accomplish. The cricketer with clear and realistic goals is focused on achieving success. Disappointments and mistakes will not discourage the focused mind of the goal orientated cricketer. Goal setting is intimately tied to motivation, and it is essential for success. The process of goal setting helps the mind choosing a focus point for the brain (Schempp, 2003:4).

Elite cricketers have the ability to switch between what they want, their goals, and how they are going to achieve their goals. Effective goal setting is a psychological technique that takes time and effort from the cricketer to master. Robinson (2009:144) believes that goal setting is a reflection of the brain; it uses the creativity and problem solving of the right side of the brain and the structure and analytical skills on the left side of the brain to break down goals into easily achievable steps. Robinson explains why goal setting works by using the following two theoretical views:

- The mechanistic view

The mechanistic view suggests that goal setting focuses the cricketer's attention, enhances his efforts and increases his persistence to achieve his goals.

- The cognitive view

The process of goal setting stimulates self-motivation, self-confidence and pleasure in participating in cricket. Goal setting can also reduce anxiety.

3.4.1.2.1. The variables that determine the effectiveness of goal setting

The secondary school cricketer needs to believe in the effectiveness of any psychological technique. Goal setting is no exception. Goal setting will only be effective if the cricketer believes he can reach his goals. Robinson (2009:144) emphasises the role that self-efficacy plays in the goal setting process. Cricketers, who have self-efficacy, prosper in a self-fulfilling manner: If cricketers believe they will achieve a great deal from goal setting, they generally create physical and psychological conditions under which they will succeed in achieving their goals.

Figure: 3.16: The effectiveness of goal setting depends on four variables.

3.4.1.2.2. Different types of goals.

All the different types of goals have their strengths and weaknesses. Setting specific, difficult yet attainable process goals have been associated with higher motivation and greater sport performance. Goals also need to be considered from a short-term, medium-term and long–term perspective. Goals should be challenging but not so difficult that they are unattainable and not so easy that they are easily attainable. The combined use of all the different types of goals appears to work best for the enhancement of cricket performance. The staircase approach to goal setting is a very successful approach to set cricket goals. The cricket player sets his immediate goal slightly above his previous cricket performance average. The cricketer plans a series of goal steps, each being progressively more difficult than the previous goal (Robinson, 2009:125).

The value of imposing goals is very limited. Goals given by the cricket coach, sport psychologist or psycho-educator to the team, will have almost the same outcome as having no goals at all. The objectives and goals of the cricket team and individual cricket players must be negotiated and ultimately accepted by the cricketers (Schempp, 2003:46).

Figure 3.17: *"SMART"* concepts to consider when setting goals (Robinson, 2009:144).
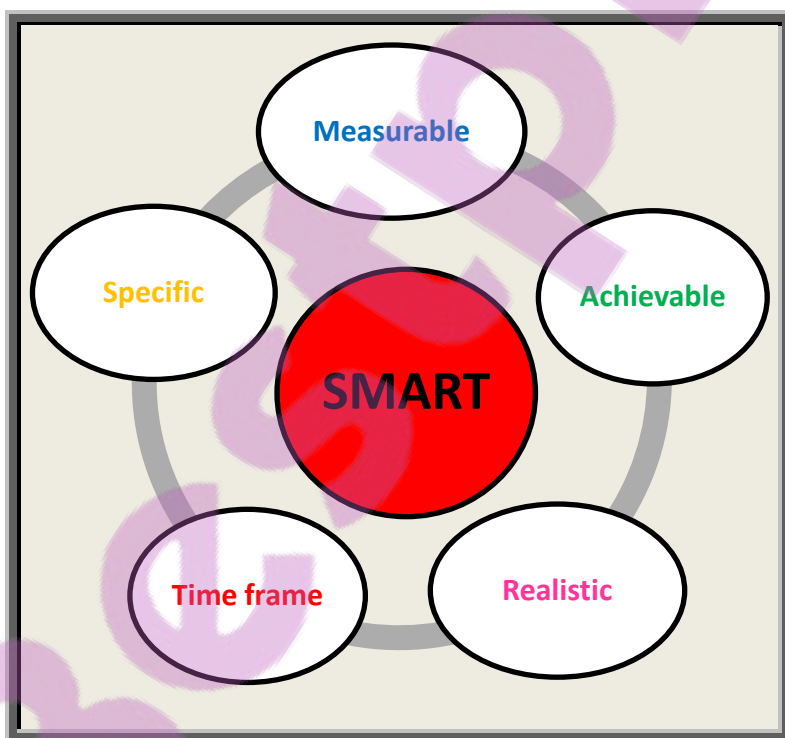
According to Robinson (2009:144) is the SMART concepts of goal setting vital when compiling goals. The cricket player needs to make his goals specific, measurable, achievable, realistic and it must be accomplished in a specific time frame. The goals will be more effective if the cricket player makes them *"public":* Harbouring *"private"* goals secretly may be satisfying for the cricket player, but it is not effective.

3.4.2.   Confidence building techniques

3.4.2.1.   Positive self-talk

Cashmore (2002:89) defines self-talk as a method of verbalizing or silently affirming to oneself words or phrases of encouragement that will empower oneself. The cricketer uses it to invoke feelings of empowerment and confidence. One of the main aims of using self-talk is to achieve optimal arousal before or during a match. Smith and Kays (2010:109) describe self-talk as a way of thinking during certain situations. Self-talk is what happens in that small gap of time between an event (stimulus) and the response. A cricket player is responsible for what he tells himself, and he can change his attitude by changing what he tells himself. Adams and Caplan (2007:358) state that the cricketer uses positive self-talk to convince himself that he is good enough to play or perform well. Example: The batsman is having a very difficult innings. Every ball he goes for, he hits incorrectly or misses. The batsman starts to say to himself: *"Think back to when I scored 50 runs last week. I concentrated on the flight of the ball, I watched the spin, I took into account the position of the fielders and I struck the ball well."*

The process of negative self-talk is so natural that most cricket players do not even notice it. Most cricket players practice negative self-talk, but only a few cricketers take the time to think about the things they say to themselves. Most cricket players do not stop to consider whether the things they tell themselves are even true. Most of the negative self-talk that the cricketer uses are false (Rothschild, 2007:10). The cricket player must make sure that his self-talk is consistently positive. Consistent positive self-talk will have a positive effect on cricket performance. Even a few words of self-talk can make a huge difference in the performance of the cricketer. Smith and Kays (2010:109) believe that the tone of the cricketer's self-talk will have an influence on his cricket performance. A harsh and critical tone, even with positive words, may hurt performance.

One of the most important purposes of self-talk is to reflect on and analyse problem areas during practice sessions and matches. Example*: "That's my fault; it's not going to happen again"* (Cashmore, 2002:146). The cricketer can also use positive self-talk as a personalised verbal persuasive technique to enhance his self-confidence. Example: *"I can play the forward drive!"* (Horn, 2008:93).

3.4.2.1.1. Replacing negative self-talk with positive self-talk

Horn (2008:93) makes it clear that cricketers need to become more aware of their own negative self-talk. Positive self-talk can replace negative self-talk ones the cricketer becomes aware of his negative self-talk The cricketer needs first to recognize what he is thinking and saying to himself. The next step is to stop the negative thoughts and then, finally, the cricketer can replace those negative thoughts with positive ones. Smith and Kays (2010:109) argue that it is not enough just to stop negative thoughts: The cricketer needs to replace negative thoughts with positive alternatives.

Methods to change negative self-talk (Smith and Kays, 2010:109)

- Countering

When a cricket player finds himself saying or thinking something negative or noticing a certain thought that he has repeatedly, he needs to counter this negative thought pattern with a more rational and logical thought pattern The cricket player can dispute the negative thought pattern by asking logical, level headed questions. The negative thought pattern will become less powerful and loses its grip over the cricketer's emotions when the cricketer realises that his negative self-talk is false.

- Reframing

Reframing is a method of looking at a situation from a different and more positive perspective. It is a good technique to use when the cricket player wants positive results quickly. The cricketer simply takes his initial negative reaction and reframes it; this reframing process will immediately improve his view of the situation. Example: *"I'm useless, I can't bat! "* The cricket player can reframe the situation by stating: *"I can bat better if I spend more time practicing in the nets."*

- Affirming

One of the best methods to develop positive self-talk is to use an affirmation script that can be read or played a few times a day. These scripts can be short (one or two sentences) or somewhat longer (up to 3 – 5 minutes). Self-talk scrips can often include positive affirmations and cue words. Scripts can be general, for a particular match or a specific purpose such as pre practice readiness.

3.4.2.2. Positive thinking (self-thinking)

Negative self-talk will not be possible if the cricketers focus on positive thoughts. When positive thoughts are going through the minds of the cricketers, it is not possible for them to have negative thoughts. Coaching the cricketers to see the positives in every situation will soon result in positive self-talk pervading their internal dialogue. The cricketer's ability to control his thought pattern is vital in cricket. Negative thought patterns will inhibit the cricket performance of the cricketer. To control positive thoughts a cricketer must first make himself aware of his negative thoughts and find ways to stop them immediately. Example: The cricketer visualise a stop sign in his mind. Other cricketers may simply say *"stop"* to themselves whenever negative thoughts occur. The aim is to counter a negative thought with an appropriate positive thought (Pyke & Davis, 2010:21).

Adams and Caplan (2007:358) suggest that the cricketer must use positive thoughts with other psychological techniques such as visualisation and pre-match routines in order to increase his confidence and performance during practice sessions and matches. Example: *"I cannot face this fast bowler".* Positive thinking would be a good technique to use to change this negative thought pattern. The cricketer could do this by thinking more about times when he had been successful in his performance. He may use phrases such as *"I can do this, I did it before."* After the match the cricketer could use visualisation techniques to imagine playing the ball facing fast bowlers, while using positive thoughts to further enhance his confidence.

Positive and negative thoughts give birth to positive and negative emotions, not the other way around. The thoughts and emotions that the secondary school cricket player experience create his reality and his understanding of what's true and real.

When these thoughts are negative – for example *"I can't hit the ball"*- it will have a negative influence on his emotions. These negative emotions might create an anxious reaction in the cricketer's cricket and mental toughness performance. What the cricket player is thinking leads him to act in ways that confirm his reality. Positive thoughts will have a positive influence on the cricketer's emotions and he will become more relaxed (Pyke & Davis, 2010:22).

3.4.2.3. Affirmations

Adams (2009:149) defines an affirmation as a form of thought that is more powerful than an ordinarily thought, because of the focus and intention that an affirmation generate. Affirmations are positive statements that are designed to confirm goal achievement. Affirmations generate faith and faith creates a strong belief that leads to knowledge. Affirmations are positive verbal statements that when repeated over time enhances mental toughness. Kauss (2001:5) sees affirmations as pathways to positive states of existence such as peace of mind, growth, and success. Affirmations are usually aimed at successful achievements.

The secondary school cricket player can employ affirmations to increase confidence, control stress, and improve concentration. The use of affirmations as a psychological technique will also enhance the cricketer's motivation and it will help him to perform at an optimal level. One way cricketers can proactively program positive thoughts is to use team mottos and motivational slogans to remind themselves of their psychological and cricket techniques. Example: *"Footwork is the key to success".* Affirming allows cricketers to construct and practice positive self-talk on a holistic basis. The first step the cricketer needs to take is to write out positive and affirming statements about his cricket performance (Burton & Raedeke, 2008:106).

3.4.2.3.1. Guidelines when using written affirmations.

Burton and Raedeke (2008:106) propose the following guidelines:

- Write in the present tense. Example: *"I am a good batsman!"*
- Specific. Example: *"Play smooth strokes"* rather than *"play good cricket".*
- Positive. Example: *"Relax"* instead of "*not nervous".*

After the secondary school cricket player has written his affirmation he needs to spend a few minutes each day reading and meditating on these positive affirmations. The cricketer must strive to focus his affirmations on excellence and not on perfectionism (Burton & Raedeke, 2008:106). Consistency in practicing affirmations is vital in mastering this psychological technique. When the cricket player uses affirmations, it is important that he reviews them on a regular basis. The cricketer needs to change his affirmations when he changes his goals. In order to make progress in cricket performance the cricketer needs to tailor his affirmations according to his goals. The most effective affirmations are both believable and vivid (Adams & Caplan, 2007:145).

Positive self-statements are statements about the cricketer's strong points. Positive affirmations are best used when the cricket player is relaxed and receptive after he did some relaxation exercises. When using affirmations the possibility of the desirable cricket achievement increases. Affirmations control what the cricketer says and think. These powerful words give the cricketer permission to open up his greatness and abilities within cricket (Adams and Caplan, 2007:145). Gauron (cited in Williams, 2009:134) suggests that the cricketer may use different affirmations, but he needs to focus his attention on one special affirmation. This affirmation must be his paramount affirmation. Anderson (2005:126) sees affirmations as positive self-statements.

Adams and Caplan (2007:145) pointed out that effective affirmations need to be:

- Believable: The secondary cricketer needs to believe in his own affirmations.
- Vivid: There needs to be clarity in the cricketer's affirmations.
- Present tense: All affirmations need to be compiled in the present tense.
- Specific: There must no ambiguity in the affirmation statements.
- Positive: Only use positive statements to compile affirmations.
- Confirm goals: The main purpose of using affirmations is to achieve goals.

Figure 3.18 summarises the above stated affirmation guidelines according to Adams and Caplan (2007:145).

Figure 3.18: Guidelines to follow when compiling affirmations
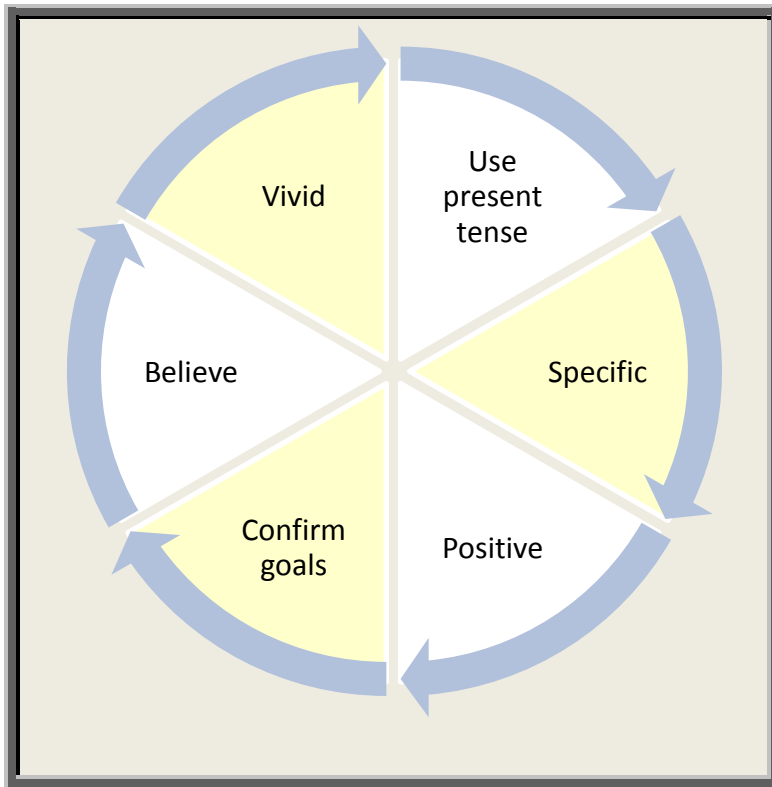
3.4.2.4. Modelling and effective demonstrations

Adams and Caplan (2007:158) emphasise the value of modelling as a psychological technique. They state that modelling is one of the most powerful means of transmitting values, attitudes and patterns of thoughts and behaviours. Modelling, as a psychological intervention technique, involves the depiction or simulation of a specific behaviour by one individual who serves as a kind of actor, while a second individual observes and then imitates the behaviour. It is of paramount importance that the modelling and demonstrations of the coach or psycho-educator is confident and technically correct, otherwise cricket players may imitate a technically incorrect model. If the psycho-educator is not comfortable demonstrating the techniques himself, he must make use of experienced cricketers to demonstrate the psychological techniques to the cricketers. Cricket players tend to model the actions of other cricket players and coaches. Cricketers tend to model other cricketer and coaches with whom they have shared personal relationships, and this is particularly true with younger cricketers.

Young cricketers may be especially susceptible to modelling. Adult cricketers, who are motivated to change certain behaviours, will also be receptive to the cues presented by psycho-educators. Young cricketers are more likely to imitate the behaviour of models when they observed models being positively rewarded for their behaviour, a process called *"vicarious reinforcement"*. Consequence of behaviour plays an important part in shaping the behaviour of young cricketers (Anderson, 2005:134). The psycho-educator can use this method to model relatively new techniques. Learning through modelling is cumulative: building from simple to more complex tasks (Cashmore, 2010:172). Research done by Soohoo (cited in Hanton & Mellalieu, 2008:238) showed that modelling interventions resulted in better sport performances compared to an imagery intervention. When the effectiveness of modelling based interventions has been compared to other interventions, most of the results have favoured modelling interventions. The cricket player can model the cricket actions of elite cricket performers by watching repeatedly the performance of elite cricket players on a monitor.

The secondary school cricket player may attain the same results by watching himself repeatedly performing a technique well. Ideally the cricket player should become absorbed in the movements of the model and try to feel the rhythm exhibited by the model. Cashmore (2010:134) points out that this process has commercially been known as Sybervision and relies on a process known as Neuro linguistic programming to cement the skill into the subconscious mind of the cricket player.

Figure 3.19 summarises guidelines that the psycho-educator needs to employ when he uses demonstration as a psychological technique to help the secondary school cricketer to achieve mental toughness.

Figure 3.19: Guidelines to follow when using demonstrations.
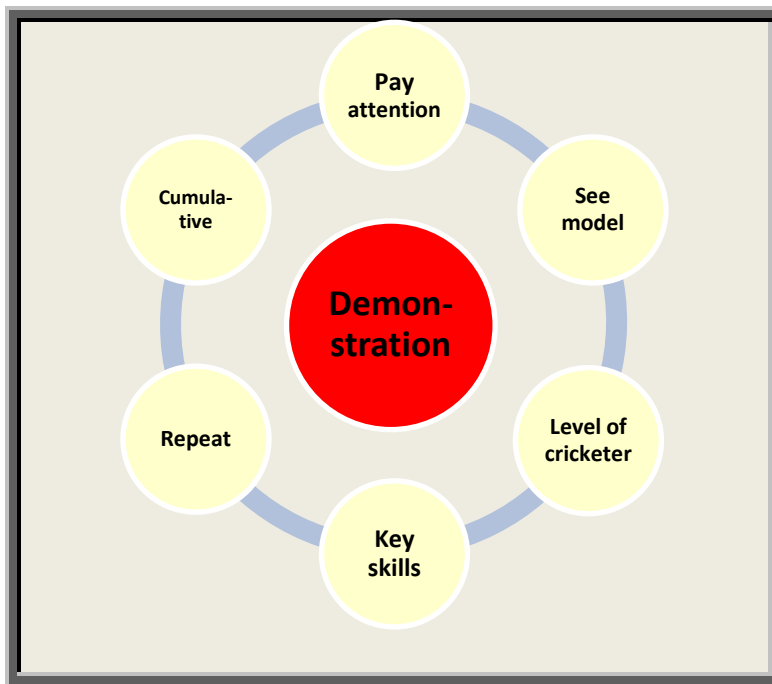
3.4.2.5.   Routines

Routines are one of the most effective ways to systematically plan for successful cricket performance. Routines can be viewed as a psychological technique that cricketers must develop to enhance their cricket performances. Routines enhance consistency in cricket performances. Bowlers, fielders and batsman should spend time establishing and monitoring the routines they do before each delivery. The cricketer needs to practice his routines during practice sessions and not only try to apply them during matches. Routines connect physical, technical, tactical, and psychological techniques aimed at enhancing cricket performance. Well practiced routines are invaluable in helping cricketers achieve their competitive goals. When cricketers try to create a routine without fully understanding the mechanisms that make a routine successful, the routine may be ineffective. Successful cricket drills must become routines. The cricket coach needs to identify successful drills performed by the cricketer. When the cricketer performs a drill well, he should repeat it consistently for several days. Reinforcing correct movement patterns is important for confidence in developing automatic skills responses (Pyke and Davis, 2010:4).

Routines can ensure that all positive influences on the cricketer's performance are supported and all negative influences on his performance are minimized by controlling the way in which these influences affect his mental toughness and cricket performance. Psycho-educators and coaches can help cricketers maximize the value of their routines. The more cricketers understand about the value of routines, the more effective their routines will become (Sellars, 2004:42). Routines are of paramount importance during the preparation stages for cricket matches and have shown to be effective before, during, and after matches. Post-competition routines allow the cricketer to evaluate his match performances. Routines must also include other psychological techniques, for example, positive self-talk that puts the positive mindset of the cricketer into action. This positive mindset enhances his mental toughness. Cricketers need to review and revise their routines regularly. If the cricketers maintain the same pre-performance routines indefinitely, their concentration and focus may begin to wonder (Taylor & Wilson, 2005:138).

Figure 3.20: Mechanisms that make routines effective.
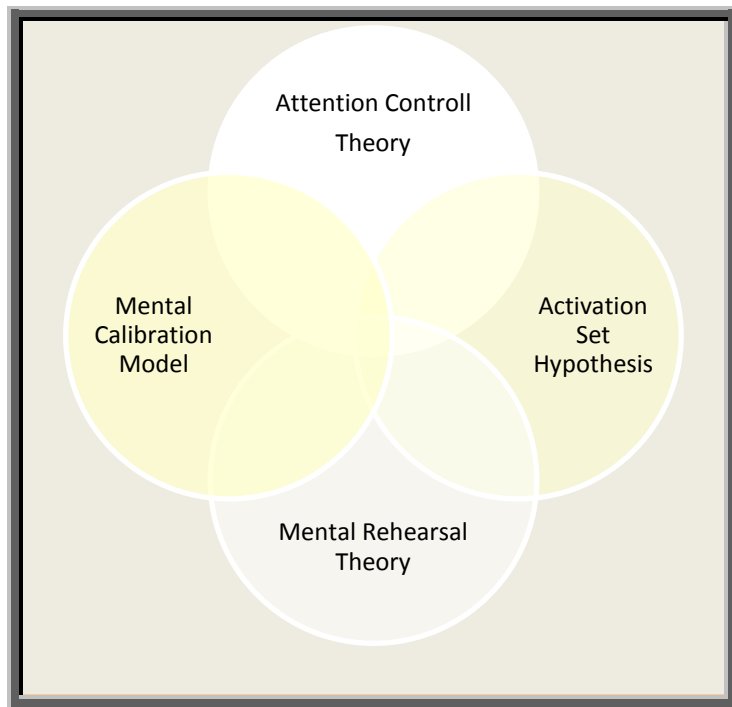
Routines also enable cricketers to adjust and fine-tune their preparation in pursuit of a particular competitive goal.

Consistent use of routines creates a certain comfort and reassurance, which can influence the self-belief and self-confidence of the cricketer (Sellars 2004:43).

3.4.2.5.1. The main reasons why routines are effective.

A number of explanations (Boucher, 1990, Schmidt & Lee 1998, Cohn 1990) have been offered to clarify the mechanisms that make routines effective. Each explanation provides a different perspective on how routines work. Some of the accounts complement each other.

- Attention Control Theory

Attention Control Theory states that the value of routines is that they may help the cricketer to avoid abstractions and maintain focus.

- Activation Set Hypothesis

An insufficient warm-up routine is a common explanation for competitive failure during a cricket match. With adequate preparation, the *"activation set"* (the physical, psychological, and technical contributors to performance) may be triggered before the start of a cricket match.

- Mental Rehearsal Theory

The Mental Rehearsal Theory posits that the mental rehearsal of future performance is an essential part of routines, ensuring that cricketers take time to review the physical, technical, and psychological demands that the competition will place on them and to rehearse strategies that will enable them to overcome those challenges before they perform.

- Mental Calibration Model

The Mental Calibration Model states that adequate physiological activation is a basic requirement of competitive performance. The psychological components of the cricketer are the most influential contributors to performance (Sellars, 2004:42).

3.4.2.6.   Body Language

Using body language as a psychological technique is a very important technique that cricketers can employ to their advantage. Cricket players can use body language to their advantage by becoming experts at hiding their own true feelings and reading the body language of their opponents. The cricket player's ability to communicate effectively with team mates during a cricket match depends on his ability to use body language effectively (Adams & Caplan, 2007; 445). Studies by Rizzolatte and Gallese (cited in Adams & Caplan 2007: 445) have found that sensitive brain cells not only fire when cricketers perform an action but even when they see, hear or suspect that their opponents are about to perform an action.

Adams and Caplan (2007:445) are of the opinion that there are different ways that the cricketer can use his body language to his advantage. The skilful practice of body language, as a psychological technique, may give the secondary school cricket player a competitive edge. The cricket player needs to make his message consistent with his body language. When the cricketer's body language is inconsistent with his message, his opponent will know it instantly.

3.4.2.6.1. Guidelines to use body language as a psychological technique.

Adams and Caplan (2007:445) identified appearance, posture, gestures, physical contact, expressions, proxemics and acting energised as the most successful ways to use body language as a psychological technique.

- Appearance

Assumptions about the cricket player are based on how he looks. The cricketer can use this assumption to his advantage by making sure he looks at his best at all times, as well as not making any assumptions about opposing players.

- Posture

The cricket player must be aware of his posture and stand tall and keep his head up and shoulders back even in the midst of disaster.

- Gestures

The hand movements of the cricketer often reveal what he is thinking during the cricket match. The cricketer needs to become a student of hand gestures, and then he might get an insight into the opposing team, as well as not revealing his own match plan.

- Physical contact

All forms of physical contact have a specific meaning. The right sort of touch by team mates or the coach can reassure the cricketer and boost his confidence. The captain needs to know his team. Some cricket players will want no more than a handshake; others need an arm around the shoulder.

- Expressions

Cricketers find it hard to hide their facial expressions. When a cricketer picks up on his opponent's facial expressions, he must make sure his team knows what is going on and use it to their advantage.

- Proxemics

Proxemics refers to the distance between people. This emphasises the importance of team spirit, it's designed to bring the team closer as a unit. Cricketers can also get close to opposition players to make them feel uncomfortable.

- Acting energised

Acting energised can heighten the concentration levels of the cricketer. Acting energised will also increase the motivational levels of cricketers. Example: The bowler takes a vital wicket and screams at his team mates. The batsmen hit each other's clove after a good over. The use of this type of body language can also increase arousal levels in cricketers. The acts of cricketers being energised might even increase the arousal levels of the crowd, often displayed through cheering on the team more, which further benefits the cricketer.

Figure 3.21: Guidelines to use body language as a psychological technique.
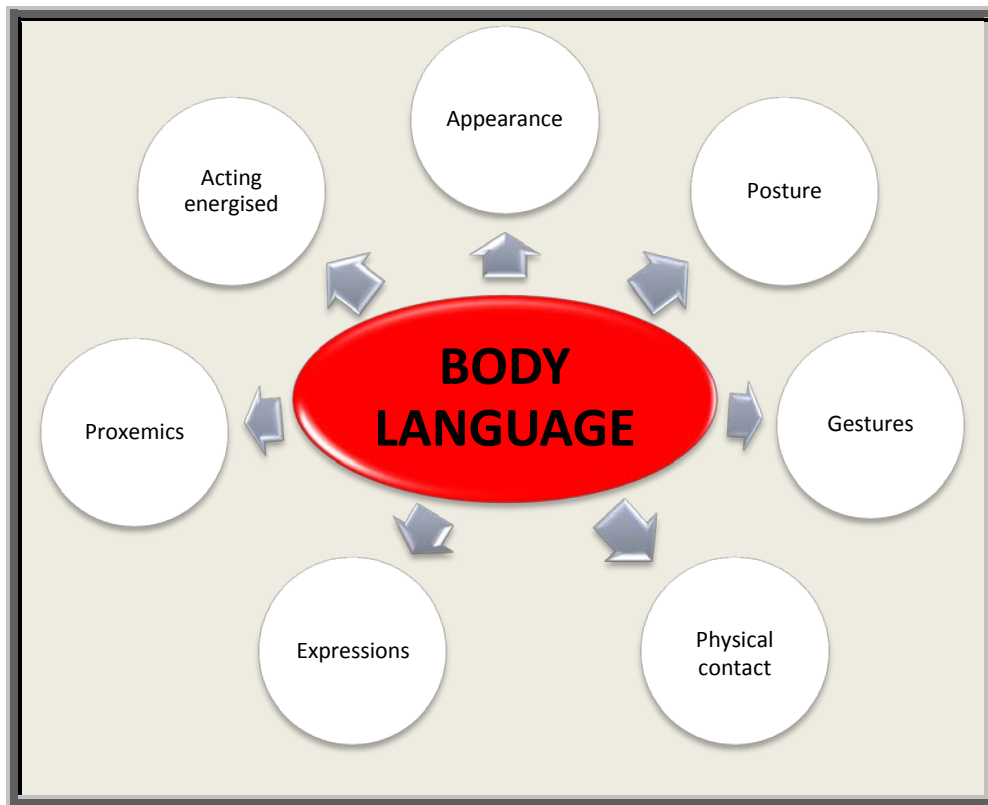
3.4.2.7. Chirping and *"Psyching"*

Psyching can be seen as a psychological technique that the cricketer uses to gain an advantage over his opponent by discouraging or intimidating him using fair means, or by rousing oneself. Steve Waugh was the master of *"mental disintegration"* the process of wearing down an opponent until he is paralysed by self doubt. It's a powerful, often aggressive psychological technique. If the batsman begins to doubt himself, as a batsman, he can either get himself out or become stuck batting too defensively. The theory of chirping is twofold: First the cricketer puts off the opposing batsman by making him lose his concentration or feel under pressure. The cricketer also keeps the fielding side energised through constant encouragement. Psyching emphasises the importance of psychological preparation in gaining a competitive edge, however slight, either through initiating anxiety in the cricketer's opponent – psyching out – or heightening the team's own arousal to an optimum state – psyching up (Cashmore, 2002:203).

Figure 3.22: Guidelines to use psyching as a psychological technique

No personal comments

Only when ball is dead

Not overuse

Good bowling!
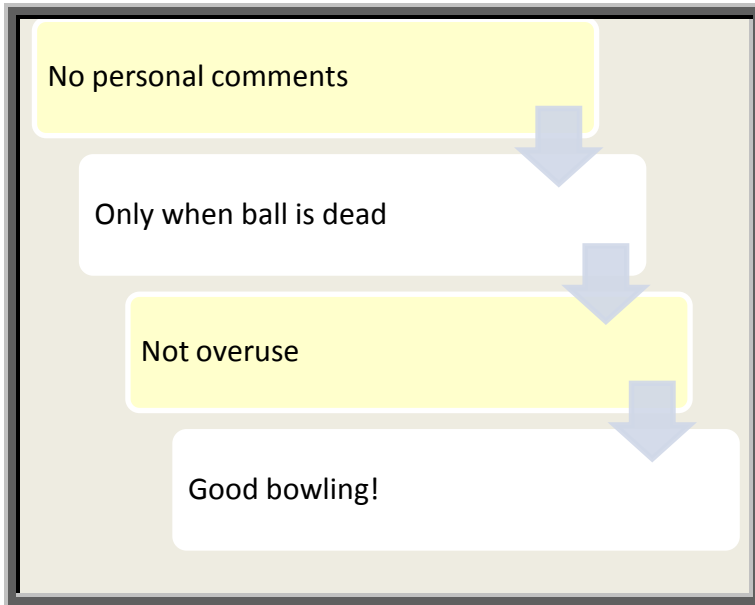
3.4.2.8. Simulation

Caruso (2005:37) proposes that the psycho-educator and cricketer must use simulation, as a psychological tool, to practice all the different psychological techniques that the cricketer has learned. Simulation activities attempt to make training circumstances as similar as possible to the real match situation. It is unrealistic to expect the cricketer to revise tempo, intensity or focus in a match unless he practiced in match-like conditions. During a simulation session the psycho-educator needs to focus on drill exercises. Drills teach the cricketer what it feels like to execute a cricket skill successfully. In a simulation session the cricket player gets the opportunity to master his physical skills as well as his psychological techniques. Adams and Caplan (2007:158) are of the opinion that simulation exercises give the cricketer the opportunity to build his self-confidence. The cricketer realises that he can perform a cricket skill successfully without thinking about it. By hitting, catching or bowling lots of balls the cricketer is teaching himself what it feels like to execute a technique properly. Simulation practise in the nets gives the opportunity for the batsman to learn to be able to handle distractions and pressure. Concentration techniques can be practiced if the psycho-educator set targets for the batsman to achieve in the nets. The psycho-educator may use music as a distraction during net practices. The main use of simulation activities is to prepare the cricketer for a match.

Effective use of simulation activities will help the psycho-educator to see if the cricketer is ready, and able to cope with the demands that he will face in a match.

3.4.3. Visualisation techniques

Pyke and Davis (2010:23) stress that visualisation is one of the most powerful psychological techniques that the cricketer can use to develop mental toughness. The cricket player should visualise the way he wants to perform a skill and then rehearse his performance in his mind. For example: Fielders should picture themselves between deliveries running to take a catch and should strive to remember the feelings of how the ball is to be taken in the hands. Research (Caruso, 2005:39) has shown that five hours of physical practice and one hour of visualisation is consistently more effective than six hours of physical practice. The visualisation is especially effective if the psycho-educator integrates it with physical practice. Creative visualisation, also called sports visualisation, refers to the practice of attempting to affect the outer world of the cricketer by changing the way he thinks about certain situations. Creative visualisation is the basic technique underlying positive thinking and it is frequently used by cricketers to enhance their performance. The batsman may use creative visualisation to practice his forward drive, by visualising the perfect forward drive over and over in order to mentally train muscle memory.

The psycho Neuro-muscular theory emphasises the importance of muscle memory. When the cricketers visualise carrying out a cricket technique, the nervous system and muscles react in a similar manner to that expected if the cricketers were actually carrying out the technique (Caruso, 2005:39). One of the most important advantages of using visualisation as a psychological technique is that it desensitizes cricketers to the anxiety of competitive situations. The more cricketers are exposed to situations that cause anxiety – whether in real match situations or in their imagination – the less anxiety they cause (Jarvis, 2006:132). The cricketer can use visualisation as a coping rehearsal strategy. The cricketer needs to anticipate the feared situations of a match and how he will cope with these situations (Heil, 2006:49). According to Abbey (2008:75) is the most important thing a cricketer can do to stop making excuses and to start living with energy, is to use visualisation in his day to day activities.

The cricketer must strive to create a vibrant, healthy, joyous and mentally tough state in his mind. Visualisation has a certain magic quality about it because it puts the cricketer continually in the right frame of mind that he needs to take performance actions that will bring positive results. It brings confidence to the cricketer's tone of voice and body language that others can read, even if only sublimely. He literally uses mental toughness to create the perfect match that he wants. Biggs and Vile (2004:108) stress that the cricket player needs to make the time to practice the skill of visualisation. If it's not scheduled into his day or something he does habitually at a certain time. For instance on waking, it's unlikely that the cricketer will use visualisation as a psychological technique effectively.

Visualisation advantages for the cricketer (Abbey, 2008:75)

- The fielders can rehearse different fielding positions.
- The batsman can visualise his best batting performance.
- The bowler can visualise taking wickets.
- Run through possible scenarios for the match.
- Visualisation builds the muscle memory of the cricketer.
- Effective visualisation desensitises cricketers to anxiety.
- Visualisation can help the cricketer to reduce both mental and physical signs of stress.

Adams and Caplan (2007:356) mention three key aims of visualisation in cricket:

- The more vivid, bright, compelling the images are, the more precisely the cricket player will be able to execute a winning performance.
- The cricketer needs to control his ability to manipulate the images when desired to increase his motivation and performance.
- The best results from visualisation can be expected when the cricketer is in a relaxed state of mind.

Figure 3.23: Guidelines to use visualisation as a psychological technique

Vivid	Bright	Relaxed state of mind
Repeat activity	Integrate with cricket practice	
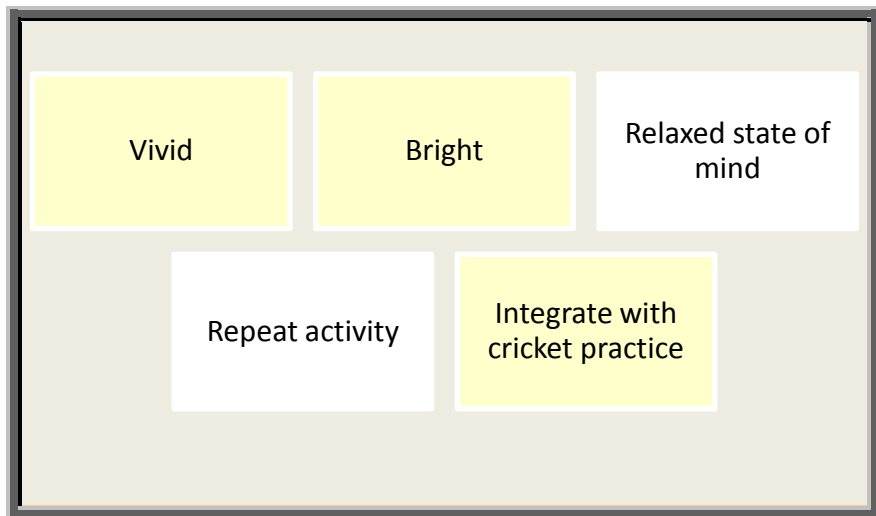
Rakel (cited in Heil 2006:49) emphasises that the paramount advantage of visualisation is that it connects the mind and the body: *"The mind is in your body and your body is in your mind."*

Figure 3.24: The different forms of visualisation

DIFFERENT FORMS OF VISUALISATION

Energising imagery	Controlling emotions	Concentration	Confidence	Relaxation	Mental Rehearsal
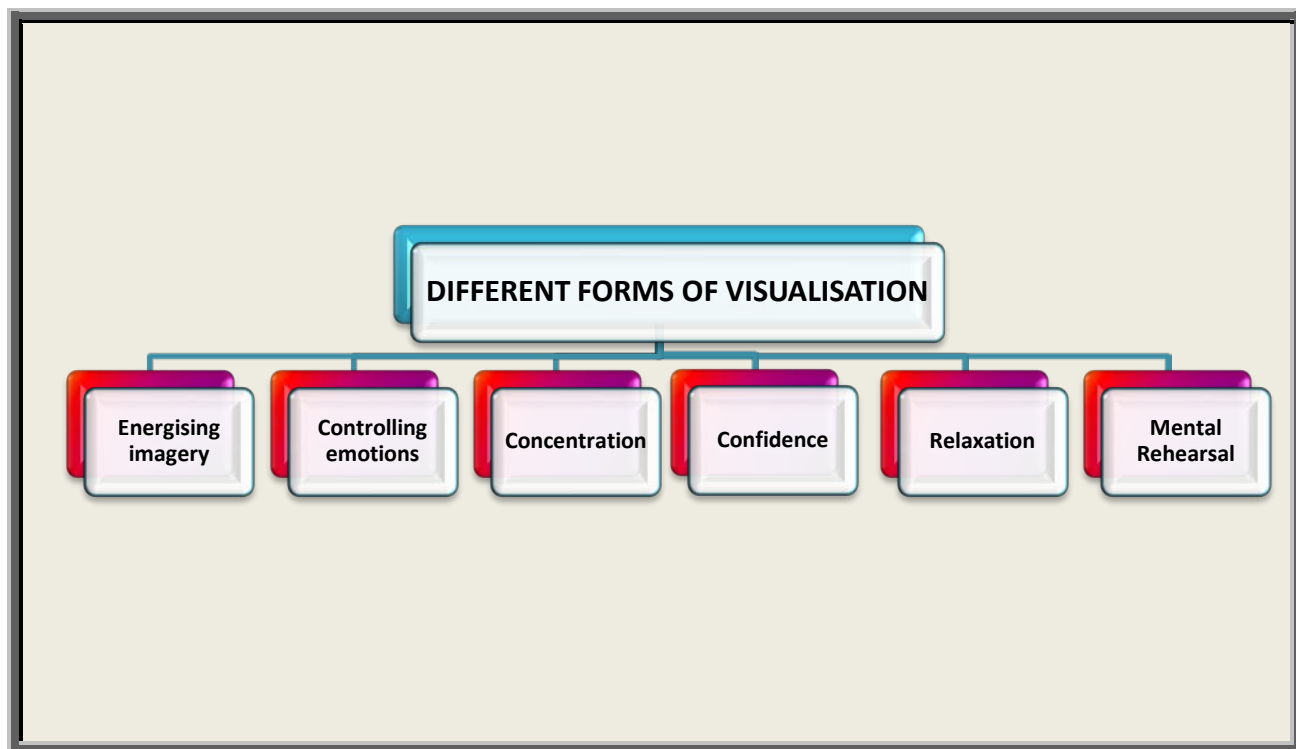
3.4.3.1.   Different forms of visualisation

➢ *Energising imagery*

Visualisation can be used to increase arousal. This can be achieved through the use of high-energy images of competition. Example: The bowler sees the middle stump breaking in two as he bowls it (Adams and Caplan, 2007:356).

➢ *Controlling emotions*

Visualisation can help the cricketer to control his emotions. Tension and relaxation in the cricket player's body can have profound effects on his state of mind and his physical health. The cricket player's thoughts, feelings, sensations and actions are threaded together by the neural network. Almost every thought and emotion of the cricketer is accompanied by physical sensations (Daniels & Daniels, 2009:68).

➢ *Concentration*

The cricketer prevents his attention from focusing on irrelevant aspects of the game when he visualises what he wants to achieve and what he needs to do to achieve it (Adams & Caplan, 2007:357).

➢ *Confidence building*

Adams and Caplan (2007:358) explain that a batsman struggling with his form can use visualisation to increase his self-confidence. The batsman will increase his sense of batting mastery if he sees himself performing well in his mind. The psycho-educator could help the batsman to achieve batting mastery.

➢ *Relaxation*

Csikzentmihalyi (1998:169) defines relaxation as an emotional state of low tension, in which there is an absence of arousal that could come from sources such as anger, anxiety or fear. A batsman experiencing anxiety could use visualisation to relax. The batsman needs to visualise emotions associated with relaxation. This visualisation will be even more successful if he combines it with other techniques such as deep breathing (Adams and Caplan, 2007:358).

➢ *Mental rehearsal*

Adams and Caplan (2007:358) see mental rehearsal as a strategy that the cricketer uses for practising a cricket activity in his mind before actually performing the activity. The difference between mental rehearsal and imagery is that mental rehearsal does not take into account how the activity is rehearsed or what senses and emotions are used throughout the activity. Mental rehearsal is the cognitive rehearsal of an activity without any physical movement. There are a number of ways in which mental rehearsal is used including skills practice and rehearsal, practicing for matches, competition practice, replaying performance and performance routines.

3.4.4. Arousal control techniques

Csikzentmihalyi (1998:169) uses Figure 3.25 to explain the relationship between the challenge level and the skill level of the athlete.

Figure 3.25: Different arousal states (Csikzentmihalyi, 1998:169)
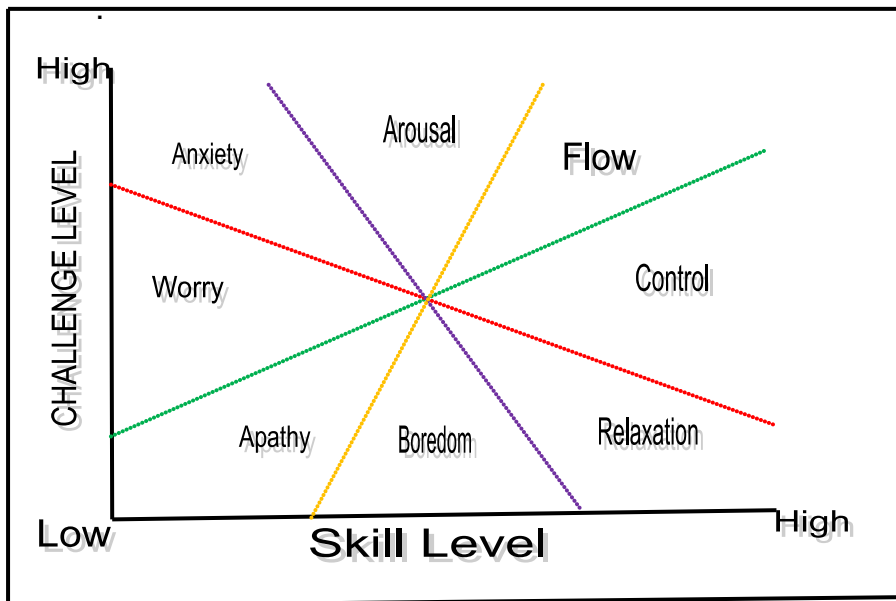
Figure 3.26: Psychological techniques that control arousal states
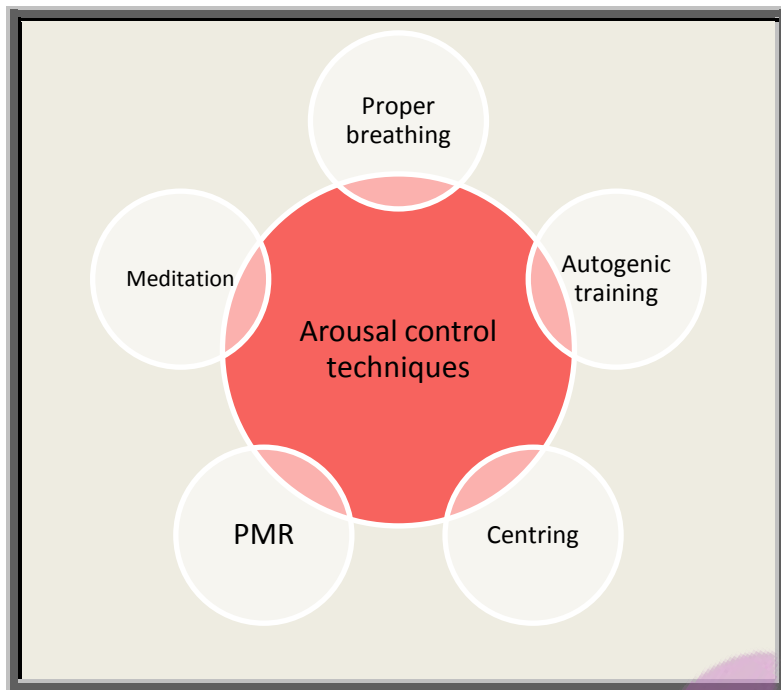
3.4.4.1.   Proper breathing

"When the breath is slow and silent, the mind becomes more balanced and quiet."
Swami Saraswati

It is often useful for the psycho-educator to find out what breathing methods cricketers have learned, whether through correction, reinforcement or instructions. Getting the cricketers to demonstrate how they go about *"breathing deeply"* can be informative for the psycho-educator (Anderson, 2005:132). Cox (2007:87) believes that breathing is the most important single aspect of staying focused on cricket. Cricketers can get easily winded and perform poorly without proper breathing. Many secondary school cricketers get so aroused before a match that they hyperventilate and then struggle during the match. When the cricketer is stressed his natural physiological reaction is to breathe rapidly and shallowly. Thus cause problems, because it not only restricts his motion but also leads to early fatigue. Proper breathing relaxes the cricket player and enhances his cricket performance by oxygenating the blood and energizing the brain nerves and muscles. Short, shallow breaths from the upper chest constrict the chest muscles; breathing is stressed, inefficient, and not conducive to peak performance.

Deep breathing is de-stressing and helps the cricketer to be focused on the immediate cricket activity that he needs to execute. Deep breathing fills the lungs from the bottom. When the cricketer inhales his diaphragm should move down slightly, causing his abdomen to move out and allowing his lungs to expand (Cox, 2007: 87).

3.4.4.2. Autogenic training

Adams (2007:356) describes Autogenic training as a type of self-hypnosis. The secondary school cricketer may use Autogenic training to develop feelings of warmth and heaviness. In this form of self-hypnosis, the cricketer uses a series of sentences, statements or phrases to focus his attention on different feelings he tries to produce.

Adams and Caplan (2007:356) explain the six stages of an Autogenic program:

- Heaviness in the arms and legs, example: *"My left leg feels heavy."*
- Warmth in arms and legs, example: *"My right leg feels warm."*
- Regulation of cardiac activity, example: *"My heart rate is normal."*
- Regulation of breathing, example: *"My breathing rate is normal."*
- Abdominal warmth, example: *"My abdominal feels warm."*
- Cooling of the forehead, example: *"My forehead is cool."*

Autogenic training is not used as widely as other psychological techniques of arousal regulation, simply because it takes several months to learn how to use it effectively and each session can last for an hour (Adams and Caplan, 2007:355).

3.4.4.3. Centring

According to Daniels and Daniels (2009:68) is it difficult for the cricketer to develop balance through his mind alone, because inner equilibrium is directly rooted in the cricketer's body-mind connection. When cricketers take time to centre themselves before they performs a cricket skill, they will be more in touch with their self-confidence, team mates, and the cricket skill that they need to perform. The cricketers will acts from a stronger, more resourceful place within themselves if they are centred.

The one-point practice is a form of meditation, and doing centring exercises using the *"one point"* is the practice of centring the body. Done together, they solidify and strengthen the mind-body connection. When physical, psychological, and spiritual dimensions are brought into balance, life becomes whole, and this union brings feelings of comfort and security in the minds of the cricketers. Moving into physical balance can also help cricketers to find psychological balance.

3.4.4.4. Progressive Muscular Relaxation (PMR)

Muscle tension is one of the most uncomfortable and devastating symptoms of an over-aroused state and can severely hinder cricket performance due to losses in co-ordination. Muscle tension can also lead to an increased risk of injury due to vastly decrease flexibility. Progressive Muscular Relaxation (PMR) is an easy-to-use relaxation technique that can help to reduce muscle tension of the cricketer. It is a useful technique because it increases a cricket player's awareness of his levels of muscle tension and helps the cricketer to distinguish between what is a state of tension and relaxation (Adams and Caplan, 2007:355). PMR involves tensing and relaxing groups of muscles in turn over the body. This psychological technique involves tensing a muscle group for five seconds, releasing the tension for five seconds, taking a deep breath and repeating the process. It is called progressive muscular relaxation because the cricket player progresses from one muscle group to the next until all his muscles have been tensed and relaxed. This progression enables the secondary school cricket player to learn the skill of physical relaxation through a series of logical, progressive stages. The primary goal that PMR wants to achieve is to help cricketers to reach an end point where the cricketers can obtain a relaxed physical state, very rapidly in practically any stressful situation. When learning PMR, cricketers will advance through different stages where the amount of time it takes to achieve a relaxed state progressively decreases (Adams and Caplan, 2007:3).

3.4.4.5. Meditation

Meditation is a form of relaxation, a psychological technique that uses the mind to quiet the body. It uses a single word, or mantra, that does not necessarily possess any meaning or particular significance.

The mantra is intended to be a simple reminder to keep the cricketer's mind free and clear, yet focused and attentive. The purpose of meditation is to get passively relaxed, yet still positively focused. The philosophy behind meditation is to quiet the mind, reduce external stimulation, and allow the body to be in a relaxed focused state. When the cricket player meditates, he shuts out the external world and allows only one thought or object to enter his mind, reducing any extra stimulation that might interfere with his quiet time. The cricketer allows a passive attitude to take shape when he meditates. The feeling is one of *"letting it happen"* while relinquishing all control of the outside world (Ungerleider, 2009:31). Deep breathing and meditation are useful strategies for clearing the mind; together they slow down and reverse the arousal process. Meditation is an excellent psychological technique that helps the cricketer to achieve a zone state. A relaxed cricketer will find it easy to live and play cricket in the moment.

"A relaxed mind is a focused mind." (Ungerleider, 2009:31).

3.5. The ultimate goal: Zone peak performance

"No bowler can bowl too quickly for you when you are in the zone." Gary Kirsten.

The zone state is a relaxed yet focused high-level performance state in which the cricket player experiences a delicate balance of excitement and awareness. Caruso (2005:55) believes that the cricketer, who finds himself in the zone state, performs his cricket activities at a high level without physical exertion. The cricket player senses both self-confidence and exhilaration in the zone state, while he maintains his focus on the task at hand and avoiding the many possible internal and external distractions. Mindfulness and mental toughness are products of the cricketer's dedication to apply psychological techniques during his practice sessions, matches and life in general.

Gary Kirsten (in Cooper and Goodenough: 2007:67) philosophises that getting into an absolute state of calmness, is the key factor for a cricketer who wants to move into the zone state. As a coach of secondary school cricketers and top international coach, Kirsten encourages his cricketers to create and maintain a routine that will help them to find that calmness amid any chaos.

The zone state for each sport is determined by its ratio of physical strength to the psychological skill that is required to perform that specific sport activity. Cricket demands great levels of concentration, so the optimal adrenaline level for peak performance is a moderate adrenaline level. When a cricketer loses his focus he needs to follow a two-step process to regain his focus. First the cricketer needs to realize that he is out of his zone, and then he needs to apply a psychological technique to get back in the zone state (Palladino, 2007:22).

According to Ravizza, (in Cashmore: 2010:140) there are several elements to peak performance. These elements include a *"centred present focus",* meaning that the cricketer's consciousness is channelled into the present moment and outside distractions are eliminated. Once in the zone state, the cricketer feels no pressure and he needs no encouragement from his team mates or coach to perform. The cricketer in the zone does not experience any fear, stress or restrains as he strives for excellence. The zone state experience is a non critical and effortless experience, meaning that the cricketer surrenders himself to the experiences rather than exerting him. There is also *"complete absorption"* in the task at hand.

3.5.1. Actions that can help the secondary school cricketer to achieve a zone state

The secondary school cricketer can achieve the zone state more often by taking some time to think about peak performances that he has had in the past. It is important that the psycho-educator must know the characteristics of *"the zone"*, in order to help the cricketers strengthen their performance so they can achieve peak performances on a more consistent basis (Sugarman, 2011: 2).

Muller and Redfield (2009:58) make the following recommendations to achieve a zone state:

- The cricketer must replace negative thoughts with positive visualisations and positive expectations.
- Mental energy can boost physical energy. Positive energy is inspiring and results in a surge of *"extra energy"* in cricket players.

- Being *"light on one's feet"* has long been associated with the zone state. One way to get that light, bouncy feeling is to listen to music that makes the cricketer feel that way.

Figure 3.27: Guidelines to achieve a zone state.
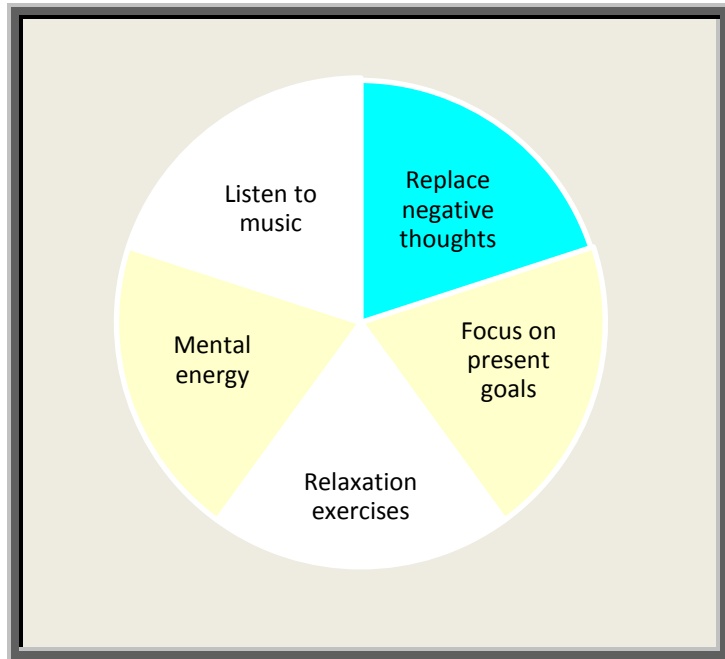
The challenge to design an appropriate psychological intervention program that will enhance the mental toughness of secondary school cricketers, so that the cricketers can experience the ultimate state of zone performance more often is in the hands of the cricket coach, psycho-educator and the cricketer. The intervention program must be designed around the needs and personality of every cricketer (Beauchamp, 2009:4).

3.6.   Critical Conclusion

One of the main aims of the literature review of chapter three was to redefine the concept *"mental toughness"*. It was paramount to compile an adequate definition for this concept in a secondary school cricket context. The literature review revealed that the definitions regarding mental toughness can be rather astounding. Comparing the various definitions regarding mental toughness made it clear that there is not consistency in the conceptualizations of these definitions.

Bull, Shambrook, James and Brooks (2003:173) asked in their research on the topic of mental toughness: *"Is mental toughness a state of mind, personality trait, or is it a set of psychological characteristics?"*

Reconnoitring between the various conceptualizations of mental toughness made it clear that mental toughness is a complex concept. In order to find an answer for Bull et al's enquiry it was necessary to conduct a literature exploration on the topic of mental toughness. This exploration made it clear that mental toughness is a combination of a state of mind, personality traits and psychological characteristics.

In order to attain one of the main aims of this study: *"designing a program to enhance the mental toughness of secondary school cricketers"* I found it necessary to tailor the various conceptualizations of mental toughness to a clearer cut definition. The redefined definition of mental toughness inspired me to conduct further literature explorations to find ways to enhance the mental toughness of secondary school cricketers.

The literature review helped me to understand that gaining mental toughness is a progressive process. It might be true that some secondary school cricketers have more natural mental toughness ability, but the investigation made it clear that all cricketers, despite their current mental toughness, can enhance their mental toughness gradually. This progressive process will only be possible if the cricketer's psychological skills improve. Compiling a redefined definition of mental toughness was only possible after I explored psychological skills and psychological techniques that might have an enhancement on the mental toughness of the secondary school cricketers. A clear cut distinction between the psychological skills and psychological techniques are absent in most of the literature that study these concepts. Some researchers use these concepts as synonyms. The literature needs to make a clear cut distinction between these two concepts. The cricketer uses psychological techniques to enhance his psychological skills. Numerous psychological techniques are available to the cricket coach and cricketer. The creative coach and cricketer can design their own individualised techniques. Examples of psychological techniques are: Performance profiling, goal setting, affirmations, positive self-talk and relaxation techniques. The result of practicing these techniques is the development of psychological skills.

These skills are psychological characteristics that enhance mental toughness. Examples of psychological skills are: commitment, confidence, motivation, visualisation and arousal control. Adequate literature is available that gives a good theoretical background of psychological skills and psychological techniques that the secondary school cricket coach and cricketers can employ in their game of cricket.

It is unfortunate to note in some of the literature that researchers and authors use examples of psychological skills as psychological techniques and examples of psychological techniques as psychological skills. Example: Motivation is described as a psychological technique. When researchers and authors use psychological skills and psychological techniques in their literature they need to have a clear concept of these terms.

Practical examples of the implementation of the psychological techniques in a cricket context are hard to find in the literature. Guidelines to help the cricket coach and cricket player to implement these techniques in their coaching sessions are scarce. The psycho-educational intervention program that will be discussed in the next chapter will help to fill this gap.

3.7. Summary

The difference between psychological skills and psychological techniques were pointed out. Attention was given to define the term *"mental toughness"* and the theoretical foundations of psychological skills were explained.

Different psychological skills were explored with specific attention to self-belief, self-confidence, concentration, motivation, commitment and mindfulness. This chapter also aimed to provide a literature review focusing on the psychological techniques that the cricketer may use to achieve mental toughness and peak performance. Throughout this chapter it became evident that many of the different psychological techniques are integrated. Different psychological techniques were explored with specific attention to motivation, confidence building, visualisation, and arousal control techniques. The chapter closed with recommendations on how to achieve a zone state of peak performance.

The literature review emphasised the paramount role that psychological techniques fulfil in the achievement of mental toughness. Applying psychological techniques effectively enhance the confidence, motivation, concentration, visualisation skills and arousal control skills of the secondary school cricketer. An enhancement of psychological skills will have a positive effect on the cricket enjoyment of the cricketer. The enjoyment of cricket is the key predictor of the cricketer's cricket commitment. Well developed psychological skills will enhance the overall mental toughness of the cricketer. Peak cricket performances and achievements can be expected from the mentally tough cricketer. These achievements motivate the cricketer to master his psychological techniques. This mentally toughness process will repeat itself for as long as the cricketer commits himself to achieve his cricket goals. This commitment will have a positive effect on the cricketer's game of cricket and his game of life.

The next chapter will focus on the practical implementation of the psychological techniques that were discussed in this chapter. Chapter Four will focus on the designing and presentation of an intervention program to enhance the mental toughness of secondary school cricket players. The chapter will conclude with practical guidelines on the enhancement of mental toughness. These guidelines will be offered to the cricket coach and the secondary school cricketer.

Figure 3.28 summarises all the interventions that were explored in Chapter Three. The intervention program (Chapter 4) is designed around these interventions.

Figure 3.28: Summery of the psychological interventions (Chapter Three)

PSYCOLOGICAL TECHNIQUES

MOTIVATION	CONFIDENCE BUILDING	VISUALISATION	AUROUSAL CONTROL
Performance profiling Goal setting	Positive self-talk Positive-thinking Affirmations Modelling Routines Body language	Energising imagery Controlling emotions Concentration Confidence building Relaxation Mental rehearsal	Breathing Autogenic training Finding the centre Pre-match-routines Meditation

ENHANCE

PSYCOLOGICAL SKILLS

Self-belief Self-confidence Concentration Committed Motivation Mindfulness

MENTAL TOUGHNESS

THE ZONE OF PEAK PERFORMANCE

CHAPTER FOUR

THE DEVELOPMENT AND PRESENTATION OF THE PSYCHO-EDUCATIONAL INTERVENTION PROGRAM

Figure 4.1: Overview of Chapter Four
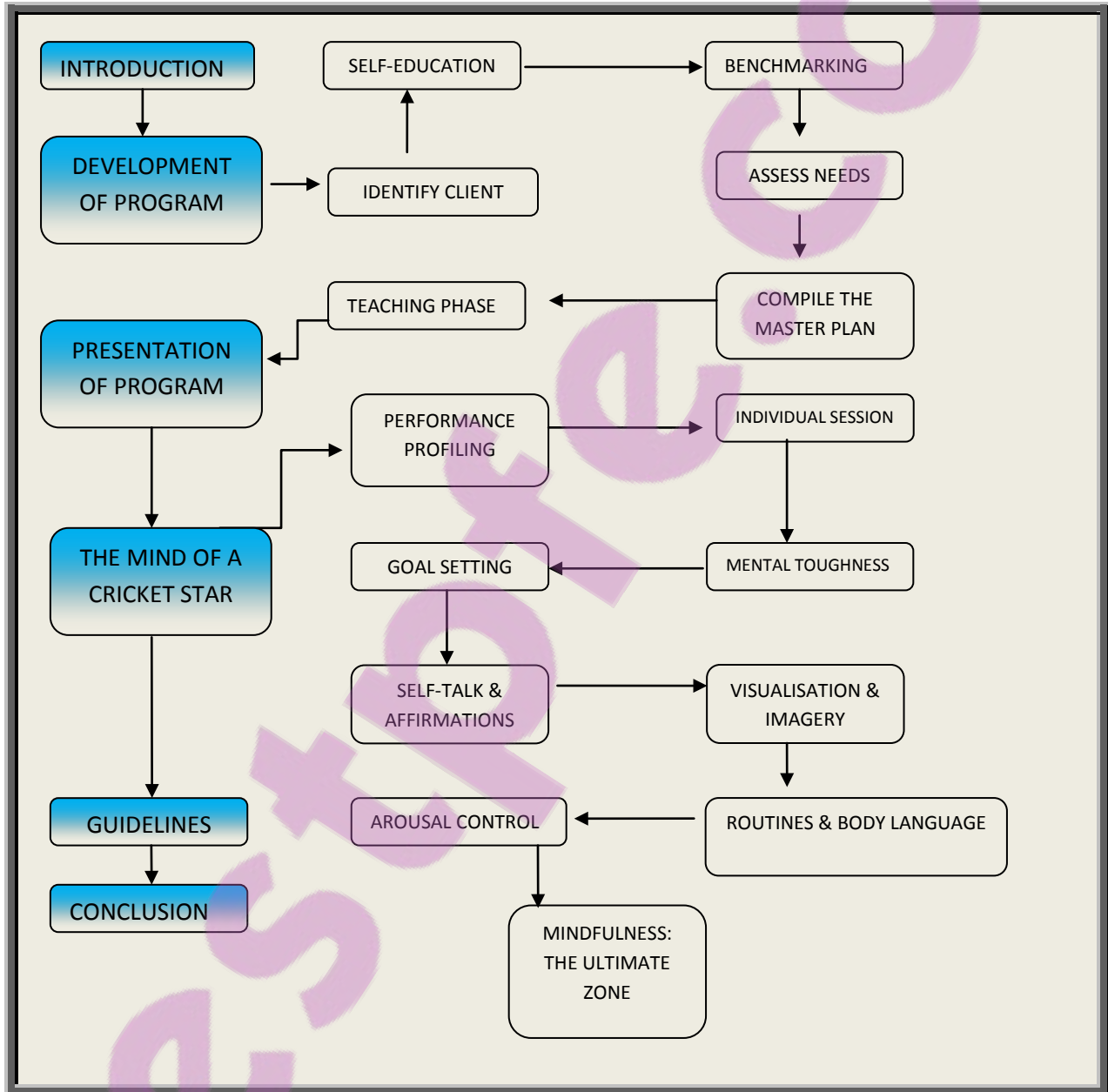
4.1. Introduction

The psycho-educational program that I developed is based on the psycho-educational model. A fixed but flexible model was used to implement the psycho-educational program (2.2.3). The program's paramount purpose was to enhance the mental toughness of the participants as cricket players, but also to enhance their overall mental toughness as individual learners. The intervention program can be tailored to teach life skills. Psychological skills are vital life skills. Sport intervention programs have been shown to be effective to promote positive youth development. When life skills and psychological skills are described as skills, the process of learning these skills parallels the learning of any skill, whether it is throwing a ball or baking a cake. This Cricket-based psycho-educational program is designed to help secondary school cricketers learn both cricket and vital life skills. The secondary school cricketer will find this psychological skills training program beneficial for his mental toughness development. It might even be more successful if it is conducted as part of his daily cricket practice. Mental toughness training must be seen as part of cricket practice and not as a free standing unit. When I compiled the psycho-educational program I kept in mind that many factors needed to be present for the psychological skills to generalise to other life domains (2.2.4):

Figure 4.2: Factors that need to be present in the intervention program.

1 • The cricketers must believe that the acquired techniques will have a value in other domains in their lives;

2 • They must be aware of their current skills, both physical and psychological;

3 • They must have confidence in their ability to apply the learned techniques in different settings;

4 • There must be a willingness to explore psychological techniques;

5 • The ability of the cricketer to adjust to initial failures or setbacks;

6 • The desire and ability of the cricketer to seek out sources of social support.

7 • Knowledge of how and in what context psychological techniques were learned.

Guidelines to enhance the mental toughness of secondary school cricketers are provided at the end of this chapter. The first section of these guidelines is specifically for the secondary school cricket coach, the second section is provided for the benefit of the secondary school cricketer and his coach.

4.2. The eight developments and implementation phases of the psycho-educational program.

Figure 4.3: The eight developments and implementation phases of the program

1. • Identifying of the participants
2. • Self-education
3. • Benchmarking
4. • Initial meeting
5. • Needs assessment
6. • Master plan
7. • Teaching phase
8. • Evaluation
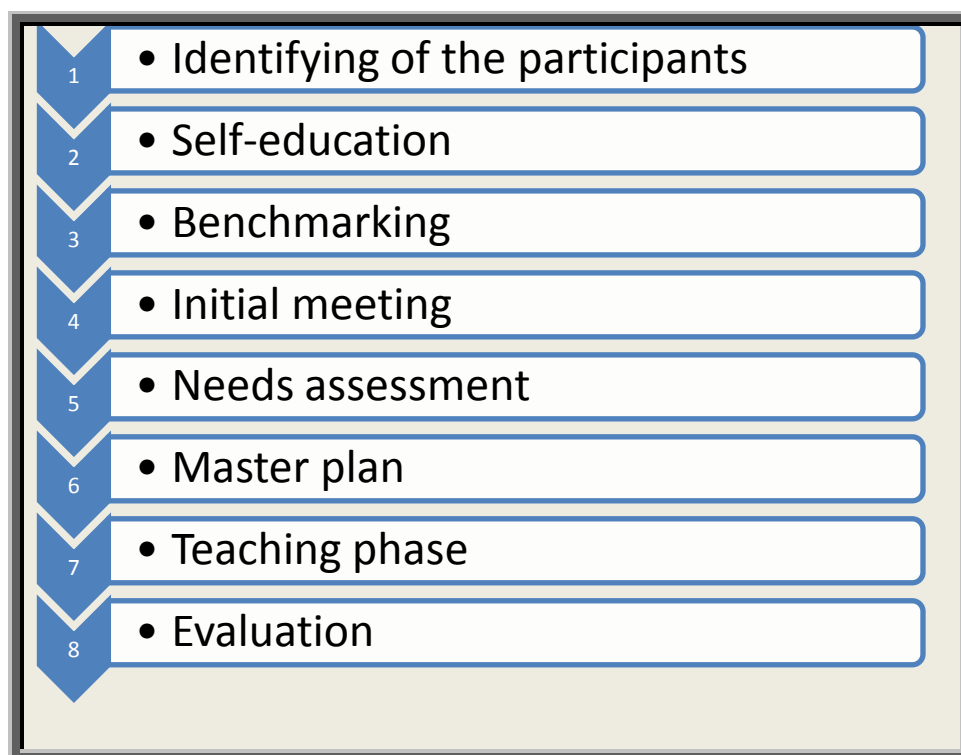
The development, implementation and presentation of the psycho-educational intervention program fulfilled a paramount role in this study. The following ten phases acted as a clear cut process that I could follow to produce the program:

4.2.1. Phase One – Identifying of the participants.

The participants: Cricket players (age group 14 – 18 years old). A group consisting of twenty all round cricket playing participants were randomly selected (see 5.9).

The average age of the participants in the experimental group was 15 years and 9 months. The average age of the participants in the control group was 16 years and 3 months.

4.2.2. Phase Two – Self-education.

I needed to focus on my knowledge relative to cricket, psycho-education, mental toughness, psychological skills and psychological techniques. A period of self-education was required to help me bridge the gap from being a novice to being fully knowledgeable and conversant about the game of Cricket, mental toughness, psycho-education, psychological skills and psychological techniques. Compiling the research proposal and literature review were part of this process.

4.2.3. Phase Three – Benchmarking and designing the program.

In order to develop a good quality intervention program it was important for me to make use of benchmarking. Benchmarking was used as a method of developing and improving the intervention program. Camp (Camp 2009:3) describes benchmarking as *"Finding and implementing best practice."* This short, but comprehensive definition implies that benchmarking is a process. This process helped me to identify the weaknesses and strengths of the intervention program and the CMTQ. The benchmarking process of the CMTQ is discussed in Chapter Five (5.10.2). Benchmarking can be seen as a process using performance indicators for continuous improvements. Benchmarking was essential for understanding what psychological techniques deserved more attention. Magrath and Matuzek (2004:4) are of the opinion that it can be used in program development as an assessment methodology to support: introspection, strategic planning and continuous improvement initiatives.

The purpose of employing benchmarking in this study was twofold:

- Benchmarking motivated and helped me to design good quality products (The CMTQ and the *"The mind of a Cricket Star"* intervention program).

- Benchmarking made it possible to use performance indicators effectively in the implementation of the CMTQ and in the assessment of the effectiveness of the intervention program.

The process of benchmarking was employed in this study to answer these questions:

- How does the CMTQ compare to other similar assessment tools?
- How does the psycho-educational intervention program compare to other similar psycho-educational programs?
- How can I improve the CMTQ and the intervention program to make them more effective?

4.2.3.1.   The benchmark and designing process that were followed during the development phase of the intervention program:

- Self-education and the literature review were the first essential steps.
- Networking: Various senior cricket coaches, elite cricketers and secondary school cricketers were interviewed to gain hands-on knowledge.
- Self-assessment: Assess knowledge of program development and knowledge gained during the self-education period.
- Debriefing: Five independent reviewers (senior cricket coaches) were employed to assist in the assessment process of the program. They gave feedback regarding the self-assessment (Appendix H).
- Action plan: An action plan was created to give clear guidelines for the proposed program.
- Designing the pilot program: The most relevant identified psychological techniques were tailored according to the age and cricket experience of the participants.
- Presenting pilot program: A summarised version of the program (Three sessions) was presented to the five reviewers. They also reviewed the CMTQ, the Power Point presentation, workbook and the lesson plans of all the sessions.
  They made use of the critical assessment form (Appendix H) and debriefing to give their critique.

- Analysing the notes made during the debriefing session and the critical assessment forms.
- Program assessment: I decided to do a final self-assessment, evaluating the critique from the reviewers and needs assessment before tailoring the pilot program into a *"master plan".*

Benchmarking must be seen as a continuous process. The Participation form (Appendix I), verbal feedback from the participants, self-assessment, introspection and the results of the post-test were used as indicators for future program development.

4.2.4. Phase Four (**Session One: The first meeting**)

During this phase I discussed the ethical issues (5.8). The content of the consent forms (Appendices A & B) was explained and the twenty participants were randomly divided into two equal groups (Experimental group and Control group). The mental toughness of both groups was assessed formally; the participants completed the Cricket Mental Toughness Questionnaire (Appendix G). The designing process of the CMTQ is highlighted in Chapter Five (5.10.2). The CMTQ was specifically designed to assess the mental toughness of secondary school cricketers. This formal assessment helped me to compile a psychological skill needs assessment.

4.2.5. Phase Five –Needs assessment.

The psycho–educational intervention began with a comprehensive assessment of the participant's psychological needs, strengths and weaknesses. This allowed me to form a trust-relationship with the participants, while gaining valuable understanding of how to best tailor the intervention program to fit the needs of the participants. Building on the participant's strengths allowed for a focus on the present. The participant's past experience was also recognised to identify areas of improvement (Adams and Caplan, 2007:161). I had to acquire a working knowledge of the participants' current psychological skills. This was accomplished through formal (CMTQ) and informal assessment (performance profiling and SWAT analysis), informal interviews and observation of the participants during a cricket match.

- ***Session Two: The match***

A cricket match was organised between the Control group and the Experimental group. This was an excellent opportunity to acquire a working knowledge of the participants' psychological skills. I made it clear to the participants that this *"match"* was an opportunity to learn to know each other better and to have a good time. I used this *"match"* to do an informal assessment of the participants in the Experimental group (Blue shirts). The two teams were named the White Shirts (Control group) and The Blue Shirts (Experimental group).

Photo 4.1: The *"match"* (Session Two)

4.2.6. Phase Six – Compiling the master plan.

During this phase, a master plan was developed in terms of what, when, and in what sequence the psychological techniques would be taught to address the mental toughness development of the participants. In order to compile an authentic psycho-educational program that would enhance the mental toughness of the participants, the master plan had to be compiled in such a way so that the skills acquired by the participants would transfer to other domains of the participant's life (2.2.4). All the program assessment data obtained during the benchmarking process were evaluated before the final program was compiled (4.2.3).

4.2.7. Phase seven– Teaching phase.

This stage involved a didactic component. The structure of the didactic component was fairly structured (classroom lecture), as well as a more informal structure (group discussions). Some of the activities were done on the cricket field. The actual teaching and learning of the selected psychological techniques followed a four step learning model. I made use of the acronym *"IDEA"* to guide me in applying certain stages when I taught the psychological techniques (Clark, 2005:169).

Figure 4.4: The four step learning model.
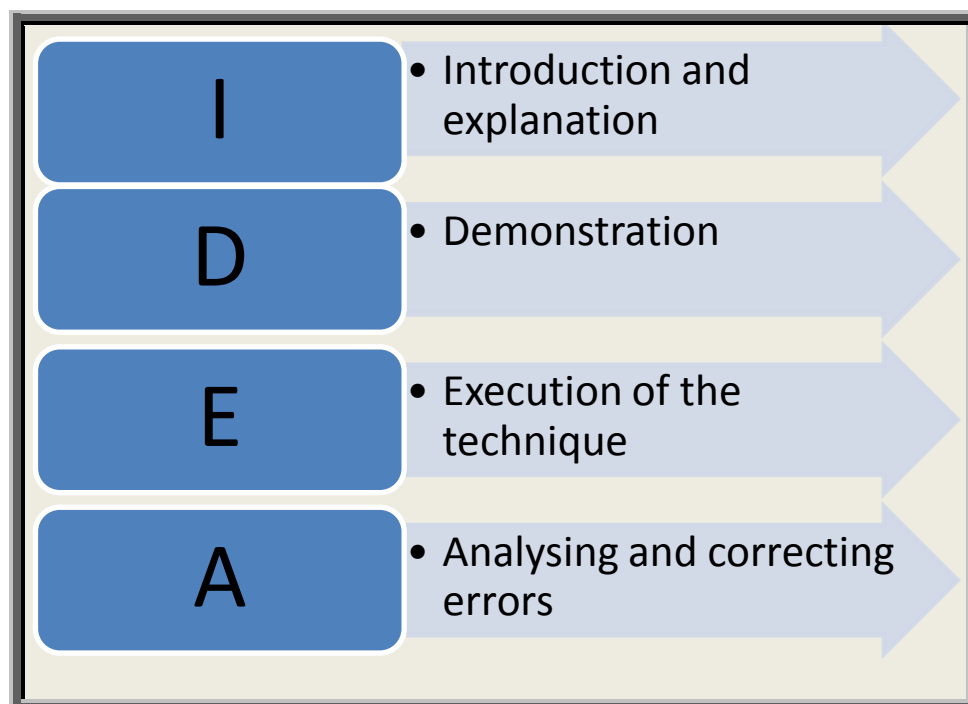
The steps of the teaching process were as follows:

➢ Step One: Introduction.

The session outline was pre-arranged; the content of the session was shared with the participants during this stage. However, new topics the participants presented could be integrated into the prepared session content. The skill was described in behaviour terms, and a rationale was given for its use. I made sure that the participants believed that the psychological techniques would improve their mental toughness and cricket performance. If the participants questioned the effectiveness of a particular technique, it's doubtful that they would have invested sufficient time or energy to master the technique.

➢ Step Two: Demonstration and modelling

It was paramount to explain the usefulness of a particular technique before I attempted to demonstrate it. Both successful and unsuccessful attempts were demonstrated, using the psychological techniques. This demonstration of both successful and unsuccessful attempts helped the participants to differentiate between the successful and unsuccessful attempts of executing the psychological techniques.

➢ Step Three: Execution of the technique

The most effective introduction and demonstration could not replace the need for the participants to practice the psychological techniques themselves. The repeated execution of the psychological techniques by the participants was one of the most effective ways of mastering the psychological techniques.

➢ Step Four: Analysing and correcting errors

As the participants practiced a new technique I observed them closely and offered them guidance and positive feedback as to how well they were mastering the technique.

➢ Step Five: Homework

The sessions concluded with homework activities. The psycho-educator checked these homework activities at the beginning of each session.

4.2.8. Phase Eight – Evaluation.

The CMTQ was employed one more time after the presentation phase. The Experimental group as well as the Control group completed the questionnaires. The results of these questionnaires indicated if the psycho-educational program had a positive impact on the mental toughness of the participants who took part in the psycho-educational program. The results are documented in Chapter Six (6.2.1). The evaluation data obtained from the Participation forms (Appendix I) helped to identify weaknesses and strengths of the program. This data can be helpful in the process of further program development.

Table 4.1: The presentation of *"The mind of a cricket star"* program.

Session 1 (Needs assessment phase)	Pre-test (CMTQ)
Session 2	Cricket match
Session 3 (Teaching phase)	Performance Profiling
Session 4	Individual session
Session 5	Mental Toughness
Session 6	Goal Setting
Session 7	Self-talk & Affirmations
Session 8	Visualisation & Imagery
Session 9	Routines & Body language
Session 10	Arousal Control
Session 11	Mindfulness
Session 12 (Evaluation phase)	Post-test (CMTQ), Participant Forms & Conclusion

The next section of this Chapter will focus on the presentation of the psycho-educational intervention program. The program *("The mind of a cricket star")* was presented over a period of six weeks. The program was presented on Wednesday afternoons and Saturday mornings during a six week period. In total the participants attended twelve sessions. The participants completed all class activities and homework exercises in their workbooks (Appendix F). I made use of a *"Power Point"* presentation to aid me in presenting the intervention program. The average duration of the teaching sessions was 90 minutes.

THE MIND OF A CRICKET STAR

IT TAKES MORE THAN BATTING, BOWLING AND FIELDING, TO BE THE BEST.

IT TAKES...

THE MIND OF A CRICKET STAR!

4.3.   The presentation of the program (The Teaching phase)
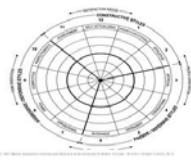
4.3.1. Session Three: Performance Profiling

Format: Lecture and class activity

Duration: 90 min

Goal: At the end of the session the participants will know more about their strengths and weaknesses regarding their cricket mindset.

Outcomes:

- Establish team cohesion.
- All the participants complete a performance profile.
- The participants realise that cricket is not only a physical game, but that it is also a mental game.
- The participants believe the effectiveness of psychological techniques.
- They learn how to do a performance profile assessment.
- They learn to do a SWAT analysis.

The lesson plan

A. Introduction and explanation

The psycho-educator uses this opportunity to welcome all the participants. He motivates the group to be part of the *"team"* during this six week cricket journey. He refers to the experimental group as the *"Blue team"*. *"During the next six weeks we all will be part of this dream team."*

The psycho-educator shows Image 4.1 to the participants. The purpose of this exercise is twofold: it serves as an ice breaker and the psycho-educator explores the knowledge of the participants.

Instruction: The psycho-educator asks the following question:

"*What is happening in the mind of the cricketer while he plays cricket?*"

Image 4.1: The mind of the cricket star.

Figure 4.5: The mind of the cricket star.
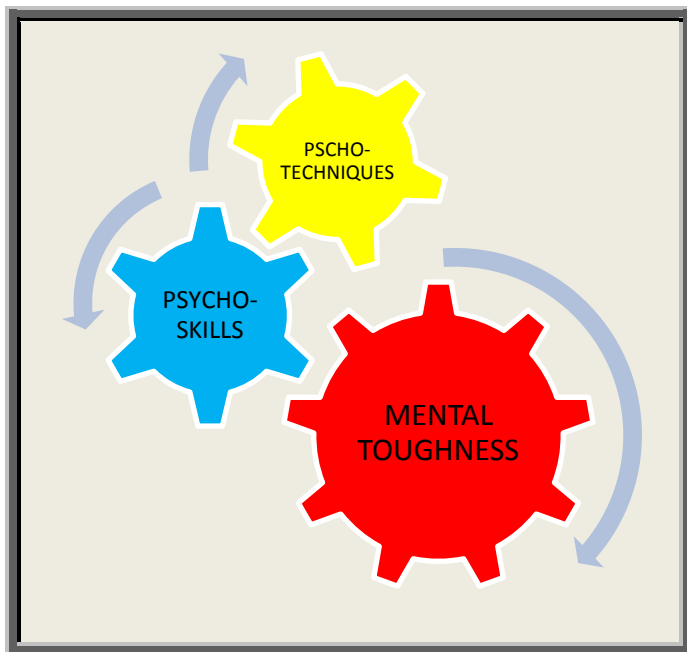
B. Demonstration

Instruction: *"How does the mind of a cricket star work?"*

- The psycho-educator uses Figure 4.5 to explain how the mind of a cricket star works. He uses this opportunity to give a summary of the program.
- He briefly explains the difference between psychological skills and psychological techniques. He also gives a brief explanation of the concept *"mental toughness"*.

The psycho-educator follows the following procedure:

- The first step is to introduce the idea of performance profiling and to explain how it will help to direct the program to areas of specific needs.
- The psycho-educator will make it clear that any information gained about the team would remain strictly confidential.
- It will be stressed that there are no right or wrong answers involved in the process of doing the performance profile.

Figure 4.6: Psychological skills and techniques used by elite cricketers
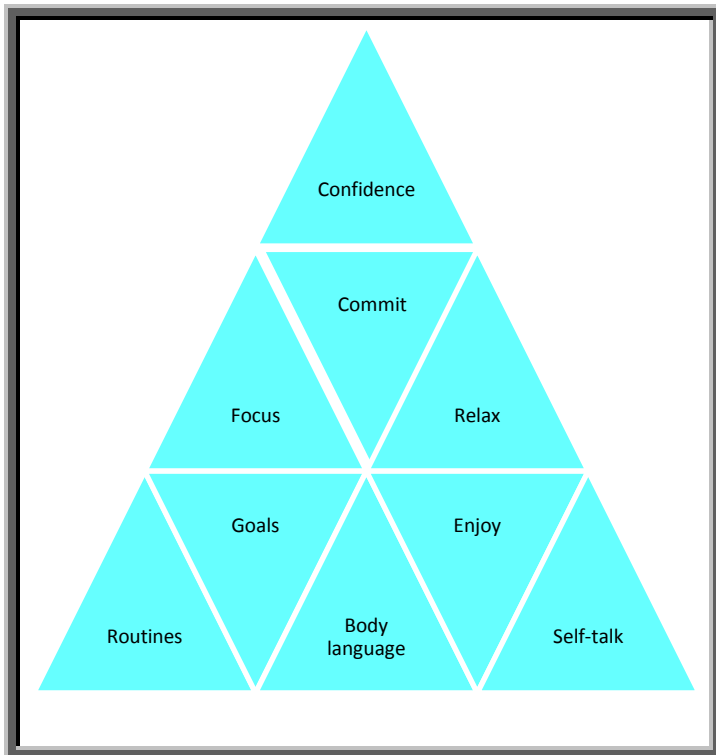
Instructions: "What in your opinion are the most important psychological techniques and skills used by elite cricket players? Use Figure 4.6 to help you."

C. Execution of the technique

Instructions: "Help me to complete this profile." The psycho-educator explains this technique with the use of an example. The participants assess their own performance against each psychological skill. They use the circular skills analysis profile form for this purpose (see example).

Photo 4.2: Circular skills analyses profile
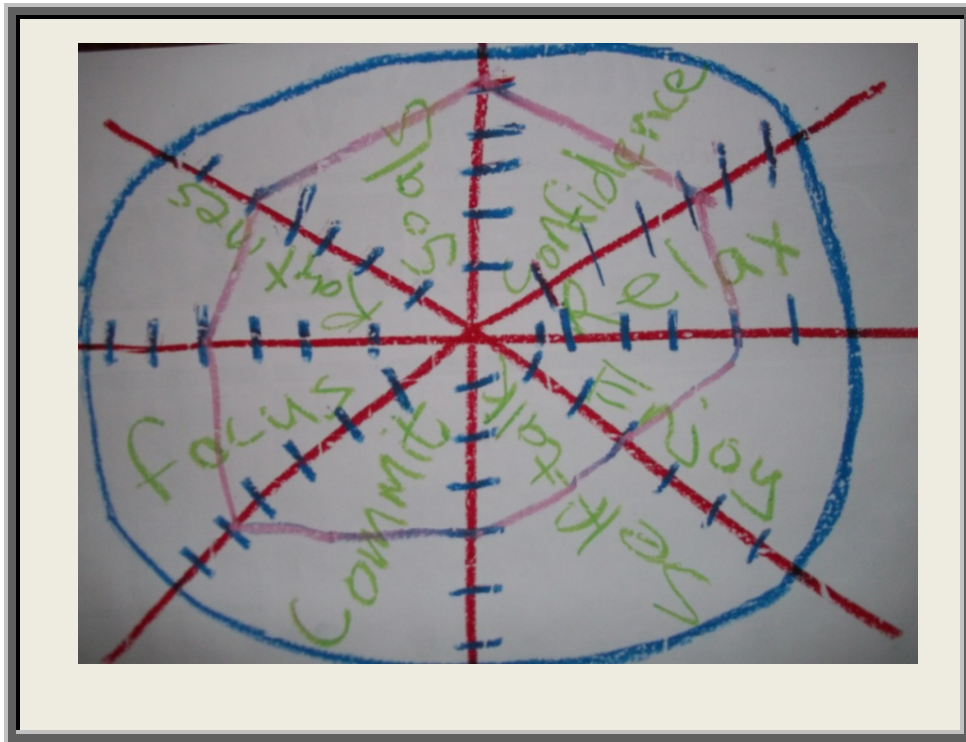
- The next step for the team is to rate each of the identified skills. On a scale of 0 – 6, the participants rate the perceived importance of each skill for an elite cricketer.
- Self assessment – The participants assess their own performance against each elite skill.

D. Analysing and correcting errors
- The participants complete the needs analysis form (see workbook – Appendix F), after they completed the performance profile table and circular analyses profile.
- The psycho-educator demonstrates how to do a SWAT analysis.

E. Homework:

Instruction: Do a SWAT analysis – use this opportunity to explore your strengths and weaknesses. It is important to take your time when you do this activity.

4.3.2. Session Four: Individual session

Duration: 200 minutes (10 x 20 minutes)

Format: Individual twenty minute interview with each participant.

Goal: The psycho-educator wants to establish a trust relationship with the participants.

Outcomes:

- The psycho-educator wants to establish rapport and he wants to learn more about the cricket background of the participants.
- The psycho-educator explores the results of the CMTQ, the informal cricket match, performance profile and SWAT analyses with each participant individually.
- He explores the participant's goals, support system and strong and weak areas of the participant's cricket performance.
- The psycho-educator gives the participant positive feedback that motivates the participant to try his best to master the psychological techniques presented in the program.
- All the participants commit themselves to the intervention program.

A. The interview:

- Informal conversation: exploring the background of the participants.
- The participants show their SWAT analysis to the psycho-educator.
- The results of the CMTQ and the Performance profile are discussed.

- The psycho-educator compares the results of the SWAT, CMTQ and the performance profile. The psycho-educator and participant explore this comparison together.

- Problem areas and strong areas are identified.

- The psycho-educator helps the participants to come up with ideas on how to rectify the problem areas.

- The psycho-educator motivates the participant to commit himself 100% to the goals of the intervention program.

B. Homework:

Instructions: State what you can do to work on your weaknesses, as well as what you can do to further strengthen your strengths.

4.3.3. Session Five: Mental Toughness

Format: Lecture, group work and individual work.

Duration: 90 minutes.

Goals: The main aim for this session is to help the participants to understand the main concepts of mental toughness.

Outcomes:

- By the end of the session the participants will be motivated and inspired to use psychological techniques to enhance their mental toughness.

- The participants must be able to identify the key aspects of mental toughness by the end of the session.

- The psycho-educator also uses this session to introduce all the different psychological techniques of the psycho-educational program.

- The participants need to interact with their groups and share their knowledge regarding mental toughness with each other.
- The participants have to be able, at the end of the session, to recall the psychological skills and techniques that can enhance their mental toughness.
- The participants will identify with Imran Khan and what he stands for.
- The participants will identify with the mental toughness that Hershel Gibbs displayed during his batting innings.
- They design posters that define mental toughness.
- The homework exercise helps them to transfer their knowledge of mental toughness to their everyday life.

The lesson plan

A. Introduction

Instructions: The psycho-educator explores the following statement with the group: *"Mental toughness is about never giving into yourself, never taking the easy option" – Steve Waugh.*

- The psycho-educator shows a DVD clip of Imran Khan - one of the best cricket legends - delivering an inspiring speech.
- The purpose of showing this speech is twofold: It serves as an ice breaker and it stimulates the participants to identify key aspects of mental toughness.

Instructions:

The participants are divided into three groups. They decide on the role of each group member. The one member keeps record, a second member reports back and the last member keeps time. The psycho-educator informs the groups that the roles of members will rotate during the other sessions. The groups have 10 minutes to compile a definition for the term mental toughness.

B. Demonstration

After the groups report back the researcher focuses on the key aspects of mental toughness according to *"Imran Khan"*.

Figure 4.7: Key aspects of mental toughness
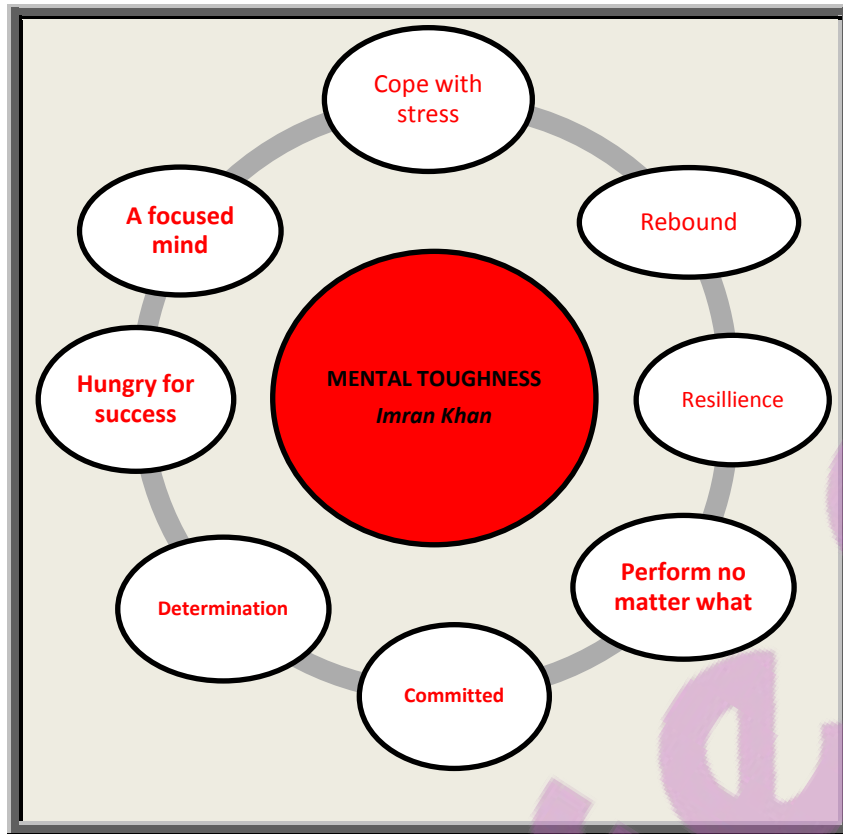
The psycho-educator explains the psychological skills that determine the mental toughness of a cricket player, using Figure 4.7.

➢ The participants watch a DVD clip of Hershel Gibbs performing one of his best batting innings. They complete the workbook exercise while they watch the DVD clip.

C. Execution of the technique

Group work:

The participants design collages, using posters, in their groups. The psycho-educator furnishes them with sport magazines. These posters must define mental toughness. The posters will be displayed in the venue for the duration of the program.

The participants were divided into three groups. They produced the following posters:

Photo 4.3: Mental Toughness Posters
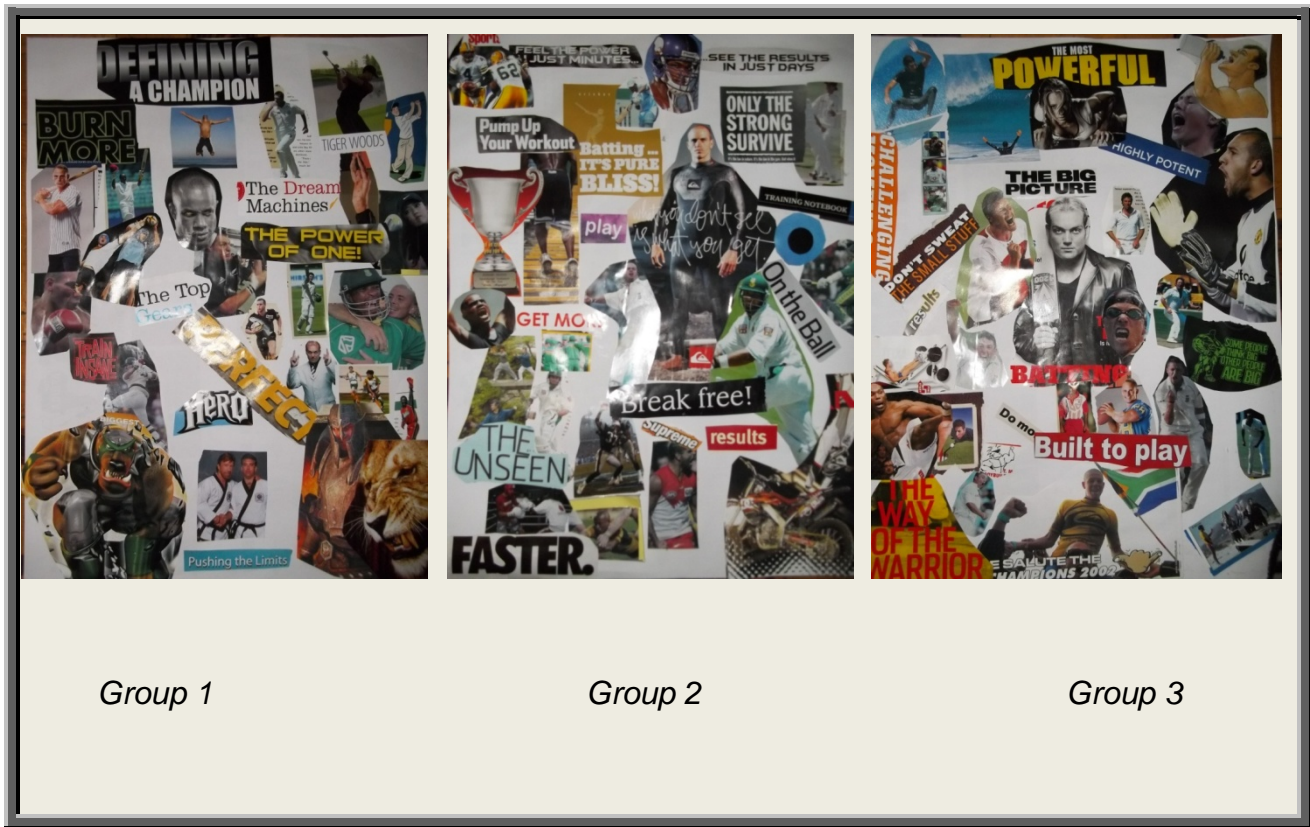
Group 1   Group 2   Group 3

D. Analysing and correcting errors.

The groups give an explanation of their poster. They use the posters to compile their own definition of the term *"mental toughness".*

E. Homework:

The participants had to complete the homework exercise in their workbooks. *Instruction:* Similarities between the game of cricket and the game of life. The main purpose of this exercise was to transfer the participants' knowledge of mental toughness to their everyday life.

4.3.4. Session Six: Goal setting.

Duration: 90 minutes

Format: Lecture followed by individual class work.

Goal: Teaching goal setting techniques.

Outcomes:

- By the end of the session the participants must have a comprehensive understanding of what Cricket goals entail.
- They must be able to set their own Cricket goals.
- They need to explore all the possible Cricket goals that they would like to achieve.
- They have to write down their Cricket goals in their exercise books.

The lesson plan

A. Introduction and exploration

Instructions:

➢ Blindfolds any volunteer. Ask him to hit a ball. Explain that starting a cricket season without goals could be compared to batting blindfolded. The psycho-educator stresses that it is essential to set goals at the start of the cricket season to aim for:

➢ *"How many runs, wickets or catches do you want to take?"*

➢ *"Don't set your goals too low. If you don't need much you won't become much".- Jim Rohn.* The participants explore the meaning of this anecdote. The psycho-educator gives them the opportunity to report back.

B. Demonstration

Making your goals "SMART"

➢ The psycho-educator explains the "SMART" concepts of goal setting. He makes use of figure 4.8 when explaining the concepts (3.4.2.2.2).

Figure 4.8: Smart goals
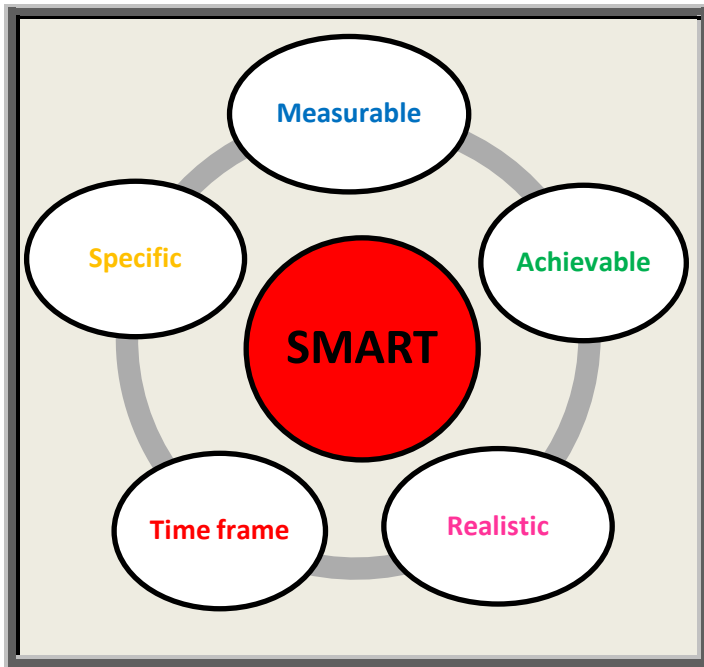
Instructions: The psycho-educator asks: *"Why does goal setting works?"* He focuses on the following key aspects of goal setting by referring to *"cricket goal balls":*

Figure 4.9: Cricket Goal balls
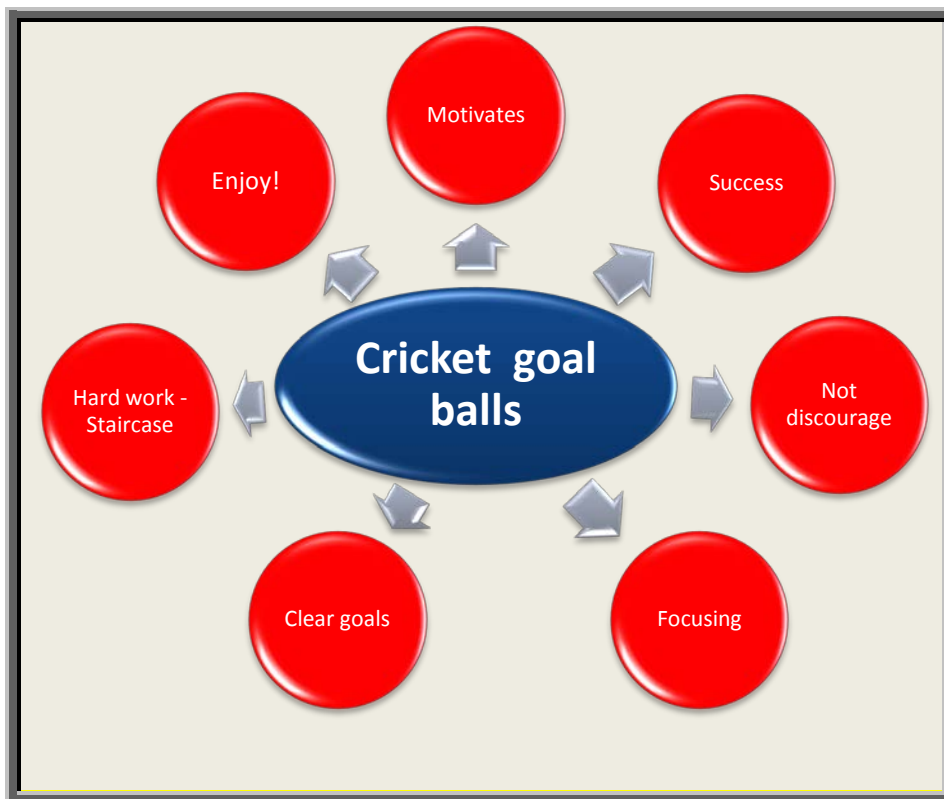
➢ *Instructions:* The first step in goal setting is to decide what you want. The goal must not be all about winning; it must rather be something like: *"Giving my best at the practice sessions".*

➢ *How to use a mind map to realise Cricket goals*

A mind map is a great tool for brainstorming your Cricket goals. To do a mind map for goal setting, all you need is a large piece of clean paper. In the centre of the page, draw a circle and write in it in capital letters *"ELITE CRICKETER".* This is the key thought for the mind map, draw lines radiating out from this circle and at the end of each one of the lines, write the Cricket goal that you want to achieve. Think back to what you wrote on your performance profile.

C. Execution of the technique

Instructions: Let's draw a mind map on the board. Give me the first word that comes to mind when I call your name. Your mind map skeleton or starting point should look something like this:

Photo 4.4: Example of a mind map

➢ *How to write your CRICKET action plan.*

The psycho-educator makes use of the services of an *"elite cricketer"* (Photo 4.4) to explain the process of compiling a cricket action plan. He highlights his action plan for the next 6 weeks.

Table 4.2: Example of Cricket goals for a six week period:

I will master mental skills by practicing it three times per week for the next 6 weeks.
I want to get fit by exercising three times per week for the next six weeks.
My bowling skills will improve if I practice six overs of bowling five times per week for the next six weeks.
My batting skills will improve if I practice my batting skills in the nets– eight overs per day with the bowling machine for the next 6 weeks.
I will become a great fielder by practicing my fielding skills three times a week with my team for the next six weeks.

The elite cricketer concludes his presentation by stressing on the importance of the evaluation phase of setting goals: *"After six weeks I evaluate my goals. If I achieved a goal I can tick it off, and compile a new set of goals. If I did not accomplish a goal I can make that goal a priority goal for the next six weeks."*

D. *Analysing and correcting errors*

Instructions: During this phase the participants complete the following activity individually in their workbooks: Create a mind map of your cricket goals (Brainstorm). The psycho-educator gives individual assistance.

E. *Homework:*

Instruction: Complete the homework exercise in the workbook.

The participant compiles cricket goals for the next six weeks, six months, one year, five years and ten years.

4.3.5. Session seven: Self-talk, positive thinking and affirmations

Format: Lecture, individual and group work.

Duration: 90 minutes.

Goals:

- The participants need to be able to use positive self-talk, positive thoughts and affirmations effectively by the end of the session.

- The participants must realize that positive self-talk, positive thinking and positive affirmations have a positive influence on their mental toughness and cricket performance.

Outcomes:

➢ The participants evaluate their self-talk and use positive self-talk during their cricket activities.

- The participants explore their thinking patterns and analyses the poem *"A state of mind"* (7.7).
- The participants compile and practice their own affirmations.
- The participants use cue cards effectively.

The lesson plan

A. Introduction and explanation:

➢ *Instructions:* The psycho-educator asks the participants to comment on the following anecdote of Aristotle: (5 minutes)

➢ *"We are what we repeatedly do (**and think**). Excellence then, is not an act, but a habit."*

Group activity: Reading and analysing a poem. (20 minutes)

Instructions: The participants read and explore the deeper meaning of the poem (7.7). They have ten minutes to discuss the poem in their groups before they need to report back.

➢ Self-talk

The psycho-educator explains self-talk in behaviour terms. The psycho-educator focuses on the following key aspects using *"cricket self-talk balls"* (Figure 4.10).

- Writing specific affirmations
- Focus only on positive self-talk
- Focus the mind on the present
- Use affirmations to guard against anxiety

Figure 4.10: Cricket self-talk balls
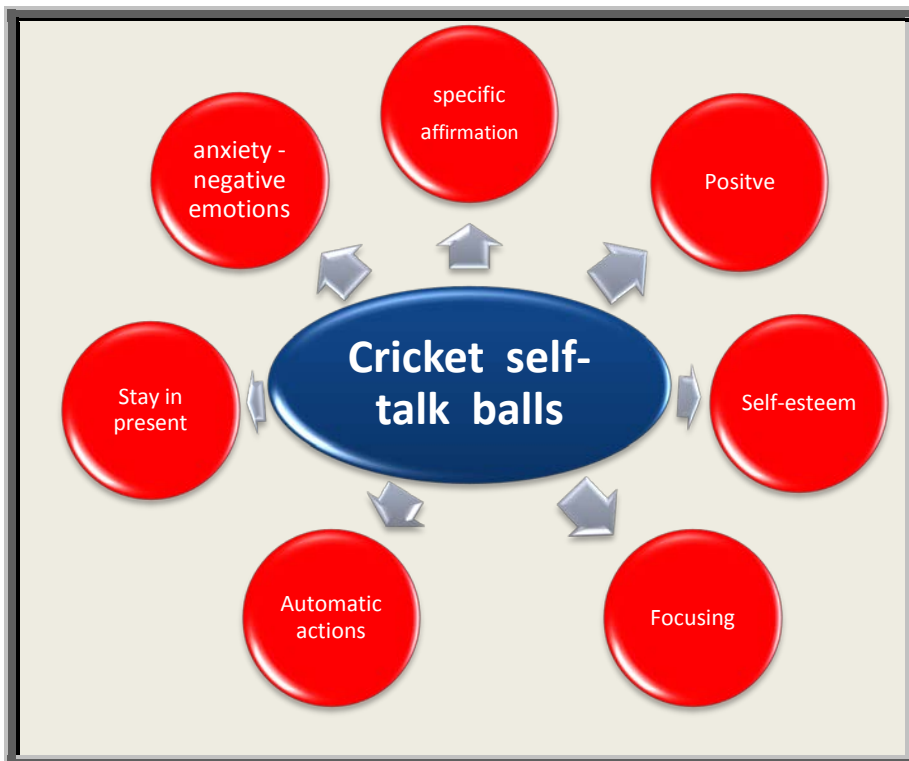
In their groups the participants complete the following two exercises in their workbooks. Before they report back they discuss these two exercises for 10 minutes:

➢ *Instruction:* Compile your own Smart-Talk script. Compile ten affirmations that you can use in the game of cricket. *"I don't like cricket. I love cricket because..."*

➢ *Cue cards:* The psycho-educator explains the use of cue cards. He uses Figure 4.11 to explain the effective use of cue cards:

Figure 4.11: The effective use of cue cards (Bull, Albinson & Shambrook, 1996:53).
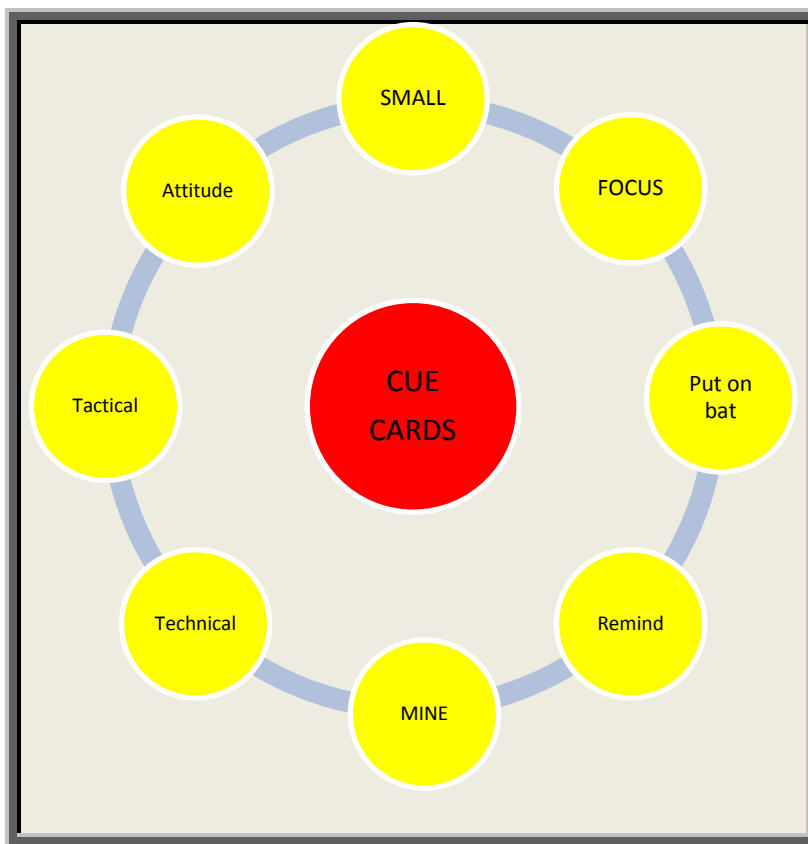
B. *Demonstration*

Instructions: The psycho-educator gives the following examples of less effective affirmations:

Table 4.3: Less effective affirmations:

I am not stressed	I am trying to listen
Stop being so tensed	Try harder to concentrate
Stop frowning	I must practice hard
Try to relax	I hope to achieve my goals
I am not a bad cricketer	I will try to enjoy cricket

Photo 4.5: Elite Cricketer

A presentable elite cricketer (Provincial cricketer) enters the room and explains the following guidelines for using affirmations:

When using affirmations, the following guidelines should be followed to make the affirmation effective (3.4.3.3):

- Phrase affirmations using the first-person singular, and be personal with your statements: say *"I", "me"* or your first name, so they are personal to you.
- Make affirmations as positive as possible: avoid the use of *"no", "don't",* and *"not",* because if you ask yourself not to think about something, you are more likely to think about it.

- Phrase affirmations in the present tense: use statements like *"I am confident of achieving the best result."*
- Make it short, clear and as simple as possible: statements that are too long are difficult to internalize, so shorter and simpler is better.
- Try saying affirmations out loud, perhaps standing in front of a mirror so that you can see yourself saying them at the same time as being able to hear yourself saying them.
- Make affirmations emotional: use phrases that make you feel happy, empowered and self-assured such as *"it makes me happy when I know I've bowled hard".*

The *"elite cricketer"* concludes his presentation: *"Remember the most important things you can ever hear are said by yourself. Self-talk is best used when you are relaxed, after doing a relaxation exercise is a good time to practice your affirmations."*

C. Execution of technique - Group activity

After the élite cricketer explained the guidelines, the participants must change the less effective affirmations to effective affirmations.

D. Analysing and correcting errors

The psycho-educator gives them the following list of effective affirmations to help them evaluate their affirmations:

Table 4.4: Effective affirmations:

I am cool, calm, and confident.	I am disciplined
Breathe, relax and focus.	I am focused.
Breathe, smile and relax.	I love practice sessions.
Relax, concentrate and flow.	I achieve my goals.
I love cricket.	I am 100% committed.

➢ The participants design 5 cue cards that they will use during their next match.

E. Homework:

Designing positive affirmations:

Procedures cricketers may follow to make effective use of affirmations:

- Write 10 affirmations in your workbook and read it out load twice a day for the duration of the program.
- You can also write the affirmations on cue cards and then leave the cue cards in places where you will run across them throughout the day.

4.3.6. Session eight: Visualisation and Imagery

Format: Lecture in class, group work, individual work and practical execution of the technique in the cricket nets. The participants will do practical exercises on the cricket field.

Duration: 90 minutes

Goal:

The participants need to use imagery and visualisation effectively as psychological techniques to enhance their mental toughness.

Outcomes:

- The participants understand the difference between visualisation and imagery.
- They learn the key aspects of visualisation and imagery.
- They get the opportunity to experience a visualisation exercise.
- They experience an imagery exercise.
- They will be able to apply these techniques in their cricket activities.

The lesson plan:

A. Introduction and explanation

➢ The key to achieving cricket success through visualisation and imagery is to practice as much mentally as you do physically. The physical exercising will improve your muscle memory and cricket techniques.

➢ Visualisation and imagery will enhance your coordination and build the neural pathways you need in your brain for accuracy and skill (3.4.4). The psycho-educator explains the basic difference between visualisation and imagery: When we use imagery we are more involved in this mental picture than when we use visualisation. Imagery is where you are inside yourself; you are the actor looking through your own eyes, participating in your fielding, bowling and batting activities. When we use imagery we try to involve most of our senses and we are more emotionally involved than when we use visualisation.

➢ *The psycho-educator asks the following question:*

Would you use a technique if you knew that Sachin Tendulkar uses it?

Photo 4.1: Sachin Tendulkar

"YES!!"

Does it really work?

He concludes by stating: *"Your ability to use your imagination will determine the success of these two techniques."*

B. *Demonstration.*

➢ Visualisation

The psycho-educator demonstrates the use of visualisation. Do a visualisation exercise: *Close your eyes see yourself on TV hitting the perfect six!*

Instruction: "Close your eyes, you are the batsman. See a bowler running in to bowl, see the red ball in the bowler's hand, hear the bowler running in, smell the fresh grass of the pitch, feel the bat in your hands, see in slow motion how the ball land on the pitch, experience the excitement of driving the ball past the bowler to the boundary, see and hear the crowd cheering your performance."

➢ Imagery

The steps of this exercise are as follows:

➢ The psycho-educator demonstrates how to use imagery, when practicing to catch a ball and then throwing it towards the stumps.

➢ He first demonstrates an incorrect way to execute this activity, and then he shows and explains the more effective way to execute this exercise.

➢ All the participants get the opportunity to partake in this exercise. They practice to hit the stumps in their groups.

➢ The psycho-educator uses this opportunity to analyse and correct errors in the performances of the participants.

C. *Execution:* The psycho-educator explains the following key concepts of visualisation and imagery by using the *"cricket visualisation balls"*.

Figure 4:12 Cricket visualisation balls
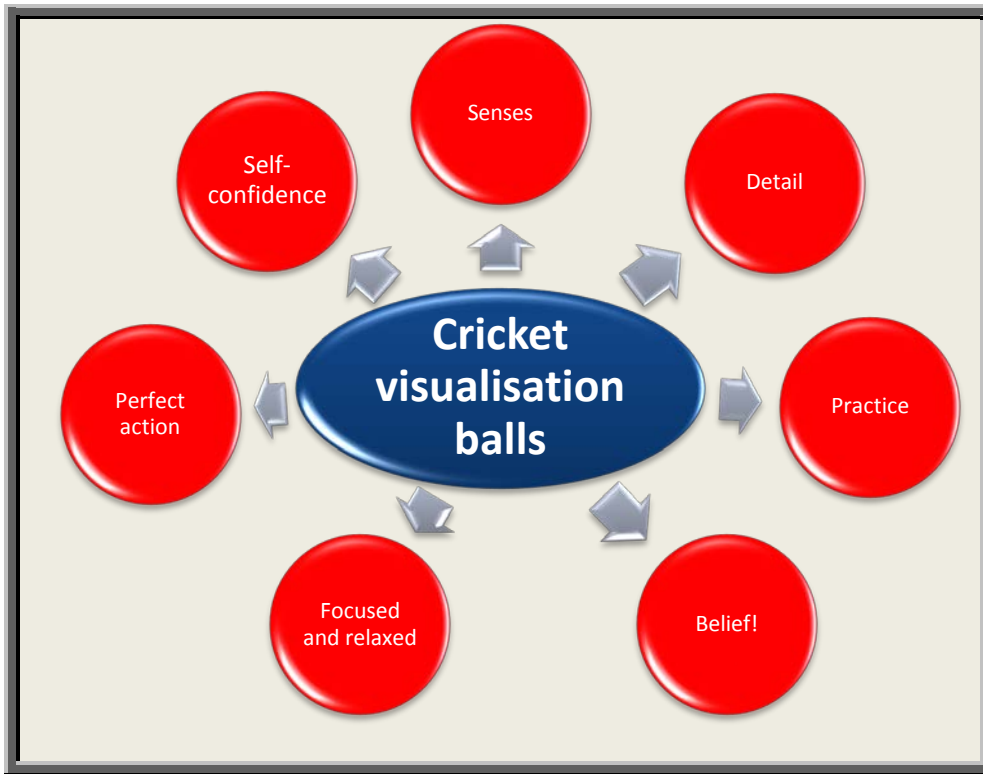
D. Analysing and correction errors: Cricket nets

The participants do the following exercise:

➢ The psycho-educator plays the following pre recorded script:

Instruction: *"Close your eyes. You are an elite bowler. You are about to deliver the perfect Yorker. Feel the ball in your hands, see the shining red ball resting in your hands, your eyes are focused on the stamps, you smell the leather of the ball, your body feels ready to start your run up, you feel your legs running, you see and feel how you execute the perfect delivery, you hear and see the stumps flying and breaking in pieces! You are celebrating, see yourself jumping and hear yourself screaming of joy!"*

➢ After the participants listened to this script. They need to visualise the same activity, first with the script and then without the script.

All the participants get to bowl an over in the nets, before each delivery they must do the above visualisation exercise.

E. Homework:

❖ Visualise success

Instruction: *"See your name in the newspaper as a top cricketer. As you visualise, see yourself batting, bowling and fielding. When you see yourself performing these cricket skills, see how you execute them with smooth confident movements, perfectly co-ordinated, calm and focused. Repeat this exercise every day for the next week. Make the picture as vivid and colourful as possible."*

Use visualisation ten minutes before you go to cricket practice and during practise as well:

➢ See yourself hitting the ball perfectly in the nets
➢ See yourself bowling the perfect ball
➢ See how you catch the ball
➢ See how you hit the stumps

Do these exercises a few times until you feel energised and ready for your practice session.

4.3.7. Session nine: Routines and body language

Format: Lecture, individual and group activities.

Duration: 90 minutes

Goal: By the end of the session the participants must be able to use routines and body language effectively as psychological techniques to enhance their mental toughness.

Outcomes:

• Assess the participant's knowledge regarding goal setting.
• The participants see and learn how to use routines effectively.

- They realize the value of using routines.

- They identify negative and positive body language.

The lesson plan

A. Introduction and explanation:

Instruction: *"Let us stand still for a moment and look back to our lesson about setting goals. Who can remember what we need to do in order to achieve our goals?"* The reason for asking this question is twofold: The psycho-educator evaluates the participant's knowledge regarding goals and he stresses the importance of employing routines when working towards the achievement of goals.

The psycho-educator explains the following key aspects regarding routines using "routine cricket balls".

Figure 4.13: Routine cricket balls
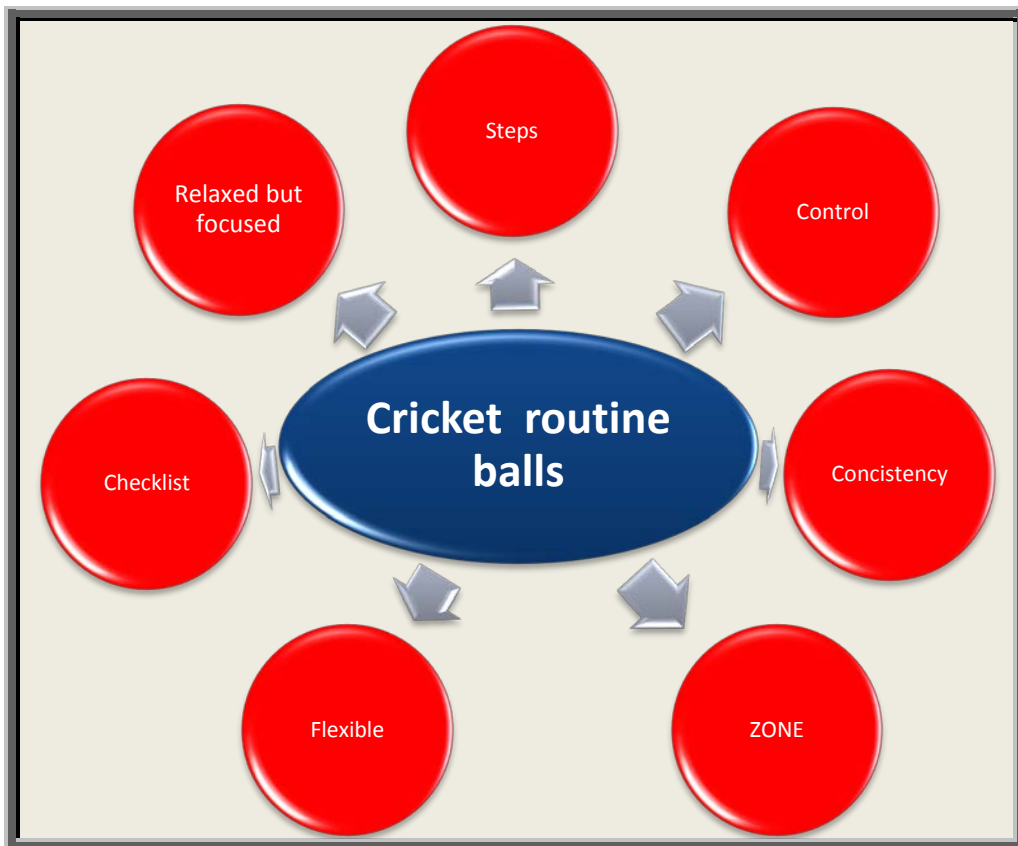
B. Demonstration

Table 4.5: Pre-match routines (before practice sessions and matches)

The night before	*The morning before*	*At the ground*
Check and pack a cricket bag	Take a relaxing bath or shower.	Familiarize myself with the environment.
Sort out travel and food arrangements.	Eat breakfast.	Get a focal point.
Do visualisation exercise.	Check cricket bag once more.	Set goals for the day.
Do relaxation exercises one hour before going to bed.	Do visualisation exercises, see yourself playing well.	Warm-up routine.
Go to bed early enough, get at least 8 hours of sleep.	Leave in time for cricket venue.	Psych-techniques: imagery, self-talk, affirmations and breathing exercises.

Last few minutes/moments before the match and during the match				
Batting Routines		*Bowling Routines*		*While fielding*
Get gear ready	Establish batting plan	Self-talk	Keep it simple	Always expect the ball
Get body ready	Stick to the basics	Focus on plan	Energize fielders	Study batsmen
Self-talk	Read cue cards	Study batsmen	Read the batsman	Stick to the game plan
Just do it! Play one ball at a time.	Take deep breaths	Use imagery to see/feel how I take wickets	Use breathing to control tension	Fielding with passion!
Routines	Check body for tension	Routines	*"Rhythm, line and length"*	Take catches-win matches!

The psycho-educator makes use of an elite cricketer (Photo 4.4) to help to demonstrate how to use routines effectively. The elite cricketer explains the value of his routines by referring to the Table 4.5. He explains that we use different routines in different situations.

C. Execution of the technique

➢ *Group activity*:

Instruction: *"You are playing a cricket match tomorrow. Brainstorm with your group some possible routines that you can follow to help you to focus on your match preparation. Then present your routines to the rest of the team."*

➢ *Body Language*

Introduction and explanation

A *"cricketer"* enters the classroom. He looks very insecure, badly dressed and has a cricket bat of an inferior quality.

Photo 4.6: Cricketer with poor body language.
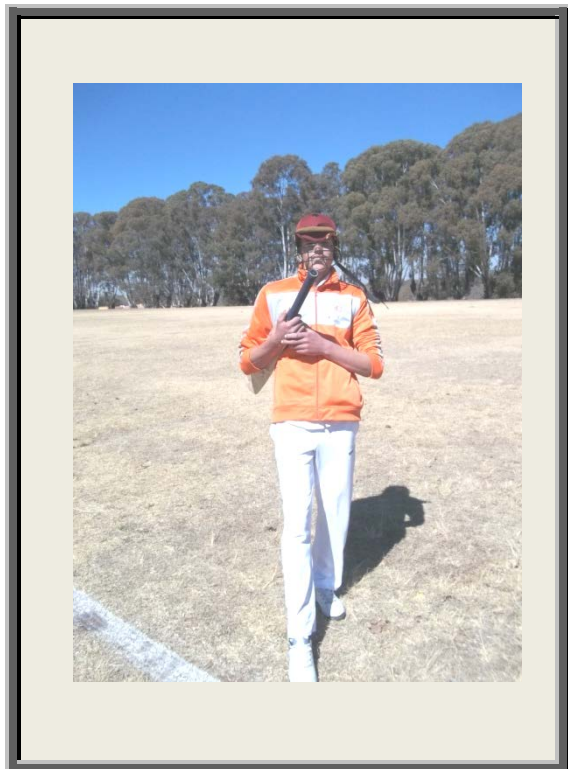
Instructions: The psycho-educator asks the following question: *"What do you think about this cricketer's cricket abilities?"*

Group activity:

The psycho-educator shows the following picture of Jacque Kalis.

Instructions: List all the positive body language qualities that you see by looking at this photo of Kalis (Workbook).

Photo 4.7: Jacque Kalis
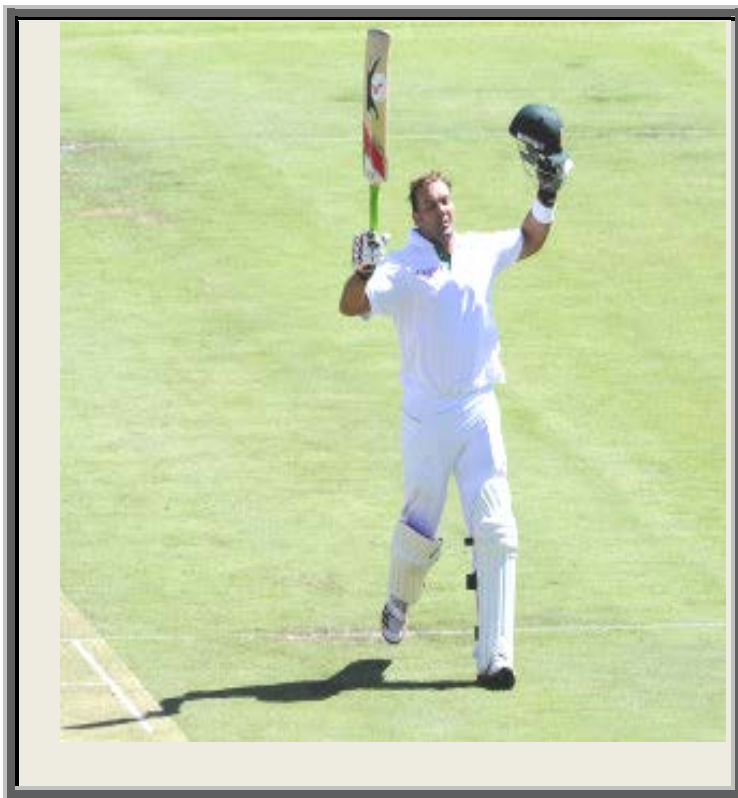
The psycho-educator explains the key aspects of body language. He uses Figure 4.14 as a guideline to help him with this explanation.

The following techniques are successful ways to use body language as a psychological technique (3.4.3.6.1):

Figure 4.14: Body language balls
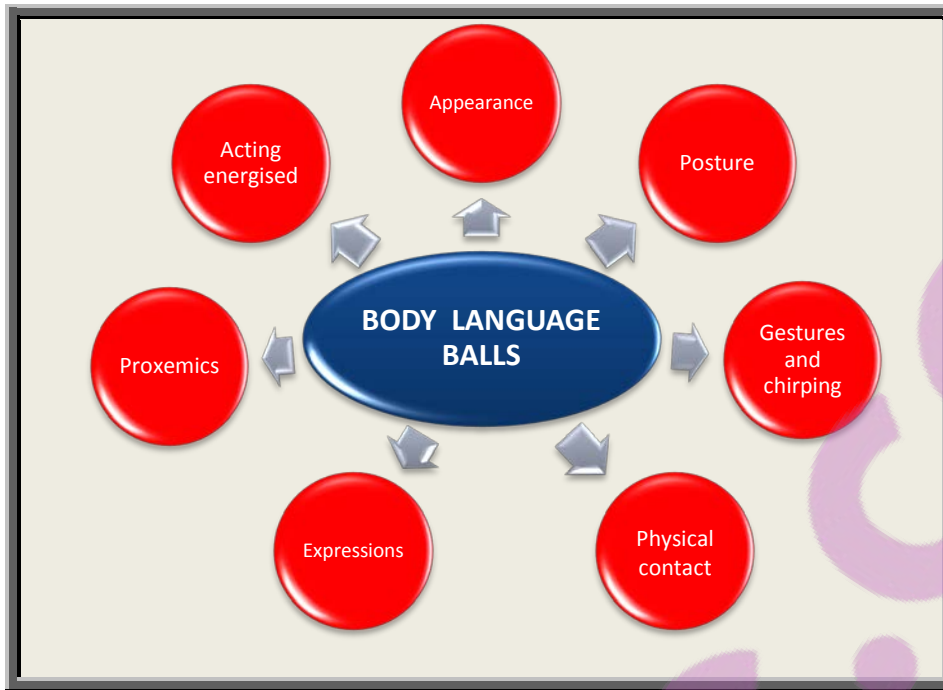
D. Homework:

- Complete the routine timetable in your workbook.
- Focus this week on your positive body language.
- Think: *"What can I do, to better my cricket body language?"*

4.3.8. Session 10: Arousal control

Format: Lecture, individual and group activities.

Duration: 90 minutes

Goal:

The participants learn techniques to enable them to control their arousal levels.

Outcomes:

- The participants must understand how arousal control works.
- They need to realise that arousal control will influence their cricket performance.
- The participants get the opportunity to experience a relaxation activity.
- They learn how to use breathing in order to control arousal levels.
- They take part in a PMR exercise.

The lesson plan

A. Introduction and explanation

The psycho-educator explains briefly the concept of arousal control by referring to Figure 4.9. As illustrated in the *Inverted U arousal-performance relationship* cricketers need to be sufficiently aroused to perform at their best. However, if arousal levels become too high, performance will begin to suffer. Learning to control arousal levels at the optimal level will help you to retain your competitive advantage (3.4.4).

Figure 4.15: The inverted U.
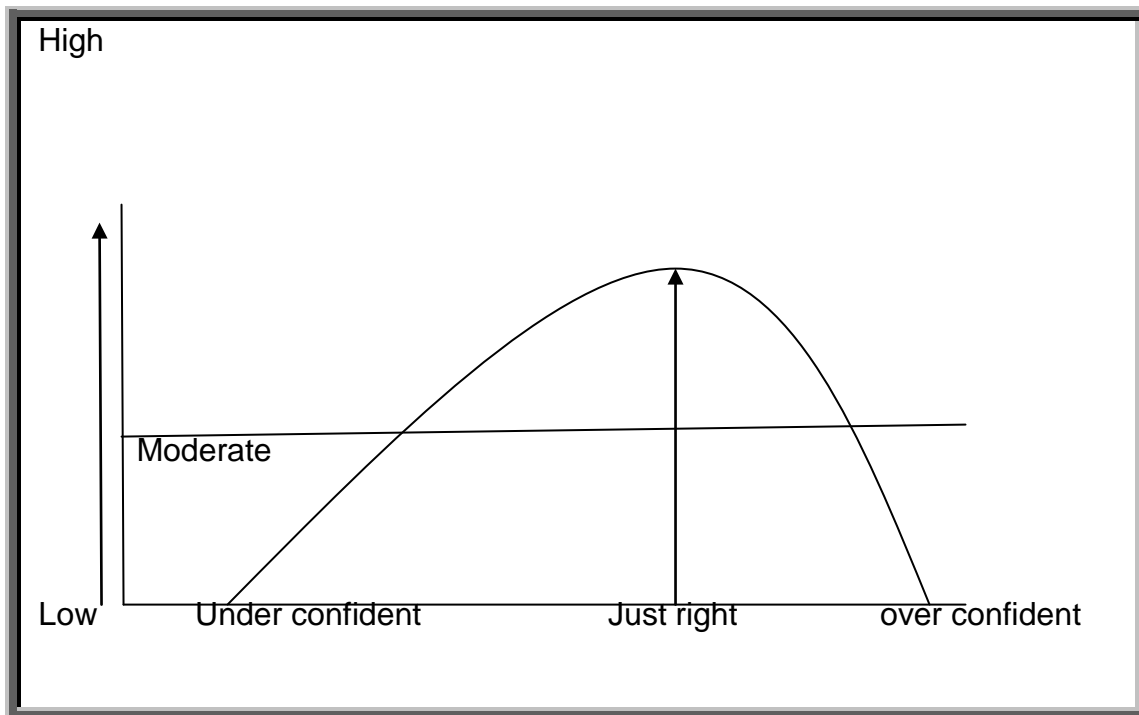
B. Demonstration

The psycho-educator demonstrates different arousal levels. He makes use of the elite cricketer to demonstrate the different arousal levels.

➤ *Group activity*

The psycho-educator shows different pictures to the group. The participants work in their groups to complete the following exercise.

Instructions: "Which pictures describe the arousal state of a batsman, bowler and fielder the best?" Explain your reasons to the rest of the group.

Image 4.2: Arousal states

➤ The psycho-educator gives final conclusions.

C. Execution of the technique

The participants do the following relaxation activity:

The psycho-educator plays a recording of the *"Seashore relaxation activity".*

➢ The psycho-educator makes use of *"Cricket arousal balls"* to explain the key aspects of controlling arousal levels.

Figure 4.16: Cricket arousal balls
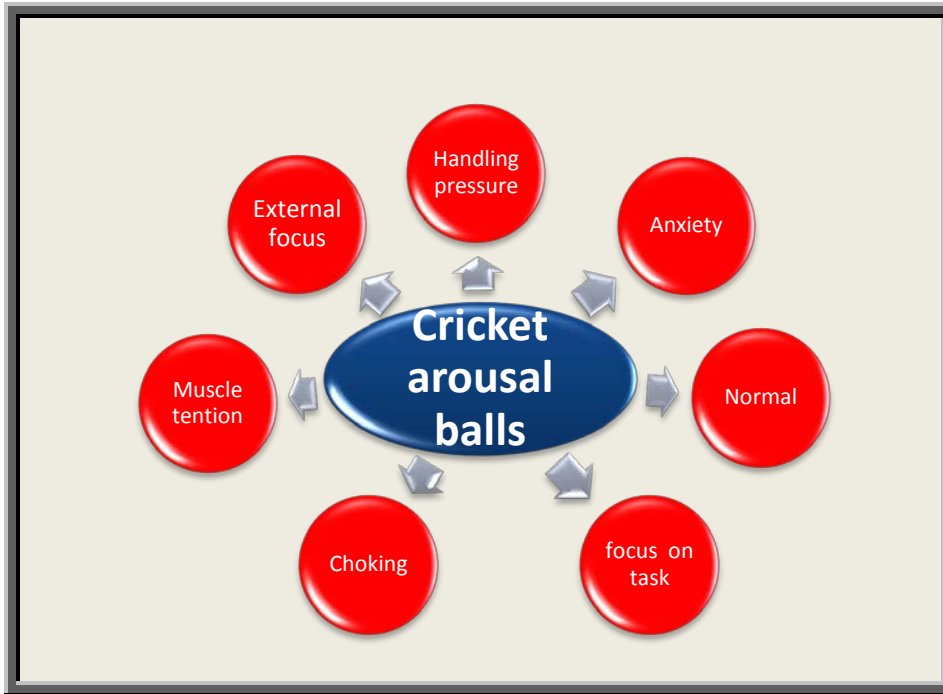
Figure 4.17: The Autogenic program

1. • Heaviness in the arms and legs, example: *"My left leg feels heavy."*

2. • Warmth in arms and legs, example: *"My right leg feels warm."*

3. • Regulation of cardiac activity, example: *"My heart rate is" normal."*

4. • Abdominal warmth, example: *"My abdominal feels warm."*

5. • Cooling of the forehead, example: *"My forehead is cool."*
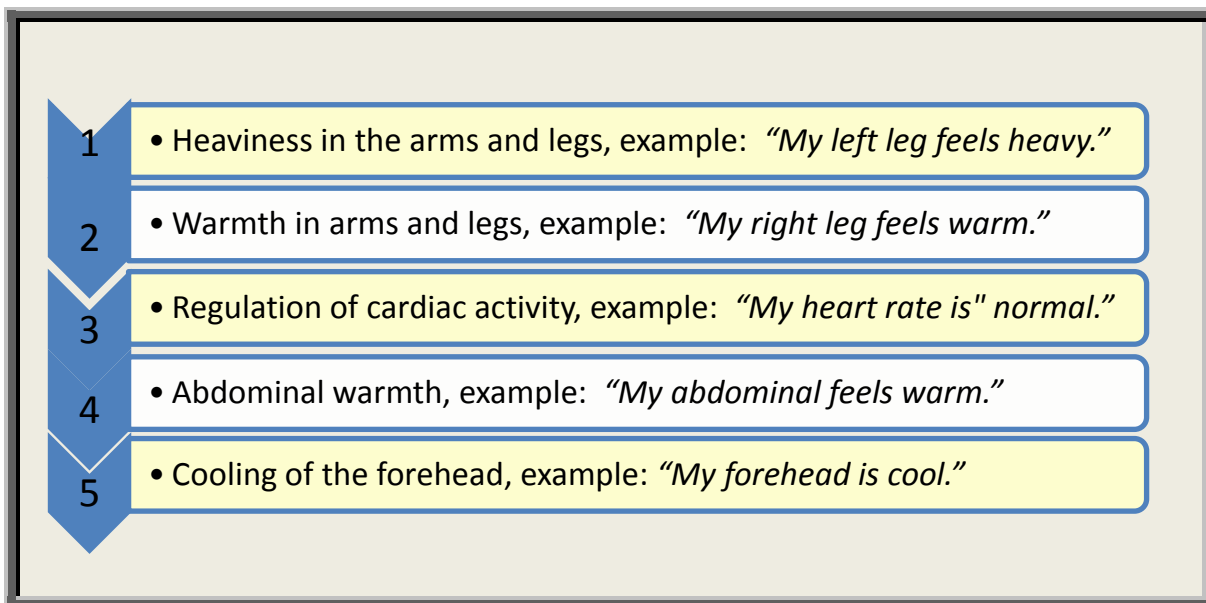
Demonstration: The psycho-educator demonstrates the five stages of the autogenic program (3.4.4.4).

Instruction: The participants practice this autogenic program in their groups.

D. *Analyzing and correcting errors*

   ➢ *Breathing techniques*

The participants practice the following breathing techniques (Cox, 2007: 87).

- For practicing a deep, complete breath, imagine your lungs are divided into three parts: lower, middle and upper.
- Start by filling the lower lung with air by pushing the abdomen out and diaphragm down.
- Continue by filling the middle portion of your lungs by expanding your chest cavity and raising the rib cage.
- Move to the upper portion of your lungs by raising chest and shoulders.
- When exhaling, pull your abdomen in and lowering your shoulders and chest to empty the lungs.
- Inhalation should be done through the nose; exhaling slowly and focus on releasing all your body tension.
- Learn to experience a sense of stillness immediately after exhalation

   ➢ *Progressive Muscular Relaxation (PMR)*

The psycho-educator plays a recording of PMR instructions:
The participants follow the recorded instructions.

- The PMR recording consists of a series of exercises that involve contracting a specific muscle group, holding the contraction for five seconds and then relaxing for five seconds, taking a deep breath and then repeating the process with the next muscle group.

- The contraction phase teaches the participant an awareness of what the tension feels like, whereas the relaxation phases teach him an awareness of the lack of tension and that this can be voluntarily induced.

The goal of the PMR activity is for the participants to develop automaticity, whereby they can automatically, unconsciously and effortlessly identify and relax tension (3.4.4.5).

➤ *Centring*

Instructions: The psycho-educator does the following centring exercise with the participants:

- Stand with your feet flat on the ground, shoulder width apart, arms hanging loosely either side of your body;
- Close your eyes and breathe evenly. Notice that when you breathe in, the tension in your upper body increases, but as you breathe out, there is a calmer, sinking feeling;
- Inhale deeply from your abdomen and, as you do, be aware of the tension in your face, neck, shoulders and your chest. As you exhale, let the tension fall away and focus on the feeling of heaviness in your stomach;
- Continue to breathe evenly, focusing all your attention internally on the area immediately behind your navel;
- Maintain your attention on that spot and breathe normally, feeling very controlled and heavy and calm;
- On each out-breath use a word that encapsulates the physical feelings and mental focus that you want, for eg. *'Loose', 'calm', 'focused', 'sharp', and 'strong'.* (Daniels & Daniels, 2009:68).

E. Homework:

Do the following relaxation activity twice a day for the next week:

Find a quiet place, real or imagined, for 5-10 minutes, twice a day to achieve lasting benefits. Breathe slowly and deeply and allow the tension to leave your muscles as you exhale. The more you practice relaxation, the easier and more effective it becomes.

Basic breathing exercise (homework)

- The first breathing practice is simplicity itself. At this point, taking the first step – becoming aware of your breathing – is all you need to do. Notice yourself now as you breath.

Relaxed diaphragm breathing technique

- *Step 1:* Imagine that your lungs have three parts: a lower, middle, and upper section. Now close your eyes and imagine that you are just going to fill up the bottom, or lower third of your lungs as you breathe in. Do this by imagining that you are pushing out your diaphragm, stretching it to its max and then opening up your abdomen.
- *Step 2:* Next imagine filling the second third of your lung cavity. Do this by expanding your chest cavity and raising your rib cage and chest to their maximum capacity.
- *Step 3:* Finally, fill the last sector of your lungs by raising your chest and shoulders.

Do all three stages over and over with a soft, smooth motion – do not force it. Each time you exhale, remind yourself to pull in your abdominal wall so that all the air is removed from your lungs. And at the end of the exhalation, don't forget to say goodbye to all emotional tension so you feel totally relaxed (Cox, 2007: 87).
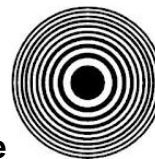
4.3.9. Session 11: Mindfulness: The passage to the zone

Format: Lecture, individual and group activities.

Duration: 90 minutes

Goal:

The participants realise that the ultimate goal of using psychological techniques is to enhance their mental toughness, so that they will experience a zone state during their cricket performances more often.

Outcomes:

- The participants identify their *"winning feelings"*.
- They realize the importance of effective concentration when playing cricket.
- They participate in concentration drill activities.
- The participants learn how to develop *"zone anchors"*.
- They do a revision of all the previous sessions.

The Lesson plan:

A. Introduction and explanation

The psycho-educator shows the photo of Sashin Tenducar (photo 4.1)
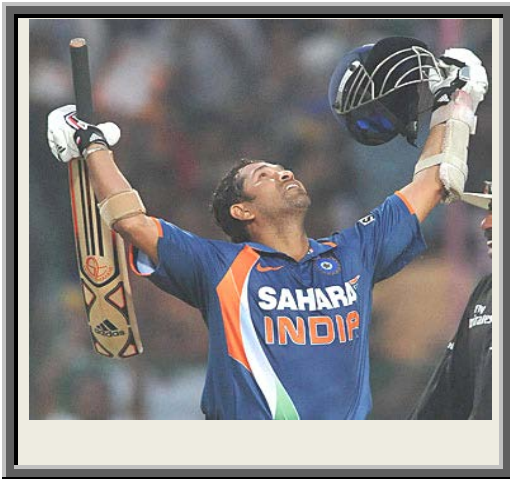
- What feelings does he experience?
- Let's talk about his *"winning feelings"*

> *Establishing your "winning feeling" - Group activity*

Instructions:

Brainstorm with your group: Think carefully about the last time you experienced "*winning feelings*" during a cricket match. List all the details of these *"winning feelings".* Report back to the rest of the team.

➢ Concentration balls

The psycho-educator explains the importance of concentration when playing cricket. We will experience more *"winning feelings"* if we use concentration effectively during cricket participation.

He uses the *"concentration balls"* to explain the paramount role of concentration during cricket participation.

Figure 4.18: Cricket concentration balls
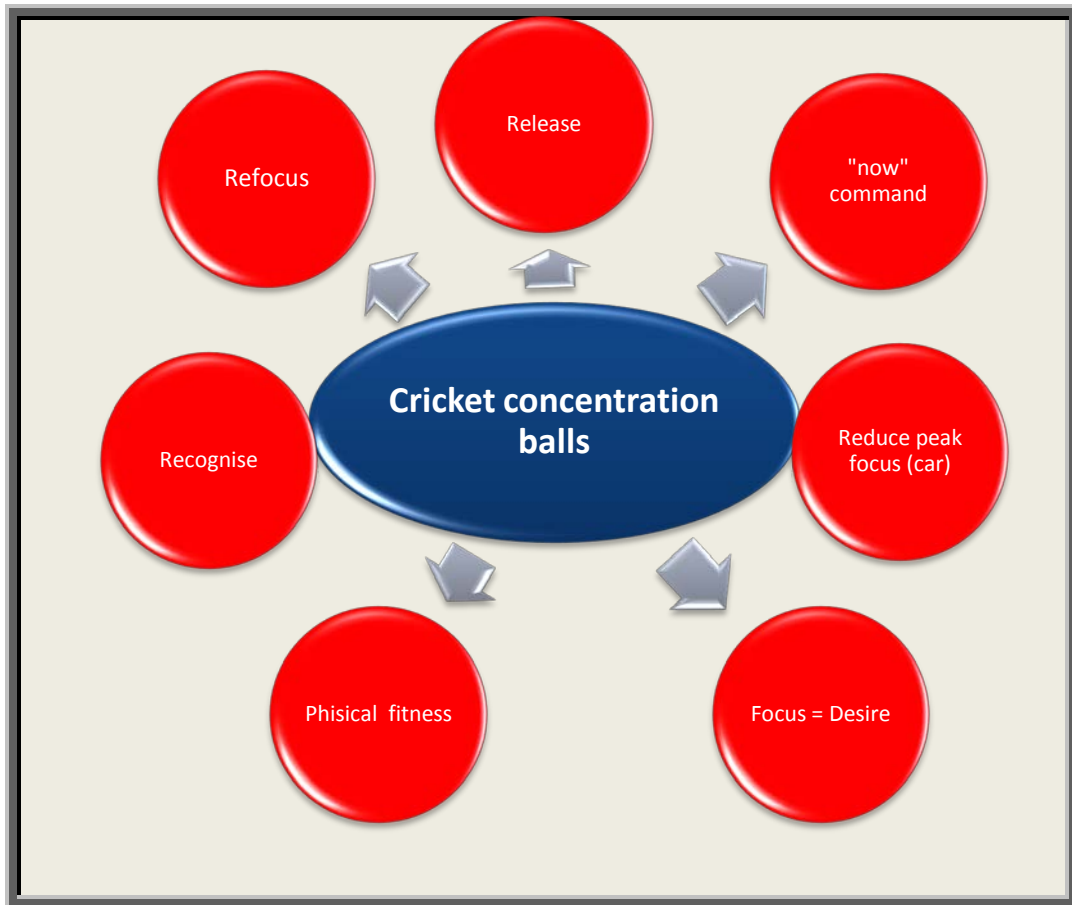
B. Demonstration

The mind zone exercise

> ➤ The psycho-educator demonstrates the procedure of the *"mind zone exercise"*.
> ➤ The participants get the opportunity to partake in the *"mind zone exercise"*.

Instructions: Start with the relaxation exercise that you had to practice during your homework session. Let your muscles relax, and when you're ready, let your eyes close and slowly count yourself down from five to zero. The participants listen to the pre-recorded *"mind zone focusing exercise"*.

C. Execution of the technique

The zone balls

- The psycho-educator shows the *"zone balls"* to the participants.
- Explain the *"zone state"*
- The psycho-educator uses the key words in this figure to explain guidelines to use in order to get into the zone state more often.

Muller and Redfield (3.5.1) recommendations are explained:

- The cricketer must replace negative thoughts with positive visualisations and positive expectations.
- Mental energy can boost physical energy. Positive energy is inspiring and results in a surge of *"extra energy"* in cricket players.
- Being *"light on one's feet"* has long been associated with the zone state. One way to get that light, bouncy feeling is to listen to music that makes the cricketer feel that way.

Figure 4.19: The zone balls
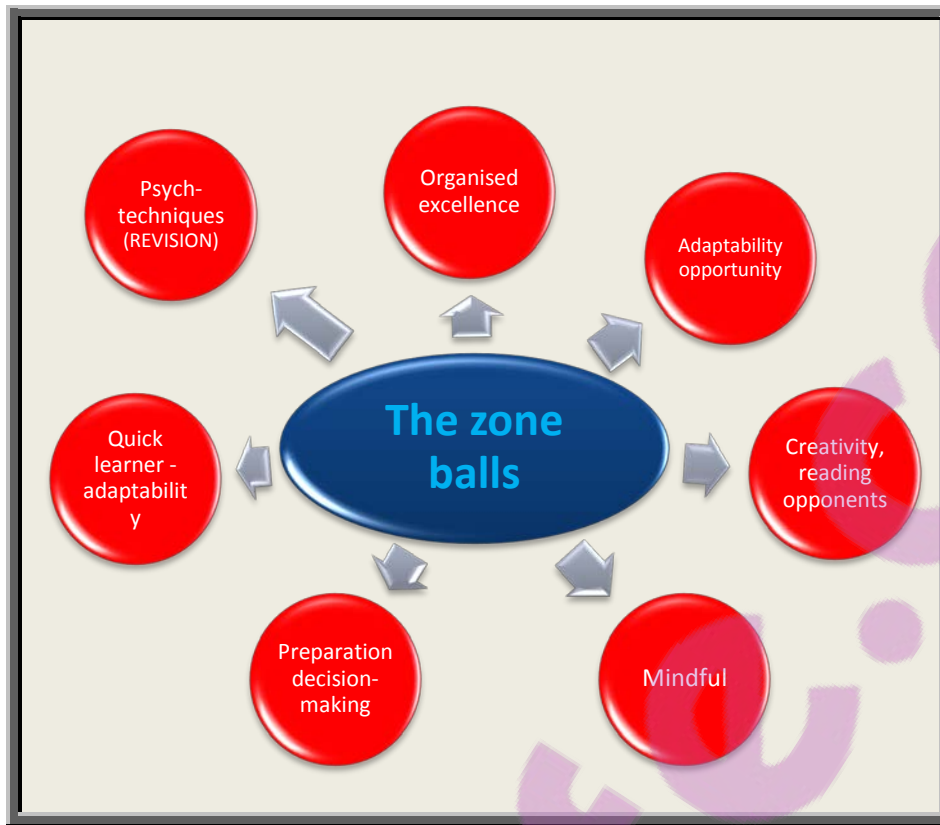
D. Analysing and correcting errors:

➢ The psycho-educator uses this opportunity to do a revision of all the previous sessions.

➢ *Group activity*

What are the top five psychological techniques that you have learned during this program? Why? Report back.

E. Homework:

• Brainstorm: make a mind map of the most important things that you have learned during this cricket journey.

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4.3.10.   Session 12: Post-test and conclusion

A. Do the post-test (CMTQ) with all twenty of the participants (control group and experimental group)

B. Conclusion of the program.

The psycho-educator will have the team members look back at what they got from the course, look forward to applying their knowledge regarding mental toughness in the future, and say *"goodbye"* to each other.

- *Looking back*: *"As you look back at our weeks together, what would you say that you have learned about mental toughness?"* Each team member gets an opportunity to respond.
- *Looking forward: "When you leave the team today, what can you do with the skills you have learned, will you be able to use it in your game of cricket… and in your game of life?"*
- Completing the course evaluating form: The participants get the opportunity to evaluate the effectiveness of the course (Appendix I).
- *Saying "goodbye"—"I would like for each of you to have the opportunity to say something to the cricketers who have made this journey with you."*
- The psycho-educator thanks all the participants for undertaking this *"cricket journey"* with him.

4.4.   Guidelines for secondary school cricketers to become mentally tough.

Get dressed in your

Mentally tough cricket armour

We are not born with all the psychological armour that makes us as mentally tough as that we can become.

This study made it possible to highlight practical guidelines that the cricketer, coach, sport psychologist and psycho-educator can follow to help the secondary school cricketer to achieve mental toughness in his game of cricket and in his game of life.

Guidelines for the coach

Mental toughness requires behavioural change through a better understanding of oneself and others. The cricketer needs to be taught new ways of responding and self control to refrain from using inappropriate psychological actions. In essence, and often in practice, the coach needs to help the cricketer so that the cricketer will be able to understand himself more accurately (Abraham, Collins and Martindale: 2006:551). The coach needs to realize that there is a difference between knowing that psychological techniques can improve mental toughness and being able to assist cricket players in making productive use of psychological techniques. Coaches who are capable of teaching psychological skills effectively can substantially contribute to the mental toughness of their cricketers. In contrast, coaches, who are unable to use psychological interventions effectively, can distract cricketers from their competitive preparation (Murphy, 2005:307). Cricket coaches may use the following guidelines to broaden their knowledge regarding psychological skills coaching.

- The coach needs to be empathetic and supportive, while maintaining appropriate boundaries in the relationship with the cricketer. The interaction between the coach and the cricketer is an active interaction, which actively involve the cricketer in developing better actions. This is a non-judgemental and problem-solving approach (Weis et al, 1999:129).

- The main focus of the coach needs to be in the present and the future. While the influences of life experiences and feelings on the cricketers are considered, the main aim of mental toughness coaching is to empower the cricketer with appropriate psychological skills. The coach must consider the current psychological and emotional state of his cricketers, especially if the interventions will lead to emotional and behavioural change in his cricketers. Interventions rely on the establishment of trust and mutual acceptance between the coach and the cricketer (Dulcan, 2009:829).

- Mental toughness coaching begins in most settings with a comprehensive assessment of the cricketer's needs, strengths and weaknesses. This comprehensive assessment allows the coach to form a trust-relationship with the cricketer, while gaining valuable understanding of how to best tailor the intervention to fit the cricketer. Building on the cricketer's strengths allows for a focus on the present. The client's past experiences are also recognised to identify areas of improvement (Dulcan, 2009:830).

- Mental toughness is developed by helping the cricketer to recognize the need for change, and then helping that cricketer to display better psychological skill choices.

- Positive psychological skills change is more likely to occur when the coach is able to develop and maintain positive and mutually respectful interaction with the cricketer. The coach must be a good listener and be able to develop understanding of the cricketer receiving the mental toughness coaching.

- No amount of introduction or demonstration can replace the need for the cricketer to practise the psychological skills, which the coach introduced, for themselves. The repeated execution of a psychological skill by the cricketers is the only way of effectively learning that skill. The coaching session should include plenty of opportunities for the cricketers to execute the psychological techniques for themselves. As the cricketers practice a new psychological technique it is important that the coach watches them and offer them guidance and positive comments as to how well they are performing the skill. (Adams & Caplan, 2007:167).

- The didactic component of coaching the psychological techniques can be fairly structured or more informally. The coach shares the program outline with the cricketers during the first session. However, new topics the cricketer presents can be integrated into the prepared session content. The tone the coach use when he speaks to the cricketer needs to be neutral and calm. The transfer of information is the primary function of the didactic stage of the coaching session. Additionally, it is frequently integrated with other steps in the coaching sessions, rather than presenting the psychological techniques information on its own (Dulcan, 2009:830).

- The coach and cricketer need to establish the length of the sessions during the first session. The learning material and techniques can be taught through a variety of methods including lectures, DVDs, role playing, reading, and discussions. The duration of a session is most of the time sixty to ninety minutes.

Tebbe (2007:19) states that psychological techniques can be taught through a series of interactive steps:

- The psychological technique is described in behavioural terms, and a rationale is given for its use. This step is critical in assuring that cricketers don't only understand what the skill looks like but also has some faith that it will improve their performance.

- If the cricket player questions the utility of a particular psychological technique, it is doubtful that he will invest sufficient time or energy to acquire it.
- Once the cricketer understands how and why a particular psychological technique can improve his cricket performance, the technique should be demonstrated.
- Many cricket players must see both successful and unsuccessful attempts at using a psychological technique to differentiate the two and refine their mental picture of what is necessary for successful execution.
- From this point the cricketer is ready to attempt the technique, and with continual feedback based on his progress he can establish reasonable levels of mastery.

The following factors need to be present for psychological skills to generalize to other life domains of the cricketer (Anderson, 2000:239):

- A belief that the acquired skills and qualities are valued in other settings.
- Awareness of current skills, both physical and psychological.
- Knowledge of how and in what context skills were learned.
- Confidence in the ability to apply skills in different settings.
- A willingness to explore non-sport roles.
- The desire and ability to seek sources of social support.
- The ability to adjust to initial failures or setbacks.

- Coaches need to be aware of dual-role relationships. Dual-role relationships include functioning as a coach and as a sport psychologist for cricketers and can be potentially problematic from an ethical and practical standpoint (Brewer, 2009:127).

- When a coach teaches psychological skills, some cricketers may feel that they may approach the coach to talk about more personal states and conflict. When cricketers present issues to coaches that are of a clinical nature, coaches need to refer these cricketers to qualified professionals (Heyman & Anderson 1998:165).

- The enjoyment of cricket participation is the key predictor of cricket commitment and a primary reason for initiating and maintaining involvement in cricket. Considering the impact enjoyment has on cricket commitment, it may be worthwhile intervening at youth cricket level to enhance enjoyment for cricket players and thereby increase elite cricket participation (Scanlan & Carpenter, 2010:5).

- The most important factor in motivating cricketers is the coach's delivery style and personality. When the coach believes in the benefits of participation in cricket it is conveyed to his cricketers (Mull et al, 2005:77).

- The more the cricket player is able to achieve success, the greater will be his self-confidence. The coach's role as mental toughness coach in helping the cricket player to develop positive self-confidence cannot be over emphasised. The coach needs to develop a training climate in which progress can be made and regular success can be experienced by the cricketer. Changes in self-confidence can make the difference between a top performance and a mediocre one, even when other factors remain constant (Sellars, 2004:104).

- Mindfulness training for coaches may help them to find a better balance between coaching and other aspects of their life. Collard and Walsh (in Labbe 2011:155) reported on training coaches in mindfulness that the coaches felt less stressed and calmer after the mindfulness training.

- The challenge to design an appropriate psychological intervention program that will enhance the mental toughness of secondary school cricketers, so that the cricketers can experience the ultimate state of zone performance more often, is in the hands of the cricket coach and the cricketer.

4.4.1. Guidelines for the cricketer

The mastering of mental toughness is for the cricketer of the utmost importance in order for him to take his cricket performance to a high level. The cricketer determines the realities in his cricket performance by the way he thinks about disappointments and opportunities. Cricketers also need to be physically fit if they want to tap into their mental toughness abilities.

➢ Self-belief

Self-belief is the fundamental building block that needs to be in place before the cricketer can start his journey to mental toughness. A positive self-believe creates a positive self-image – the cricket player needs to feel good about himself. Each individual cricketer has an optimal level of self-confidence, and performance problems can arise with either too little or too much confidence (3.3.1).

➢ Concentration

Effective concentration requires intentional and psychological effort from the cricket player. The cricketer's focus needs to be fixed on the most important information and he needs to ignore unimportant information. He uses concentration as a spotlight that he shines on internal or external information. The cricketer can divide his concentration between two or more actions, but he cannot divide his concentration between different thoughts. He loses his concentration when he focuses on information that he can not control (3.3.3).

➢ Commitment

There are three primary determinants that influence cricket player's commitment:

- Satisfaction based on rewards and costs associated with cricket;
- Attractiveness of alternative options;
- Resources cricketers have invested in cricket.

Burnout is likely to occur in cricket players who display an entrapment profile, where they are participating in cricket because they have to rather than want to (3.3.4).

➤ Motivation

Intrinsic motivation is the most desirable type of motivation for the cricket player because it is under the control of the cricket player. Motivation is likely to be the psychological skill over which the cricket player has more personal control than any other psychological skill (3.3.5).

➤ Mindfulness

Getting into an absolute state of calmness is the key factor for a cricketer who wants to move into the zone state of optimal performance. A good routine for batting, bowling and fielding will help cricketers to find calmness amid any chaos (3.3.6).

➤ Performance Profiling

Performance profiling helps identify perceived strengths and weaknesses in the cricketer's mental toughness. The engagement proses of performance profiling may help the cricketer to develop an intrinsic interest in developing his psychological skills. Performance profiling as a psychological technique helps the cricketer to take greater responsibility in developing his psychological skills (3.4.2.1).

➤ Setting goals

The cricketer with clear and realistic goals is focused on achieving success. Disappointments and mistakes will not discourage the focused mind of the goal orientated cricketer. Goal setting is intimately tied to motivation. Goal setting is essential to success; it is the mind choosing a focus point for the brain (3.4.2.2).

➤ Self-talk

The tone of the cricketer's self-talk will have an influence on his cricket performance. A harsh and critical tone, even with positive words, may hurt performance. One of the most important purposes of self-talk is to reflect on and analyse problem areas during practice sessions and matches (3.4.3.1).

➢ Positive thinking

The cricketer's ability to control his thought pattern is vital in cricket. Negative thought patterns will inhibit the cricket performance of the cricketer. To control positive thoughts a cricketer must first make himself aware of his negative thoughts and find ways to stop them immediately (3.4.3.2).

➢ Affirmations

The cricket player can employ affirmations to increase confidence, control stress, and improve concentration. The use of affirmations as a psychological technique will also enhance the cricketer's motivation and it will help him to perform at an optimal level (3.4.3.3).

➢ Modelling

Modelling is one of the most powerful means of transmitting values, attitudes and patterns of thoughts and behaviours. Modelling, as a psychological intervention technique, involves the depiction or simulation of a specific behaviour by one individual who serves as a kind of actor, while a second individual observes and then imitates the behaviour. It is of paramount importance that the modelling and demonstrations of the coach are confident and technically correct; otherwise cricket players may imitate a technically incorrect model (3.4.3.6).

➢ Routines

Routines are one of the most effective ways to systematically plan for successful cricket performance. Routines can be viewed as a psychological technique that cricketers must develop to enhance their cricket performances (3.4.3.5).

➢ Body language

Using body language as a psychological technique is a very important technique that cricketers can employ to their advantage. Cricket players can use body language to their advantage by becoming experts at hiding their own true feelings and reading the body language of their opponents.

The cricket player's ability to communicate effectively with team mates during a cricket match depends on his ability to use his body language effectively (3.4.3.6).

➤ Simulation

The coach and cricketer must use simulation, as a psychological tool, to practice all the different psychological techniques that the cricketer has learned. Simulation activities attempt to make training circumstances as similar as possible to the real match situation (3.4.3.7).

➤ Visualisation

The batsman may use creative visualisation to practice his forward drive, by visualising the perfect forward drive over and over in order to mentally train muscle memory (3.4.4).

Visualisation advantages for the cricketer:

- The fielders can rehearse different fielding positions.
- The batsman can visualise his best batting performance.
- The bowler can visualise taking wickets.
- Run through possible scenarios for the match.
- Visualisation builds the muscle memory of the cricketer.
- Visualisation can help the cricketer to reduce both mental and physical signs of stress (3.4.4).

➤ Arousal control

The cricketer may use breathing exercises, Autogenic training, centring, progressive muscular relaxation and meditation as psychological interventions to control arousal states. Progressive muscular relaxation (PMR) is an easy-to-use relaxation technique that can help to reduce muscle tension of the cricketer. PMR is a useful technique because it increases a cricket player's awareness of his levels of muscle tension and helps the cricketer to distinguish between what is a state of tension and relaxation (3.4.5).

➢ The zone state

Guidelines to achieve a zone state (Muller & Redfield, 2009:58):

- The cricketer must replace negative thoughts with positive visualisations and positive expectations.
- If the cricketer finds it hard to concentrate he needs to focus on his present goals.
- When anxiety creeps in the cricketer needs to do relaxation exercises.
- Mental energy can boost physical energy. Positive energy is inspiring and results in a surge of *"extra energy"* in cricket players.
- Being *"light on one's feet"* has long been associated with the zone state. One way to get that light, bouncy feeling is to listen to music that makes the cricketer feel that way.

It is recommended that the coach and cricketer read these guidelines and the intervention program together; this will help them to get a better understanding of the practical implementation of the psychological techniques.

4.5. Conclusion

This chapter focused on the practical presentation of the psycho-educational program. The introduction started with an explanation of the eight phases of the development and implementation of the psycho-educational program. The four step learning model was described as the learning model applied during each session. The practical presentation was presented in detail after the conclusion of the introduction. The presentation phase of the program was specifically described in detail so that other researchers and psycho-educators could duplicate the presentation of the program. Guidelines were provided for the secondary school cricket coaches and cricketers. These guidelines focused on enhancing the mental toughness of secondary school cricketers. This psycho-educational program (The mind of a cricket star) will be used in the next chapter as the *"treatment"* in the research design. The next chapter will concentrate on the research design of the study. Details will be given regarding the research methodology I followed in my evaluation of the psycho-educational program.

CHAPTER FIVE

RESEARCH DESIGN AND METHODOLOGY

Figure 5.1: Overview of Chapter Five
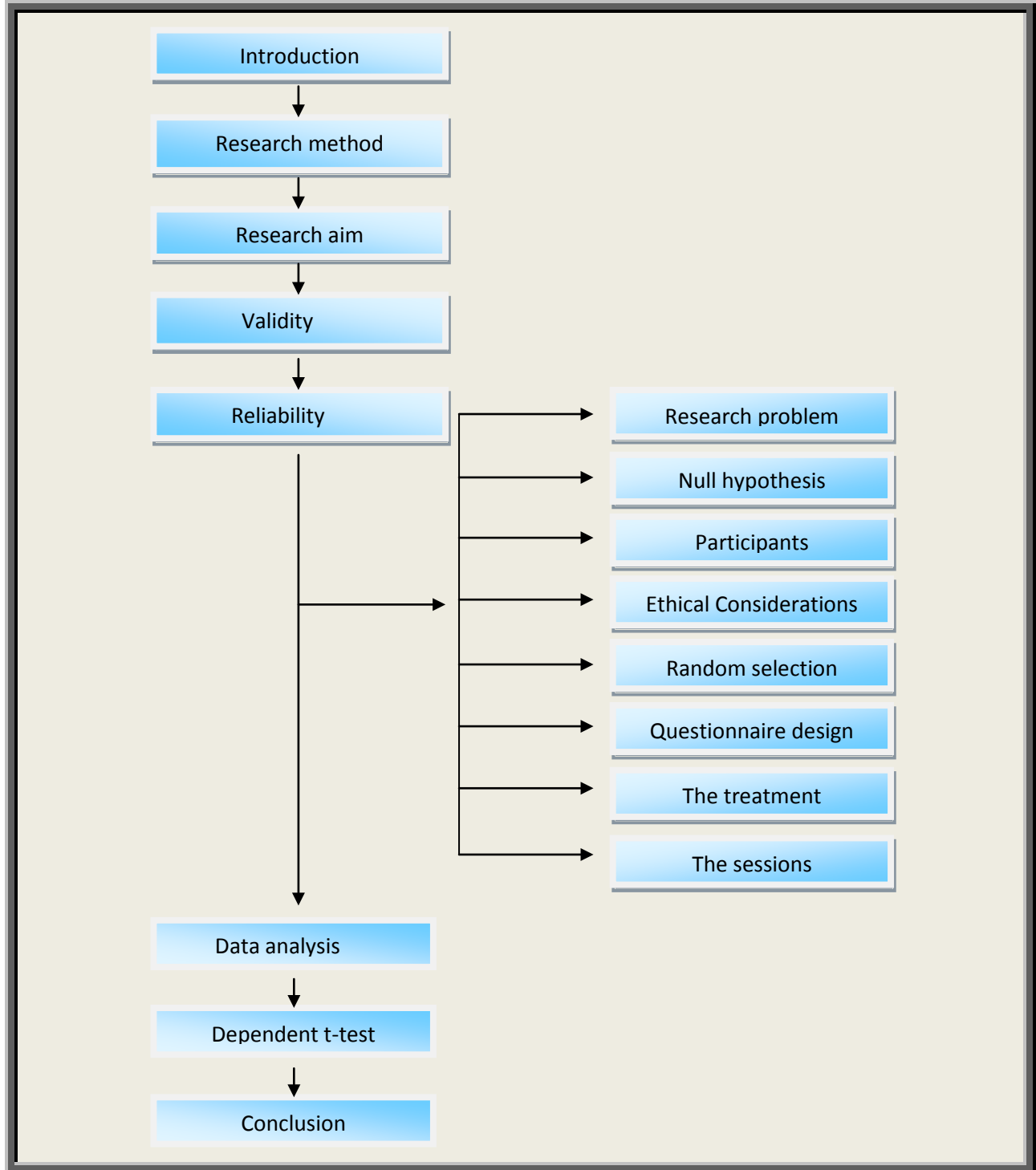
5.1.   Introduction

This chapter is devoted to the empirical study of this research project. I undertook this study in order to answer the research questions. I did a literature review, for the theoretical part of the study, in order to design a psycho-educational program to enhance the mental toughness of secondary school cricketers.

Aims of the Literature review:

- Developing a psycho-educational program to enhance the mental toughness of secondary school cricket players.
- Designing a questionnaire, that can be used to evaluate the mental toughness of secondary school cricket players.
- Compiling mental toughness guidelines for the secondary school cricket coach and cricketer.

Aims of the Empirical study:

- Determining the effectiveness of the psycho-educational program.
- Evaluating the mental toughness needs of the participants before they participate in the intervention program.

The aim of this chapter is to describe the second phase of the study. This chapter will represent the methodology that was used in undertaking the empirical study. An explanation will be given to my reasons for employing specific methods. I will explain the data collection procedures followed and how the data collection helped me to reach the aims of the study.

5.2.   Research method

The main models of inquiry can be divided into two categories: Qualitative and Quantitative research methods are accepted as the two main methods for research. Qualitative and Quantitative research differs mainly due to the type of data that are collected and processed. Quantitative researchers focus on numerical data while qualitative researchers focus mainly on non-numerical data.

I will make use of the Quantitative research method for this study. Quantitative research is the design that wants to answer questions. Quantitative research wants to explain, predict and verify a phenomenon through the process of answering questions about the variables (Mc Millan & Schumacher, 2006:12). Leedy and Ormrod (2005:94-96) state that the Quantitative research design is also known as the traditional, experimental or positivistic design. Numbers are used to interpret results scientifically and formally. I will use statistical analysis when I apply the Quantitative research design.

5.3.   Research design

The research design is the plan or strategy that the researcher will apply in order to gather and analyse data. Leedy and Ormrod (2005:94) pointed out that the researcher's choice regarding the specific research design to apply will be influenced by the researcher's research abilities and the specific hypothesis of the study.

Figure 5.2: Summery of the research design used in this study:

Step 1
- Aim: To control subject characteristics threat to internal validity
- Procedure: Random assignment (R) for experimental group and control group

Step 2
- Aim: To measure the degree of the dependent variable before the treatment
- Procedure: The same test (O1) was administered to both groups

Step 3
- Aim: To influence the dependent variable
- Procedure: Administered treatment (X) to the experimental group. No treatment was administered to the control group.

Step 4
- Aim: To measure the degree of change
- Procedure: The same post-test (O1) was administered to both groups

Step 5
- Aim: Data analysis
- Procedure: The results were compared for any degree of statistical significant difference for each group respectively.

5.3.1. Experimental research design

Mc Burney and White (2010:276) state that there can be no perfect experiment. They emphasise that the two chief elements of good experimental design are the existence of a control group or a control condition and the random allocation of subjects to groups. I used these elements and the six characteristics of a good experimental research design as a benchmark to guide me in the designing process (Mc Millan & Schumacher, 2006:321).

Figure 5.3: The six characteristics of a good experimental research design

Statistical equivalence of subjects in different groups.	Potential for maximum control of extraneous variables.
The comparison of different groups or conditions	Employment of inferential statistics.
The researcher manipulates at least one of the independent variables.	The dependant variables need to be measured.
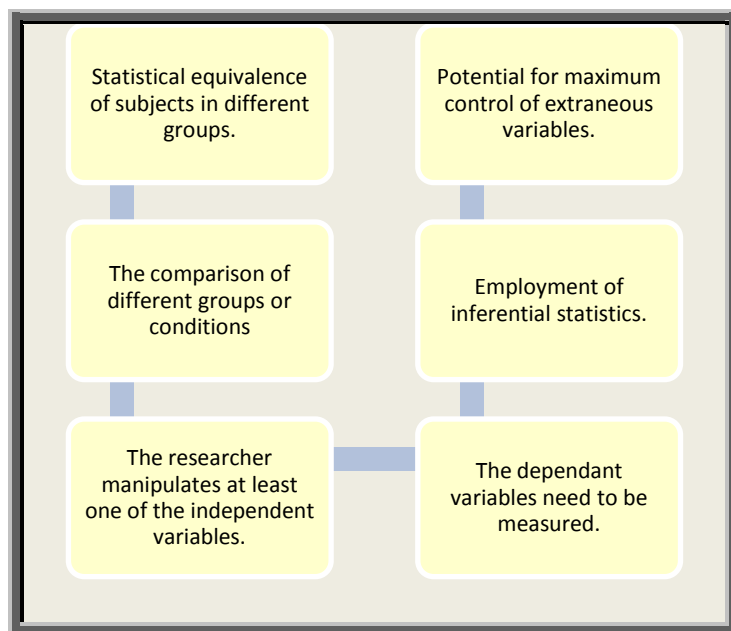
5.3.2. Pre-test post-test control-group design

I made use of the two group control group design. This is the simplest and most common of the pre-test post-test designs. The structure of the pre-test post-test control group design was used as the basis for the research strategy that I employed in my investigation. This type of research design can be described as a true experimental design, because it will always include processes of randomization (Usher & Scott, 2011:66). Gravetter and Forgano (2011:328) describe this design as a combined strategy with one experimental factor (treatment/control) and one non experimental factor (pre-post). Babbie (2002:305) sees this design as one of the most effective designs for assessing the impact of an intervention on two groups.

If there is a change in the outcome of the experimental group in the post-test and none in the control group, it could be stated that the intervention had a positive effect on the participants. This design was chosen to establish whether the psycho-educational intervention program (independent variable) would have an effect on the mental toughness (dependent variable) of the participants.

Figure 5.4: The pre-test post-test control group design

(A)Experimental group   O1   treatment (x) ⟶   O1

R

(A)Control group ⟶ O1   ⟶   O1

TIME
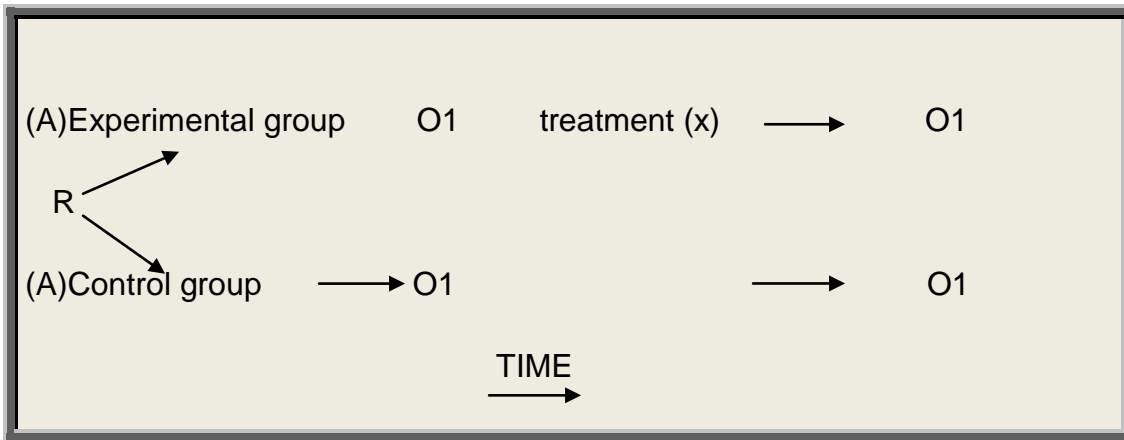
5.4.   Variables

The psycho-educational program is the independent variable, while the dependent variable is the scores achieved on the pre-test and post-test (Mental Toughness).

5.5.   Validity of the research

Validity with reference to the collection of data means that the results need to be a reflection of what needs to be measured. I investigated all possible factors that could have had a negative influence on the validity of this research.

5.5.1. Internal Validity

Mistakes in the study or problems with the research instruments can have a negative influence on the internal validity of the research (Huberman & Miles, 2002:42). The pre-test post-test control-group design is a true experimental design, and is one of the strongest types of designs controlling most threats to internal validity (Cottrell & Mc Kenzie, 2011:186). The internal validity of this design is strong, because the pre-test ensures that the groups are equivalent.

Mc Millan and Schumacher (2006:337) are of the opinion that the pre-test post-test control group design control four sources of threats to the internal validity of a study:

- Selection: Random selection of participants.
- History: External events have an effect on both groups.
- Diffusion: No contact between groups during treatment phase.
- Instrumentation: Both groups administered with the same instrument.

5.5.2. External Validity

Achieving external validity is one of the main aims of a good experimental design. The process of generalization is the main criteria of external validity. The researcher must ask himself if he can generalize the results obtained from a small sample of the entire population. The external validity of a study is threatened if the researcher wants to generalize the results of the study to a bigger population (Babbie, 2002:305).

Shuttleworth (2009:12) distinguishes between two types of external validity:

Population validity: It describes how well the sample used can be extrapolated to a population as a whole and it also evaluates whether the sampling method was acceptable.

Ecological validity: It evaluates the testing environment and determines how much it influences the behaviour of the participants. The environment in which the participants completed the assessments was almost the same as a classroom and the format of the questionnaire was designed in a friendly non threatening format (no wrong answers).

5.6. Reliability of the research

The reliability of the research will be high if the researcher aspires to the high quality of his research.

Reliability refers to the manner in which the reader of the study can be convinced of the usefulness and high quality of the research (Howitt & Cramer, 2005:376). Lodico, Spaulding and Voegtle (2010:93) state that reliability refers to consistency. An instrument is reliable if it produces *"approximately"* the same results for an individual over repeated testing or across different rates.

Scott and Morrison (2006:208) are of the opinion that reliability is used as a measure of quality, repeatability and consistency. According to them there are four general classes of reliability estimates:

- *Inter-rater or inter-observer reliability:* used to test the degree of convergence or divergence between observations.
- *Test-retest reliability:* if similar results are obtained at both the testing and re-testing stages.
- *Parallel forms of reliability:* used to determine the consistency of the results from two tests from the same content domain.
- *Internal consistency reliability:* used as an internal measure within a test to assess consistency between items in a test.

5.7. The research problem and null hypothesis

The research problem for this study is indicated by the following question:

What is the influence of a psycho-educational intervention program, using psychological skills and psychological techniques, on the mental toughness of secondary school cricket players?

Null hypothesis

There is no significant difference between the pre-test and post-test means for the experimental and control groups respectively. H_0: $\mu_1 = \mu_2$. The inferential statistical test selected to test the hypothesis in order to support or to reject the null hypothesis was the dependent samples t-test. This form of the t-test was selected because the dependent samples t-test is most commonly used in a pre-treatment vs. post-treatment scenario where the researcher wants to test the effectiveness of a treatment.

5.8.   Ethical Considerations

Behaviour guidelines serve as a standard that I will use in order to evaluate the validity of the research. Behaviour guidelines serve as a protection for the research, researcher and all the participants in the study (Creswell, 2005:369). Ethical considerations fulfilled a paramount role in this study. These considerations played the role of setting strict guidelines throughout the study that I had to adhere to.

Figure 5.5: Ethical considerations
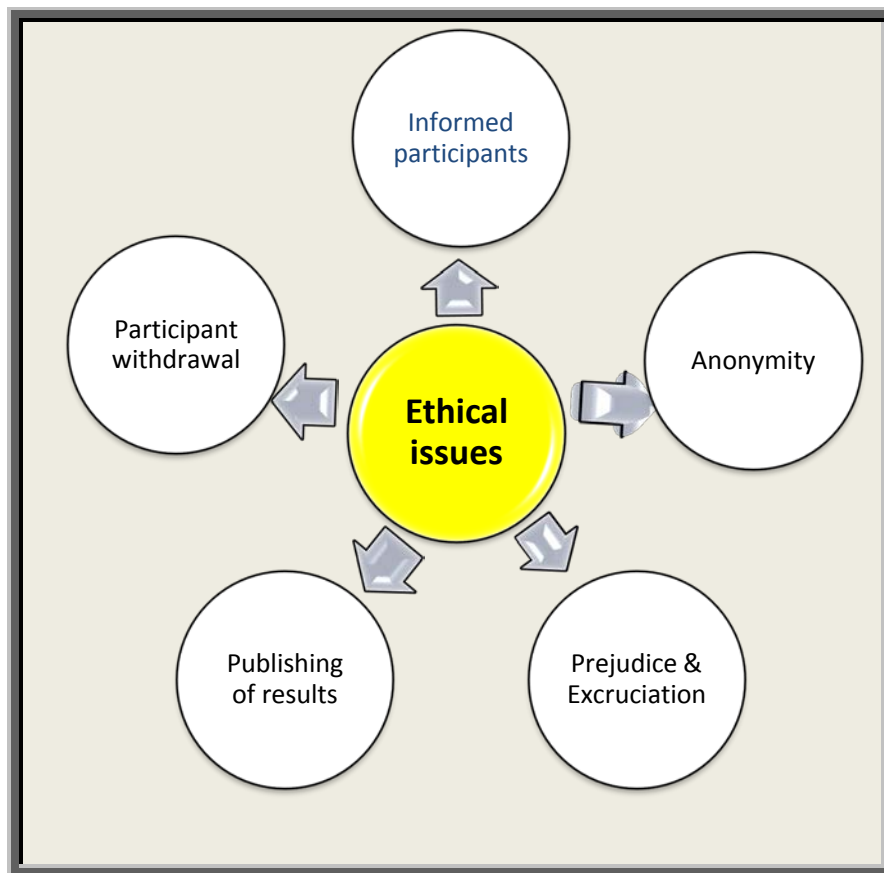
Figure 5.5 summarizes the main ethical considerations that guided the research process and played a paramount role in this investigation.

The following ethical guidelines were followed:

- I adhered to the ethical considerations stipulated by The University of South Africa's Ethics Committee.

- I submitted a research proposal before the commencing of this study.
- I obtained ethical approval from the ethics committee of the school of Education (UNISA).

5.8.1. Ethical guidelines employed in this research project:
  ➢ Informed participants.

All participants who participated in this study were informed in such a way so that there was absolute certainty that they understood what were expected of them during the investigation. The main purpose of this informing phase of the study was to give the participants all the information they needed to make an informed decision if they wanted to partake in the investigation (Appendices A & B).

  ➢ Anonymity

The researcher assured the participants and parents/guardians that participant's names would never be mentioned and that the participant could at any time withdraw from the program.

  ➢ The prevention of prejudice and excruciation.

The participants were informed of the researcher's commitment to prevent prejudice and excruciation at all times.

  ➢ The accurate publishing of results.

All results from this research project were evaluated by the researcher's supervisor.

  ➢ Participation and withdrawal

The participants and their parents were informed that the participants had the right to withdraw from the study at any time, even if they gave written consent they could withdraw from the study at any time without giving any reason for their decision. The participants and their parents/guardians involved in this study were assured of the researcher's commitment to the research ethics stipulated by the Ethics Committee of The University of South Africa. The following ethical issues were handled:

- Participant information sheets were discussed with the participants and with the parents of under aged participants (see appendix A).

- Letters of consent were signed by participants (18 years and older) (see appendix B3).

- Letters of consent were signed by parents/guardians of participants younger than 18 years (see appendices B 1&2).

- Informed assent forms were signed by participants younger than 18 years (see appendices B 3&4).

5.9. Random selection of the participants

Secondary school cricket boys were selected for the research (age group 14 – 18 years). I approached a private cricket coaching academy (Red Cap Cricket) for the purpose of selecting participants. This academy was ideal for the research project: RCC specializes in giving private cricket coaching for secondary school cricketers. A total of 108 boys attended the academy at the time of investigation. All the cricketers attending RCC have a passion for cricket.

5.9.1. Sample

Random sampling was used.

Random sampling is the procedure for the selection of participants where each participant in the population has an equal chance of being selected and where the selection of any one participant will not affect the probability of selecting any other participant (Gragiano & Roulin, 2006: 276).

The random sampling procedure used in this study:

I selected twenty all-round cricket players (cricket players who can bat and bowl) out of a possible population of 108 cricketers. The names of the ten cricketers how took part in the pilot test of the CMTQ were removed from the list.

- I obtained a name list of all the cricketers from the head coach of RRC.

- All the 98 names of the sampling frame were numbered uniquely. If researchers use sampling from a list, they need to give each person a unique number. These numbers served as an index (Johnson & Christensen, 2010:220).
- The *"True Random Number Generator"* computer program was used to select randomly twenty numbers (Haahr, 2011:4).
- *Experimental group:* Ten names were randomly selected out of the sample of twenty. The *"True Random Number Generator"* was employed for this purpose. The experimental group was made up of these ten participants.

The average age of the participants in the experimental group was 15 years and 9 months.

- *Control group:* The rest of the sample was in the control group. The average age of the participants in the control group was 16 years and 3 months.

Computer generated sample

The sample: 79, 52, 82, 42, 26, 6, 18, 7, 98, 85, 89, 1, 51, 31, 86, 72, 4, 83, 66, 16.

Experimental group: 89, 79, 16, 72, 85, 51, 82, 52, 26, 18.

Control group: 42, 6, 7, 1, 31, 86, 4, 83, 66, 98

5.10. Measuring Instrument

I consulted numerous questionnaires and inventories in my research to find the most appropriate assessment tool for evaluating the mental toughness of secondary school cricket players. I made use of questionnaires for this empirical study. The questionnaire research design is Quantitative research, because of the use of numbers and statistical methods (Leedy & Ormrod, 2005:94). After I compared different questionnaires available to evaluate the mental toughness of athletes, I found that none of the existing questionnaires could satisfy the specific needs of my investigation. I decided to design a questionnaire in order to achieve the aims of this research project.

5.10.1. Designing the questionnaire

When designing questionnaires it is important that researchers will first undertake a literature review of the relevant issues that they want to examine. The researchers need to keep in mind, the targeted participants and variables to be measured, while they design the questions (Johnson & Christensen, 2010:189). The main aim of the questionnaire was to assess the current level of Mental Toughness of the participants. I also wanted to identify the participant's specific strengths and weaknesses regarding psychological skills. This analysis made it possible to identify psychological techniques that need to be addressed during the presentation of the psycho-educational program (treatment phase).

According to Loehr (1986:3) are the main psychological skills athletes need to master in order to become mentally tough: self-confidence, concentration, visualisation, motivation, positive energy and attitude control. Tebbe (2007:19) believes that the mental toughness of an athlete develops continuously. This continuous development occurs when the athlete employs psychological skills. Psychological skills refer to learned characteristics of an athlete that makes it possible for the athlete to build on his mental toughness. The more the athlete's psychological skills strengthen the more his mental toughness will increase. Examples of psychological skills are: intrinsic motivation, self-belief, self-confidence, commitment and mindfulness.

5.10.2. The designing process and benchmarking

Hall and Duval (cited in Cooper & Goodenough 2007:221) developed benchmarking as a model of Neuro-Semantics. It is the process of designing a scale that measures skills and concepts that are hard to describe in measurable behaviours. Benchmarking was used to design a scale that measured the participants' utilisation of psychological skills. The psychological skills identified by Loehr (1986:3) and Tebbe (2007:19) were used as the performance indicators to design the CMTQ. Confidence, arousal control, concentration, visualisation and motivation were selected as the main performance indicators. These performance indicators were pre-tested in the experimental group as well as in the control group.

I made use of the following eleven steps to design the Cricket Mental Toughness Questionnaire (CMTQ):

Figure 5.6: Steps used to design the CMTQ
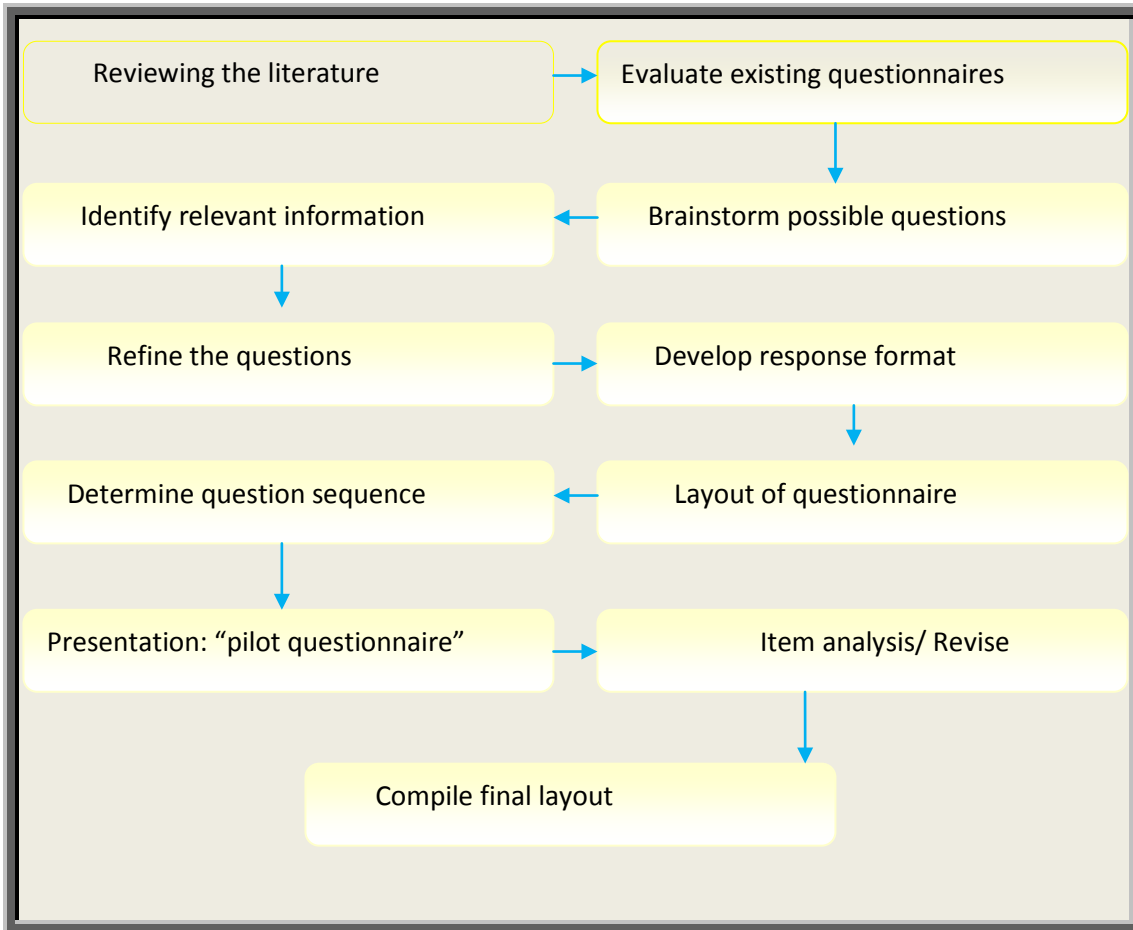
The success of the psycho-educational intervention program (The mind of a cricket star) was tested during the post-test. The same questionnaire (CMTQ) was used during the pre-test as well as during the post-test. During the literature review I identified five main psychological skills: confidence, arousal control, concentration, visualisation and motivation. I used these psychological skills as the five main categories of the questionnaire. Each one of these five categories has twelve items (questions). Sixty items were designed in total to determine the overall mental toughness of the participants (see appendix G). After I compared different questionnaires and other assessment tools available to evaluate the psychological performance and mental toughness of athletes, I decided on designing a questionnaire to investigate the mental toughness of the participants (CMTQ).

This decision, to design the Cricket Mental Toughness Questionnaire, was only made after consulting numerous psychological inventories, none satisfied my specific need to evaluate the mental toughness of secondary school cricket players. I consulted the Psychological Performance Inventory, designed by Loehr (Loehr, 1986) as a guideline. The questionnaire (CMTQ) used to measure the mental toughness in a secondary school cricket context, was partially an adapted version of the questionnaire developed by Loehr (Loehr, 1986). This was done to maximize content validity. A general item such as: *I have the talent to become a successful athlete*, was changed to be more applicable to a cricket context: *I have the talent to become a better cricket player. I always do my best,* was changed to be more applicable to a cricket context: *I always do my best, during matches and even during practice.*

The adapted questionnaire (CMTQ) measures confidence, arousal control, concentration, visualisation and motivation. For each of the five categories twelve items were developed. For each item, the respondents were asked to rate themselves on a scale of one to five:

1   Never
2   Seldom
3   Sometimes
4   Most of the time
5   Always

Benchmarks with a 1 to 5 rating were created:

- 1 and 2 stand for the cricketer having no measurable demonstration of the skill.

- 3: Presence of the basic skill and competency.

- 4: Competency becomes automatic.

- 5: Mastering of the skill (Cooper & Goodenough 2007:222).

When the items for the different psychological skill categories are added up, a total mental toughness score can be obtained.

5.10.3. Item analysis

Since changes were made to the original questionnaire which measures mental toughness in general, an item analysis had to be done and new reliability coefficients had to be calculated. The item analysis was done separately for *confidence, arousal control, concentration, visualisation and motivation.* For each category, the Alpha-reliability coefficient was calculated, as well as the item-total correlation for each item in a particular category.

A pilot study of the CMTQ was conducted in order to evaluate the effectiveness of the items and to gather data to conduct the item analysis. Ten secondary school cricketers were randomly selected from RCC to take part in the pilot study. The same random sampling procedure was employed in the pilot phase as during the sampling process used to select the experimental group and the control group (5.9.1). These participants were not included in the control group or in the experimental group. All ethical procedures as stipulated in 5.8 were followed.

The data obtained from the pilot study was employed to conduct the Crombach's Alpha reliability coefficient calculations. Not one item in any of the categories correlated negatively with the total of that particular category.

Table 5.1: The reliability coefficient for the mental toughness categories

Category	Number of items	Crombach's Alpha
CONFIDENCE	12	0.81
AROUSAL CONTROL	12	0.75
CONCENTRATION	12	0.79
VISUALISATION	12	0.77
MOTIVATION	12	0.83
TOTAL OF ALL ITEMS: MENTAL TOUGHNESS	60	0.84

The number of items and the reliability coefficient (Alpha) for each of the mental toughness categories are provided in Table 5.1.

According to McMillan and Schumacher (2010, 184) an acceptable reliability coefficient is 0.7 or higher. All five psychological skill categories, as well as the questionnaire as a whole, can therefore be considered reliable.

5.10.4. Administering the CMTQ

The experimental group as well as the control group completed the CMTQ as a pre-test and as a post-test. The experimental group completed the CMTQ for a second time after receiving the treatment (4.3). The control group also completed the CMTQ for a second time, but did not receive any treatment. Prior to administering the Cricket Mental Toughness Questionnaire (CMTQ) to the 20 subjects in the two groups, I explained the procedure to follow in answering the items on the questionnaire. Guidance was provided in terms of explaining some of the terminology present in the questionnaire.

The participants were assured that this questionnaire was different from an ordinary school test. They were assured that there were no right or wrong answers in this questionnaire. All they had to do was to be honest when they completed the items. I kept the age of the participants (14 – 18 years) in mind when I administered the items. It was important that the participants understood each item before the participant attempted completing it. The participants were told to be relaxed and to take their time while completing the questionnaire. They were also reminded that they were free to stop their participation at any time.

5.10.5. Scoring the CMTQ

I did the scoring of the questionnaires myself. The following steps were followed during the scoring proses:

Step 1: Identifying psychological skills that are strengths and weaknesses for the cricketer:

- Take the number filled in for each question and put it next to the correct question number in the psychological skills table.
- After doing so for all 60 items, add each of the five columns separately.
- Use that total for making a profile of psychological strengths and weaknesses.

Table 5.2: Psychological skills score card

CONFIDENCE	AROUSAL CONTROL	CONCENTRATION	VISUALISATION	MOTIVATION
1	2	3	4	5
8	6	10	11	7
15	9	17	18	12
22	13	24	25	14
29	16	31	32	19
36	20	38	39	21
43	23	44	45	26
46	27	47	48	28
49	30	50	51	33
52	34	53	54	35
55	37	56	57	40
58	41	59	60	42
TOTAL	TOTAL	TOTAL	TOTAL	TOTAL

Table 5.3: Interpretation of the CMTQ scores.

51-60	85% - 100%	Excellent skills
41-50	68% - 84%	Good skills
30-40	50% - 67%	Room for improvement
12-29	20% - 49%	Needs special attention

Any of the total scores which fall below 41 will need attention. When that happens, thoroughly review all psychological techniques which relate to the psychological skill of the weakness.

Step 2

Determine the overall mental toughness of the participant.

- Add the five totals of the psychological skills together.

Table 5.4: Analysing the mental toughness strengths and weaknesses of the cricketer.

241-300	Excellent (strong strength)
221-240	Very good (strength)
191-220	Above average (strength)
171-190	Average
121-170	Below average (weakness)
60-120	Weak (strong weakness)

Step 3

I compiled a mental toughness profile for each participant. This mental toughness profile was only discussed with the participant after I evaluated his performance profile and cricket performance.

A more informed cricket mental toughness image of each participant could be formed after I explored the results of the Cricket Mental Toughness Questionnaire, the cricket performance of the cricketer on the cricket field and his performance profile.

An individual session of approximately twenty minutes followed after I consulted the results of the CMTQ, performance profile and cricket performance of each participant. This session was paramount in order to establish rapport with each participant before the commencement of the treatment (The psycho-educational program). This comprehensive assessment allowed me to form a trust-relationship with the participants, while gaining valuable understanding of how to best tailor the intervention program to fit the participants. Building on the participants' strengths allow for a focus on the present. The participants' past experiences were also recognised to identify areas of improvement.

Graph 5.1: Example of a mental toughness profile

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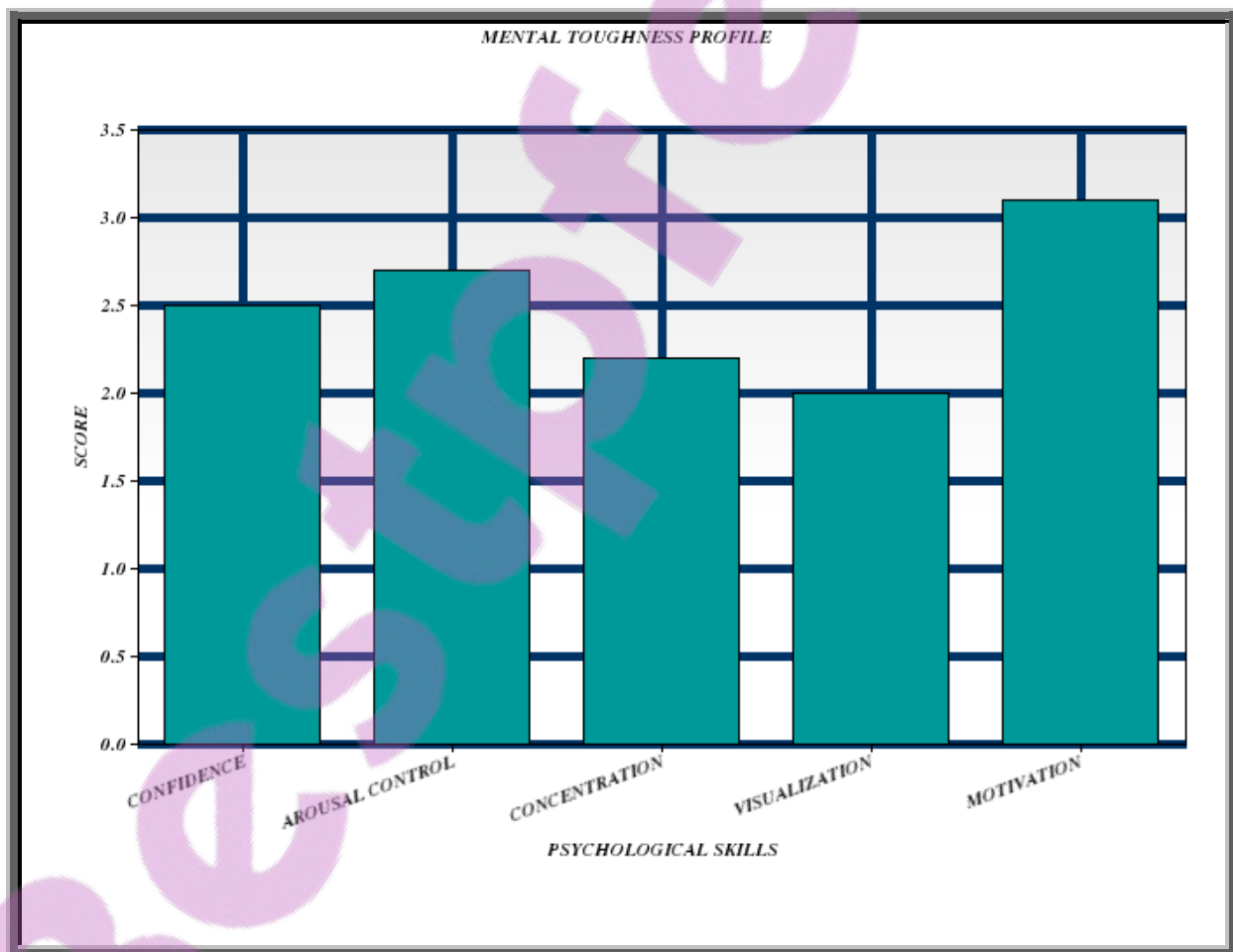
5.11. The treatment

The treatment inherent in this study included the formulation of a psycho-educational intervention program. I made use of eight development and implementation phases during the designing process of the intervention program (4.2). The presentation of the program (4.3) extended over a period of six weeks and included individual as well as group sessions. The experimental group was seen twice a week. The complete program and lesson plans were discussed in Chapter Four. Each participant received a workbook for class activities and homework activities (Appendix H).

Table 5.4: Overview of the psycho-educational sessions

Session 1 (Needs assessment phase)	Pre-test (CMTQ)
Session 2	Cricket match
Session 3 (Teaching phase)	Performance Profiling
Session 4	Individual session
Session 5	Mental Toughness
Session 6	Goal Setting
Session 7	Self-talk & Affirmations
Session 8	Visualisation & Imagery
Session 9	Routines & Body language
Session 10	Arousal Control
Session 11	Mindfulness
Session 12 (Evaluation phase)	Post-test (CMTQ), Participant Forms & Conclusion

5.12. Data analysis

The t-test for dependent samples was employed in the process of data analysis. This form of the t-test is used for a paired (related) sample, or when the same sample group is measured, or when the same variable is measured at two points in time (Cohen, Morrison & Manion, 2007:546). Mc Millan and Schumacher (2006:620) state that the test formula for this form of the t-test must take into account the interrelationship between the experimental group and the control group. The dependent t-test is an effective statistical analysis to compare the means of two groups. I compared the means of the pre-test and post-test of the experimental group and control group in order to establish if the psycho-educational program was effective. The dependent t-test tested the null hypothesis; that there were no differences between the means of the experimental and control group. This can be expressed as: H_0: $\mu_1 = \mu_2$. If a significant result is achieved then the null hypothesis can be rejected and the alternative hypothesis, that there are statistically significant differences between the means can be accepted. This can be expressed as: H_1: $\mu_1 \neq \mu_2$.

5.13. Conclusion

This chapter has outlined the experimental research method and intervention framework followed in this study. The methodology of the study was explained. I also focused on the development of the CMTQ and the psycho-educational program. The sampling process, ethical issues, reliability and validity of the study and the process of data analysis were discussed. In the next chapter, I present the pre-test and post-test findings and the results of the data analysis. In this chapter the null hypothesis will be tested and the research questions answered.

CHAPTER SIX

RESULTS OF THE EMPIRICAL RESEARCH

Figure 6.1: Overview of Chapter Six
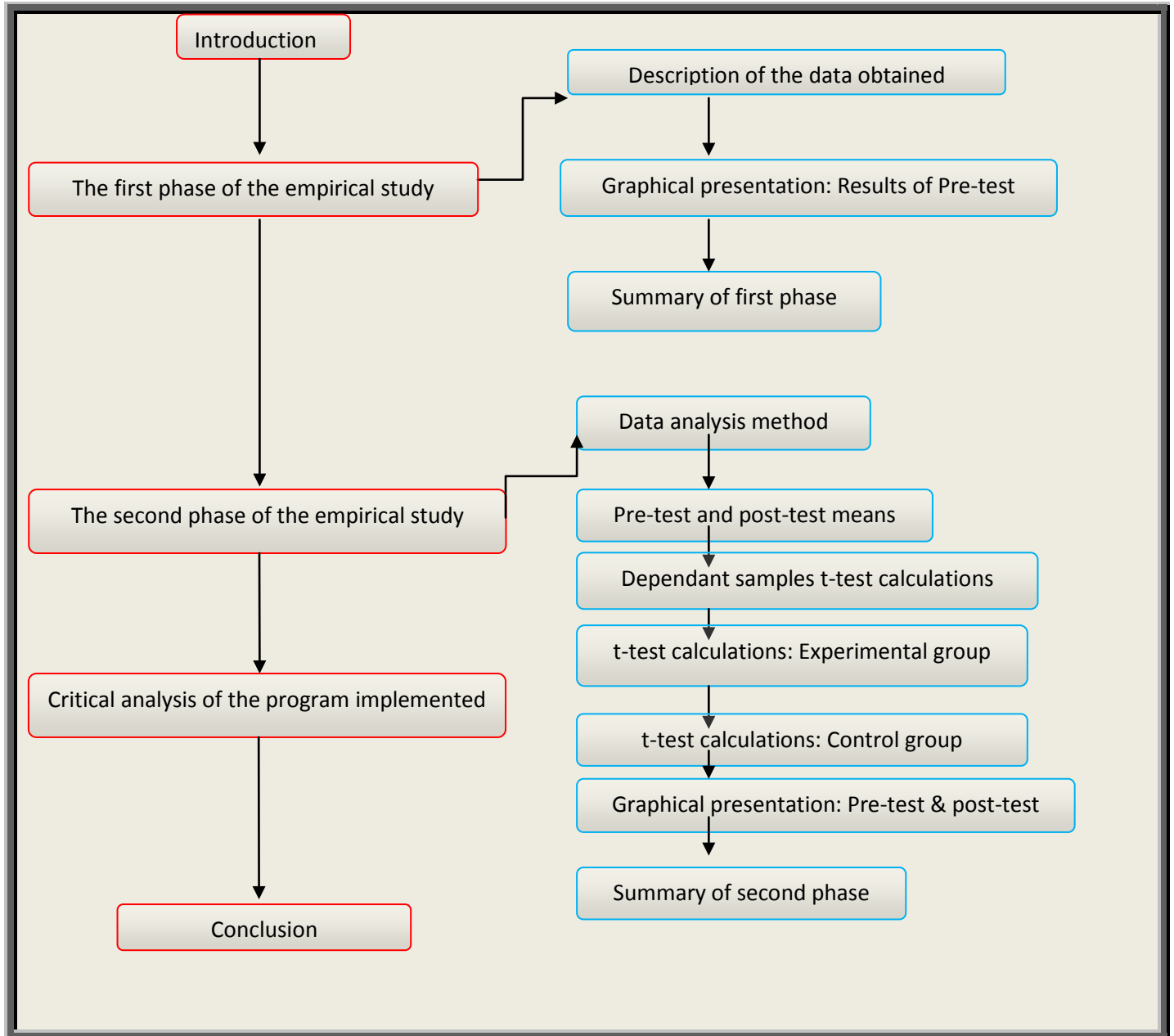
6.1. Introduction

In this chapter the main focus will be to give an overview of the findings of the study. These findings will be presented in two phases.

The first phase focuses on answering the following question:

- *Which psychological skills are used by the participants, before they took part in the intervention program?*

The second phase of the empirical study will focus on answering the main research question of the study:

- *What is the influence of a psycho-educational intervention program, using psychological skills and psychological techniques, on the mental toughness of secondary school cricket players?*

6.2. The first phase of the empirical study

This phase of the study was done before the presentation of the psycho-educational intervention program. All the participants took part in this phase (twenty participants). The raw data obtained from the pre-test (CMTQ) was converted to descriptive statistical data, in order to assist in the design and presentation of the intervention program. The data analysis highlighted the psychological skills that required special attention during the presentation stage of the intervention program. Visualisation and concentration were identified as the two psychological skills that were most neglected by the participants.

The literature review (chapter three) pointed out that these two skills fulfil a paramount role in the mental toughness development of a cricketer. Confidence, motivation and arousal control were identified as the psychological skills that were most commonly used by the participants. The data analysis pointed out that the overall usage of psychological skills by the participants needed special attention. This realization made it clear that the participants were in need of the intervention program.

6.2.1. Description of the data obtained.

The raw data obtained from the twenty questionnaires (pre-test) are summarised in Table 6.1.The raw data (Table 6.1) was statistically converted to more descriptive statistical data.

Table 6.1: The use of psychological skills by secondary school cricketers

CONFIDENCE		AROUSAL CONTROL		CONCENTRATION		VISUALISATION		MOTIVATION	
1	2.95	2	2.70	3	2.70	4	2.35	5	3.10
8	2.60	6	2.65	10	2.40	11	2.00	7	2.60
15	2.70	9	2.55	17	2.45	18	2.20	12	2.30
22	3.30	13	2.85	24	2.85	25	2.20	14	2.20
29	2.65	16	2.70	31	2.50	32	1.85	19	2.95
36	2.65	20	2.50	38	2.35	39	2.20	21	2.60
43	1.85	23	2.50	44	2.65	45	2.80	26	3.10
46	2.50	27	2.90	47	2.15	48	2.10	28	2.65
49	2.30	30	2.55	50	2.75	51	2.60	33	2.10
52	2.90	34	2.45	53	2.40	54	1.95	35	2.70
55	2.50	37	2.40	56	2.30	57	2.30	40	2.75
58	3.05	41	2.65	59	2.35	60	2.85	42	2.60
TOTAL 31.95		31.40		29.85		27.40		31.65	
MEANS 2.663		2.617		2.488		2.283		2.638	
SCORE (%) 53.25%		52.23%		49.75%		45.67%		52.75%	
AVERAGE %		**51% (2.54)**							

Table 6.2 and Table 6.3 provide a summary of the results of the data analysis performed during this phase of the study.

Table: 6.2: Data analysis of the results of the CMTQ

Total items	60
Mean	2.54
Standard deviation	0.3136
Variation (Standard deviation)	0.09834
Population standard deviation	0.31098
Variance (Population standard deviation)	0.09671

Table 6.3: Analysis of the pre-test performance of the participants on the CMTQ

Psychological Skill	Mean	z-score
Confidence	2.66	0.38
Arousal Control	2.62	0.26
Concentration	2.49	-0.16
Visualisation	2.28	-0.83
Motivation	2.64	0.32

6.2.2. Graphical presentation: Results of pre-test (CMTQ)

The following graphs represent the performance of the participants on the CMTQ.

Graph 6.1 illustrates the distribution of the mean scores regarding the participants' usage of psychological skills during their cricket participation.

Graph 6.1: Mean scores

MEANS OF PSYCHOLOGICAL SKILLS

PSYCHOLOGICAL SKILLS	MEANS
CONFIDENCE	2.66
AROUSAL CONTROL	2.62
CONCENTRATION	2.49
VISUALIZATION	2.28
MOTIVATION	2.64
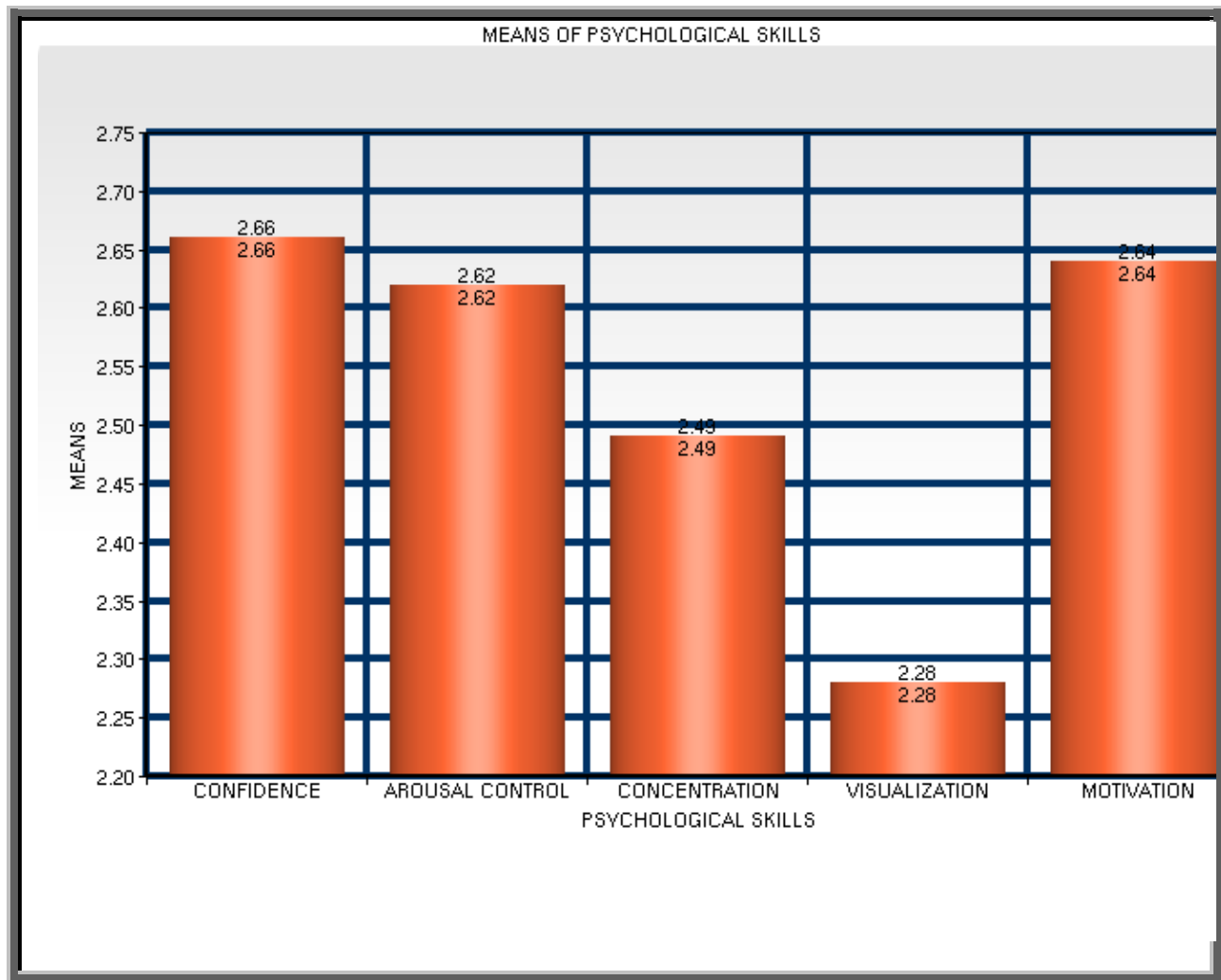
The distributions of the calculated z-scores are illustrated in Graph 6.2.

Graph 6.2: z-scores
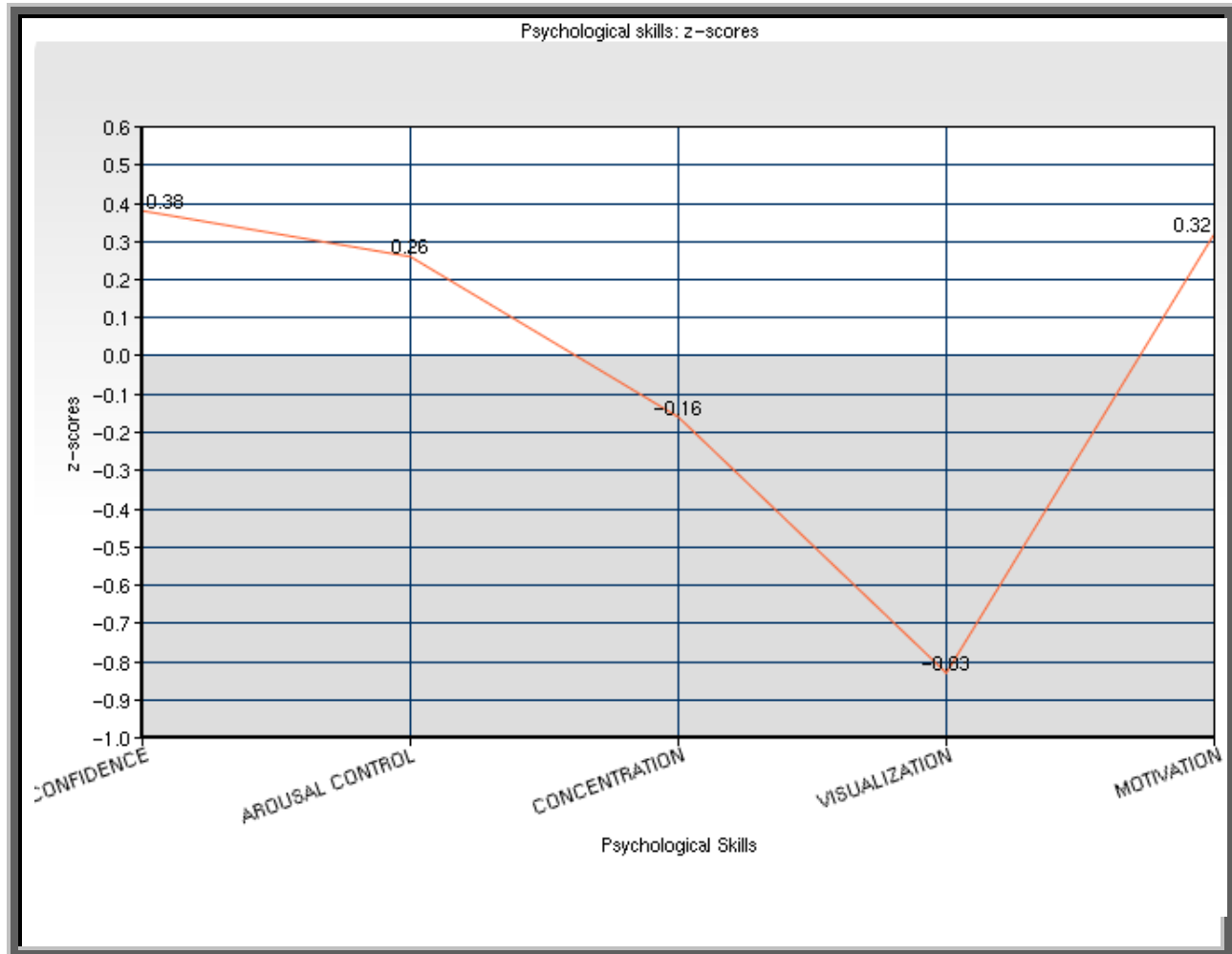
6.2.3. Summary of the results of the first phase of the empirical study.

The research findings of the first phase of the empirical study can be summarised by answering this research question:

- *Which psychological skills are used by the participants?*

The participants' usage of the five psychological skills, that were evaluated, can be described as under utilised. It seems like if the participants' primary focus was on Confidence and Motivation.

The data suggest that Confidence and Motivation were the two main psychological skills that they employed in their mental game of cricket. The use of Arousal Control as a psychological skill appears to be moderate. The two psychological skills least used by the cricketers were Concentration and Visualisation. This first phase of the empirical study made it possible to tailor the intervention program according to the psychological needs of the participants. This tailoring made it possible to present the intervention program as effective as possible.

6.3. The second phase of the empirical study

The second phase of the empirical study was only done after the completion of the six week intervention program. One of the main aims of this study was to evaluate the effectiveness of a psycho-educational intervention program to enhance the mental toughness of secondary school cricket players. The pre-test and post-test data will be reported and interpreted to determine how successful the intervention program was. The selected data analysis method employed to evaluate the effectiveness of the program was the t-test for dependant groups. During this second phase of the empirical study, the focus will be on testing the null hypothesis:

- *There is no significant difference between the pre-test and post-test means for the experimental and control groups respectively: $H_0: \mu_1 = \mu_2$.*

6.3.1. Data analysis method

The t-test for dependent groups was selected as the most appropriate data analysis method for this study. The t-test compares the performance of participants in two groups, in this study the two groups were the experimental group and the control group. In this study, however, the same participants were used in the pre-test and in the post-test. T-test analysis was performed on the experimental and on the control group. Jackson (2010:141) is of the opinion that the t-test can give an indication whether there is a difference in sample means and whether this difference is bigger than would be expected based on chance. In order to calculate the t-test for dependent groups, the pre-test and post-test scores for each participant had to be converted into one score.

6.3.2. Pre-test and post-test means.

Table 6.4: Pre-test and post-test means

Participant	Exp. Group Pre-test	Exp. Group Post-test	Contr. Group Pre-test	Contr. Group Post-test
1	45	77	53	55
2	67	80	50	55
3	50	78	56	52
4	51	75	53	61
5	48	76	45	47
6	49	73	53	57
7	48	75	47	48
8	50	67	51	51
9	51	84	51	52
10	44	79	50	49
TOTAL	503	764	509	527
MEANS	50.3	76.4	50.9	52.7

A difference score was calculated for each participant. The difference score was calculated by subtracting the pre-test score from the post-test score (Table 6.5 and Table 6.6). One set of scores was obtained after the difference scores were calculated. The difference scores represent the performance of the participants in both tests. The calculation of the difference scores makes it possible to compare the means of the difference scores with zero, based on the null hypothesis (Jackson, 2010:141).

The null hypothesis (H_0: $\mu_1 = \mu_2$) states that there is no difference between the two scores, that is, a participant's score on the pre-test is the same as in the post-test. The alternative hypothesis is that there is a difference between the paired scores.

Table 6.5: Difference scores: Experimental Group

Participant	Pre-test	Post-test	d (difference score)
1	45	77	32
2	67	80	13
3	50	78	28
4	51	75	24
5	48	76	28
6	49	73	24
7	48	75	27
8	50	67	17
9	51	84	33
10	44	79	35
			$\Sigma = 261$

The raw data from the pre-test and post-test scores was used to calculate the mean scores. Each raw score was converted to a percentage score. The post-test score is a combination of the scores achieved after the completion of the CMTQ. Thus, Table 6.1 indicates the performance of the participants, which is used as a measure of their cricket mental toughness.

Table 6.6: Difference scores: Control Group

Participant	Pre-test	Post-test	d (difference score)
1	53	55	2
2	50	55	5
3	56	52	-4
4	53	61	8
5	45	47	2
6	53	57	4
7	47	48	1
8	51	51	0
9	51	52	1
10	50	49	-1
			Σ = 18

6.3.3. Dependant samples t-test calculations

Lund and Lund (2011:12) suggests the following equation for calculating the dependant samples t-test:

$$t = \frac{\Sigma d}{\sqrt{\frac{n(\Sigma d^2) - (\Sigma d)^2}{n-1}}}$$

The variable scores and the products of the scores of the experimental and the control group had to be determined, before the t-values of the two groups could be calculated. Table 6.7 and Table 6.8 show the calculations that were performed to determine the variable scores and the product of those two scores.

The next step that I performed after the variable scores and the products of the scores were calculated was to substitute the values obtained from the table into the dependant t-test equation. The dependant t-test was first done on the data obtained from the experimental group, and thereafter the dependant t-test was done on the data of the control group.

Table 6.7: Variable scores and the product of the scores (Experimental Group)

Pre-test	Post-test	d	d^2
45	77	32	1,024
67	80	13	169
50	78	28	784
51	75	24	576
48	76	28	784
49	73	24	576
48	75	27	729
50	67	17	289
51	84	33	1,089
44	79	35	1,225
		261	**7,245**
		$\sum d$	$\sum d^2$

Table 6.8: Variable scores and the product of the scores (Control Group)

Pre-test	Post-test	d	d²
53	55	2	4
50	55	5	25
56	52	-4	16
53	61	8	64
45	47	2	4
53	57	4	16
47	48	1	1
51	51	0	0
51	52	1	1
50	49	-1	1
		18	**132**
		$\sum d$	$\sum d^2$

Calculations for the dependant t-test: Experimental group

$$t = \frac{\sum d}{\sqrt{\frac{n(\sum d^2) - (\sum d)^2}{n - 1}}}$$

$$t = \frac{261}{\sqrt{\frac{10(7,245) - (261)^2}{10 - 1}}}$$

$$t = \frac{261}{\sqrt{\frac{72,450 - 68,121}{9}}}$$

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$$\frac{261}{\sqrt{481}}$$

$$t = \frac{261}{21.932}$$

$$t = \mathbf{11.901}$$

Table 6.9: The t – distribution table (Lund & Lund, 2011:12)

Significant level (Two-tailed)

df	0.10	0.05	0.01	0.001
Critical t-values	1.833	2.262	3.25	4.781
Significant or not?	$P < 0.10$	$P < 0.05$	$P < 0.01$	$P < 0.001$

I consulted the t-distribution table of Laerd (Lund & Lund, 2011:12) to determine whether the t-value indicated a statistically significant difference. A summary of Laerd's table is given in Table 6.9. According to this table it is clear that the difference between the means is statistically significant at the $p < 0.001$ level and higher.

Calculations for the dependant t-test: Control group

$$t = \frac{18}{\sqrt{\frac{10(132) - (18)^2}{10 - 1}}}$$

$$t = \frac{18}{\sqrt{\frac{1{,}320 - 324}{9}}}$$

$$t = \dfrac{18}{\sqrt{110.667}}$$

$$t = \dfrac{18}{10.520}$$

$$t = \mathbf{1.711}$$

After consulting the t-distribution table (Table 6.9) it became clear that the difference between the means was not significantly different at the significance levels.

6.3.4. Graphical presentation: Pre-test and post-test

Graph 6.3: Experimental group: Pre-test and post-test
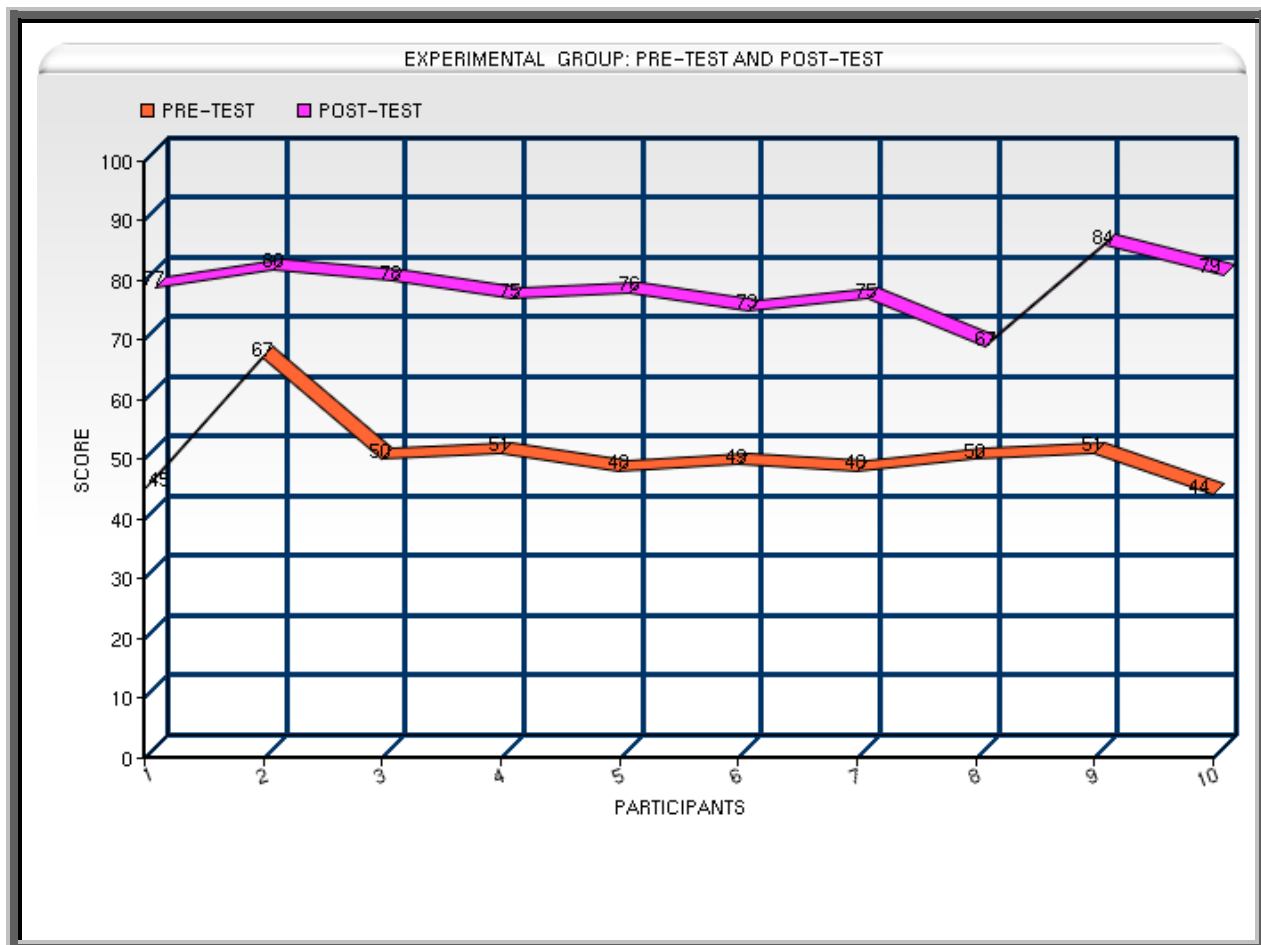
The data reflected in Graph 6.3 indicates a significant increase in the post-test scores of the experimental group. The t-test analysis indicates that there is a significant difference in the sample means of the pre-test and post-test of this group.

The t-value of 11.9 emphasises that this difference is bigger than would be expected based on chance.

Graph 6.4: Control group: Pre-test and post-test
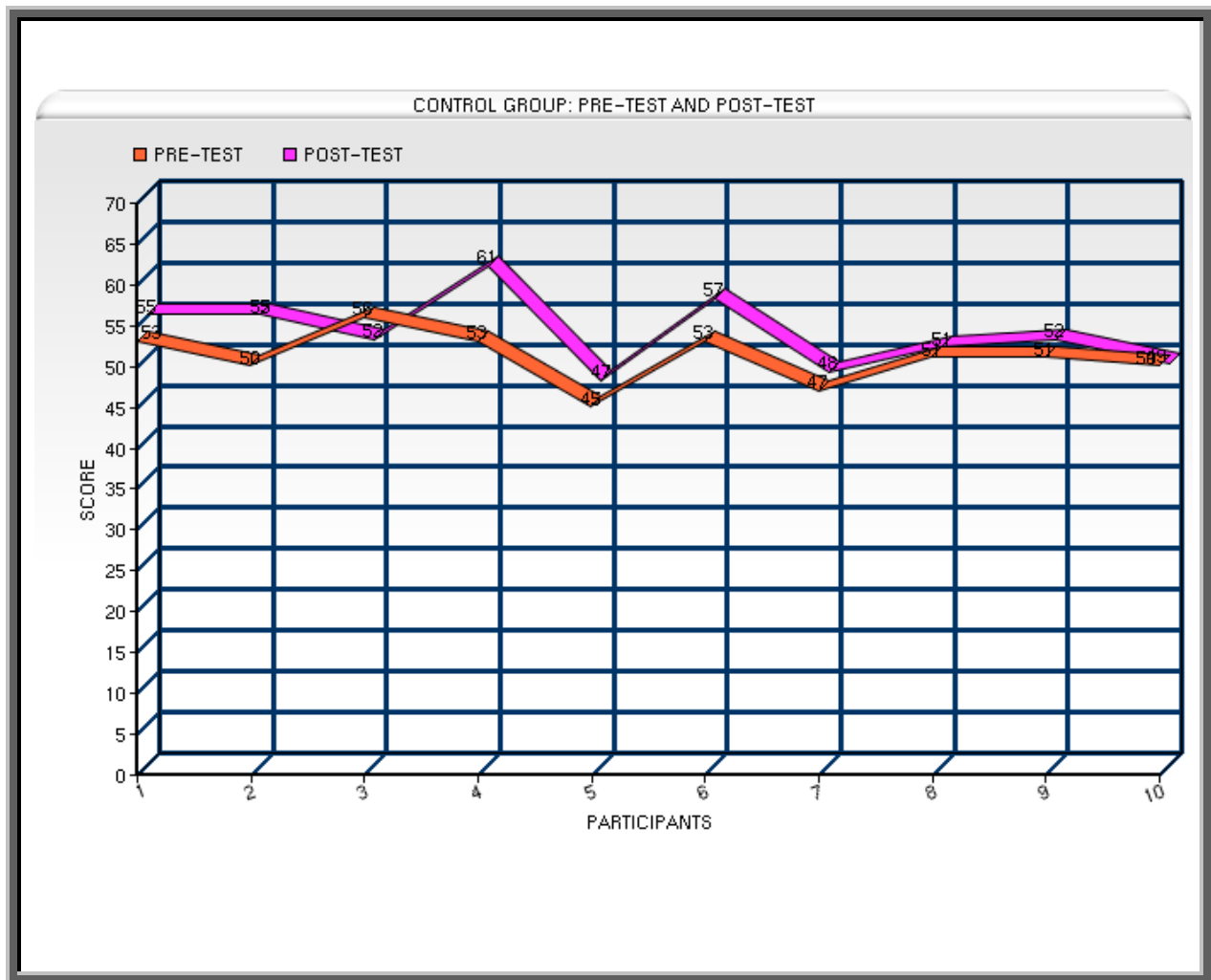
The data reflected in Graph 6.4 indicates that there is not a significant increase in the post-test scores of the control group. The t-test analysis indicates that there is not a significant difference in the sample means of the pre-test and post-test of this group.

The t-value of 1.7 emphasises that this difference is not bigger than would be expected based on chance.

6.3.5. Summary of the results of the second phase of the empirical study.

Table 6.10: Summary of analysed data

	EXPERIMENTAL GROUP	CONTROL GROUP
Sample size (n)	10	10
Pre-test means	50.3	50.9
Post-test means	76.4	52.7
Difference scores (d)	261	18
Degrees of freedom	9	9
t-values	11.9	1.7
Probability level (p)	$p < 0.001$	$P > 0.10$

The purpose of the t-value analysis was to determine the chances of being wrong in rejecting or accepting the null hypothesis. The probability level (p level) indicates how many times out of a hundred or thousand I would be wrong in rejecting the null hypothesis. Confidence in rejecting the null hypothesis will increase at a lower significance level. In other words, the lower the significance levels the higher the confidence to reject the null hypothesis (McMillan & Schumacher, 2006:365). The t-value analysis of the experimental group is 11.9 and the critical value at the 0.001 level is 4.8. The critical value (4.8) is less than the calculated value (11.9) at the 0.001 level. This difference in the critical value suggests that there is a 99.999% confidence of rejecting the null hypothesis ($H_0: \mu_1 = \mu_2$).

This significant result indicates that the null hypothesis for the experimental group can be rejected and that the alternative hypothesis (H1: $\mu_1 \neq \mu_2$) can be accepted.

The t-value analysis for the control group is 1.7. It was found that the difference between the means was not significantly different at the significance levels. The difference between the means between the pre-test and post-test might be contributed to chance.

This insignificant result indicates that the null hypothesis for the control group cannot be rejected and that the null hypothesis (H0: $\mu_1 = \mu_2$) can be accepted.

The above results indicate that the participants in the experimental group improved in their mental toughness performance significantly, whereas the participants in the control group showed no significant improvement in their mental toughness performance.

It can therefore be concluded that the psycho-educational program to enhance the mental toughness of secondary school cricketers was successful.

When the pre-test and post-test results are compared, it seems that the intervention program helped the participants (experimental group) to improve their confidence, arousal control, concentration, visualisation and motivational skills. The improvements in these skills had a positive effect on the overall mental toughness of the participants.

6.4.   Critical analysis of the program implemented.

Part of the benchmarking process (4.2.3.1) of the program was to do continuous self - assessment. After presenting the pilot program I felt it necessary to conduct a self- assessment of each session to identify any weaknesses of the program. The identification of program weaknesses made it possible to improve the quality of the master program.

Retrospection is part of the continuous benchmarking process. After the presentation of the master program I made use of self-assessment ones more.

My reasons for employing this self-assessment were:

- Self-assessment helped me to determine the overall success of the master program;
- Program development is a continuous process. Applying the critical program analysis after the presentation of the program stimulated a higher quality program, thus the quality of the program will increase after each presentation.

The results of the self-assessment were compared with the results of the empirical study and with the data obtained from the participants (informal discussions and the Participant evaluation form - Appendix I).

6.4.1. Critical analysis of the sessions

Session One – The First Meeting

The critical analysis of the pilot test (CMTQ) proofed that it was not best practice to expect the participants to complete the CMTQ without the assistance of the psycho-educator.

The procedure followed during the presentation of the CMTQ:

- The questions were answered one at a time, the psycho-educator first explained each question before he gave the participants the opportunity to answer the question.
- This procedure was more effective than the procedure followed during the pilot test. One minute was allocated for the explanation and answering of each question. The duration for completing the CMTQ was sixty minutes.

Some participants experienced difficulties with the following items:

- Item 4: They found it hard to conceptualise the term *"visualisation".*
- Item 11: The concept of *"practicing in ones mind"* was confusing for some participants.
- Item 39: The concept of *"Imagery"* was new to most of the participants.

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- Item 57: Some participants did not understand this question, even after I explained it.

Session Two – "The Match"

- The match proved to be the best method to gain data regarding the psychological skills and techniques used by the participants. It was evident that they did not employed psychological techniques effectively during their game of cricket.
- The match gave me the opportunity to make an informal psychological skill and technique assessment of each participant in the experimental group.
- The match took the format of a 20/20 limited over match. Emphasis was placed on enjoyment. The teams made use of this opportunity to build on team cohesion. The teams were very competitive, although I made it clear that winning was not important for the outcome of the match.
- The control group won the match by 22 runs. It would have been interesting to see how the experimental group would have performed in a post-program match.

Session Three – Performance Profiling

- It might be helpful to explain some psychological skills and techniques before asking the participants to give examples of these skills and techniques.
- Adapt the *"rating scale"* of the performance profile from six to ten.
- More time needs to be allocated to explain the *"SWAT"* analysis.

Session Four – Individual session

The CMTQ, match, performance profile and SWAT analysis gave a clear psychological skill assessment of each participant. This information gave a realistic psychological skills starting point of each participant. This individual session helped participants to understand themselves better as cricketers and as individuals. Future presentations of the intervention program will be even more effective if two more individual sessions can be included in the program.

One individual session during the middle stage of the program and one at the end of the program will aid the process of continual assessment and benchmarking.

Session Five: Mental Toughness

- The DVD clip of Hershel Gibbs might have been a better option to use for an *"ice breaker"*.
- Although it was necessary to give a good theoretical background of *"mental toughness"*, it might be wise to revise the quantity of the theory ones more. It seemed to be a bit overwhelming for some of the participants.

Session Six: Goal Setting

- The mind map method worked well, however it could have been even more effective if I allocated more time for presenting this activity.
- Allocating a separate session for mind mapping and brainstorming might prove to have an advantageous effect on the psychological skills development of the cricketers.
- More emphasis could have been placed on using goal setting as a life skill.

Session Seven: Self-talk, positive thinking and affirmations

- Not enough opportunity was created for individual participation.
- I should have asked the participants to reflect on their own experiences of how negative thoughts influenced their batting performances.
- Instead of giving all the examples of less effective affirmations myself, I should have asked the participants to voice some examples themselves.
- Combining self-talk, positive thinking, the use of cue cards and affirmations in one session might be a bit too ambitious. The content of the session needs to be split up into two sessions.

Session eight: Visualisation and Imagery

- The practical exercises worked well. Although it was necessary to convey theoretical knowledge I felt that the available time could have been spent more effectively on additional practical exercises – especially for the technique of Imagery.

- Visualisation and Imagery played a vital role in the mental toughness of the participants. It will be advantageous to allocate two sessions for these vital techniques.

- Consider using self-study material for some of the theoretical information.

Session nine: Routines and body language.

- Session nine might be a good time to do a formal assessment, so that problem areas can be identified.

- This session could have been the appropriate time to include an individual session.

- The elite cricketer presented his lesson well – however more opportunity for participant participation would have been good.

- The participants might have learned even more about the technique of body language if they had the opportunity to take part in a group discussion and then demonstrated positive and negative body language to the rest of the team.

Session 10 – Arousal control

- The participants participated positively in the arousal control techniques. It was unfortunate that I did not plan for more time for these activities. In order to teach these techniques effectively I needed at least two sessions.

- More emphasis needs to be placed on using breathing techniques as arousal control techniques.

- One additional session needs to be included to practice these techniques, the breathing technique needs to make up a session by itself.

Session eleven: Mindfulness

- It might have been a good idea to show highlights of the *"Imran Khan"* DVD clip. This could have stimulated the participants to think back about the concepts of mental toughness.

- The participants should have had the opportunity to report back on their own *"winning feelings".*

- The pre-recorded *"zone exercise"* worked well. It might be a good idea to use a 3-5 minute pre-recorded relaxation exercise at the beginning of each session.

Session twelve: Post-test and conclusion

- A post-program match could have served as the perfect ending to the program. It could have provided valuable data regarding the effectiveness of the program.

- Dividing the participants into two teams of five cricketers will also be an option.

6.4.1.1. Alterations made to the master program

After analysing the critical assessment, self-assessment, and participants' assessments I found it necessary to make the following alterations to the master program:

- The number of sessions will be increased from 12 to 16 sessions.

- The number of participants will be increased from 10 to 12, so that a full cricket team can be accommodated.

- The participants will be divided into two teams of six players for the match. The match will take on the form of a *"six a side"* cricket match format for the pre-program as well as for the post-program.

- The psycho-educator needs to pay special attention explaining Items 4, 11, 39 and 57 when administering the CMTQ.

- Start each session with a three minute pre-recorded relaxation exercise.

- Start session four with the *"Hershel Gibbs"* video clip.

- During session eleven the participants should get the opportunity to dramatise the successful and unsuccessful use of body language techniques.
- Use session 14 as a revision exercise to prepare the participants for their formal assessment during session 15. Start the session with the highlights of the *"Imram Khan"* DVD clip.
- Conclude the program with a post-program match.

Table 6.11: Amended proposed program

Session 1 (Needs assessment phase)	Pre-test (CMTQ) and pre-program match
Session 2 (Teaching phase)	Performance profiling
Session 3	Individual session
Session 4	Mental Toughness
Session 5	Brainstorming & mind mapping
Session 6	Goal setting
Session 7	Self-talk & Positive thinking
Session 8	Affirmations & Cue cards
Session 9	Visualisation & Imagery (part 1)
Session 10	Visualisation & Imagery (part 2)
Session 11	Routines & Body language
Session 12	Arousal Control – Breathing Techniques
Session 13	Arousal Control – PMR & Centring
Session 14	Mindfulness and revision
Session 15	Formal assessment test
Session 16	Post test & Post-program match

6.5.   Conclusion

This chapter dealt with the main aims of this study:

- Developing a psycho-educational program to enhance the mental toughness of secondary school cricket players.
- Determining the effectiveness of this psycho-educational program.

The first phase of the empirical study focused on aiding in the development of the psycho-educational program. The results of this investigation pointed out that more emphasis needed to be placed on the presentation of visualisation and concentration as psychological skills. The second phase of the empirical study focused on the evaluation of the intervention program.

This investigation proved the program as being a success. In the next chapter I will summarise the literature and empirical study. The limitations of the study will be discussed and recommendations for further study will be explored.

CHAPTER SEVEN

CONCLUSIONS, LIMITATIONS, CONTRIBUTIONS AND RECOMMENDATIONS

Figure 7.1: Overview of Chapter Seven.
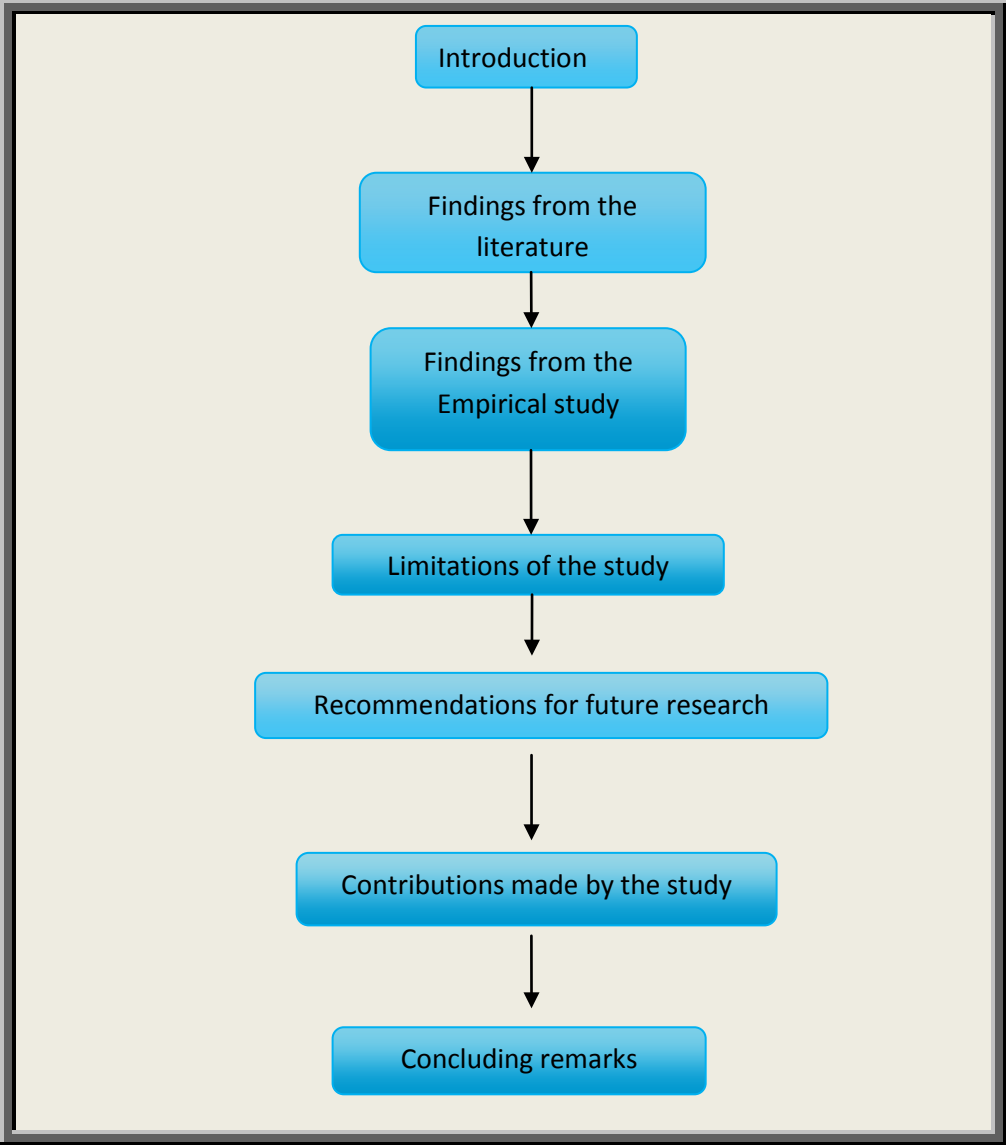
7.1.   Introduction

The purpose of this study was to investigate the influence of a psycho-educational intervention program on the mental toughness of secondary school cricketers. Before conducting this investigation I explored the fields of psycho-education, mental toughness and cricket. The psycho-educational program was designed in line with the findings of this exploration. I intended to investigate whether this intervention program significantly improved the mental toughness of the participants who took part in the study. The general aim of the study was to use psychological skills and psychological techniques to enhance the mental toughness of secondary school cricketers, within a psycho-educational framework.

This general aim of the study was actualised by employing the following specific aims:

- A literature review was conducted to explore the psycho-educational model. It was found that the psycho-educational model was an appropriate model to use as the framework of the intervention program.
- The literature review investigated and evaluated different psychological skills and psychological techniques that influenced the mental toughness of cricketers positively.
- A questionnaire was designed. This questionnaire (CMTQ) fulfilled the role of a psychological skills measuring tool.
- A psycho-educational intervention program was designed around the findings of the literature review.
- Guidelines were compiled to follow when coaching mental toughness to secondary school cricketers.
- The intervention program was presented over a six week period.
- An empirical study was conducted to evaluate the successfulness of the intervention program.

In order to draw the study into a coherent conclusion, this chapter will focus on discussing and explaining the following aspects:

- Findings from the literature review.
- Findings from the empirical study.

- Limitations of this study will be discussed.
- Contributions made by the study will be discussed.
- Recommendations for future research will be proposed.
- Concluding remarks will be made.

7.2. Findings from the literature

The literature review revealed that the psycho-educational model would serve as the ideal model to help secondary school cricketers to master psychological skills. Psychological techniques were identified during the literature review that could improve the psychological skills of cricketers. It became clear that an improvement in the effective use of psychological skills would have a positive improvement on the overall mental toughness of secondary school cricketers.

The origins of the psycho-educational orientation can be found in the early 1800's. The main emphasis of this orientation was on learning through doing, self discovering and the dignity of an individual. The long-term development of the child, human rights and social justice were the main focus of the psycho-educational orientation during these formative years of this orientation (2.1.3). Modern psycho-educational programs are structured around ideas and beliefs that psychological education can enable people to better attend to their own mental needs. It works by increasing knowledge and improving skills. When administered in a group format, it also provides social support. Interaction sessions offer individual and group counselling in which simulation exercises are often used as a stimulus for thinking about and reflecting on real life (2.2).

The literature suggested different psychological skills and concepts to include when integrating psychological and physical skills. The process of how to integrate those skills is unfortunately not clear. Coaching education in mental toughness coaching will need to be addressed before the cricketers will reap the fruits of mental toughness coaching. The implication of the above is that secondary school cricket coaches will need to further their understanding of the concepts of mental toughness. Various psychological skills and psychological techniques were identified as the main causes that influence the mental toughness of the secondary school cricketer.

Secondary school cricket coaches will find it helpful to explore these psychological skills and techniques in their journey of designing mental toughness programs for their cricketers.

Various definitions of the term *"Mental Toughness"* were explored (3.2). Mental toughness defined in a secondary school cricket context can be summarised as the capacity of the cricketer to maintain self-belief, clear thinking, resilience and determination when the cricketer is under pressure to deliver optimal performance in his cricket activities. Mental toughness can be seen as a psychological product of the secondary school cricketer's ability to apply psychological skills effective in his game of cricket and in his game of life. The strength of his mental toughness will be determined by the quality of the implementation process of psychological techniques. The successful utilisation of psychological techniques improves his psychological skills. Mastering of psychological skills strengthens his mental toughness (3.2.1).

While reviewing the literature it became clear that there is not clarity in the theoretical distinction between psychological skills and psychological techniques. When using these terms to explain an activity it is paramount to keep in mind that psychological techniques enhance psychological skills (3.1). This review made it clear that there is a clear distinction between psychological skills and psychological techniques. Some researchers use these concepts as synonyms. Psychological techniques refer to the tool that the coach / cricketer use to achieve the result (Psychological skill).

Self-belief, Self-confidence, Concentration, Commitment and Motivation were identified as the main psychological skills that enhance mental toughness (3.3). Psychological techniques are categorised in confidence building techniques, visualisation techniques, arousal control techniques and motivational techniques. It must be stressed that these techniques work together as a unit to enhance all the psychological skills. The psycho-educator needs to keep in mind that each cricketer's psychological skill needs will differ. The psycho-educator must also make sure not to neglect any of the psychological techniques (3.4). Psychological techniques will only enhance mental toughness if it promotes the cricketer's overall enjoyment of cricket.

The findings of this literature review suggest that the secondary school cricketer's cricket performance will not only benefit from psychological skills training, but also his overall mental toughness in daily life situations will strengthen. The cricketer's development of mental toughness in his game of cricket might have a positive influence on his mental toughness in his game of life. Mental toughness development will help the cricketer to have a better understanding of himself as a cricketer and as an individual.

7.3. Findings from the empirical study

7.3.1. The first phase of the empirical study

The first phase of the study was done before the presentation of the psycho-educational intervention program (6.2). All the participants took part in this phase (twenty participants). The participants' usage of the five psychological skills, that were evaluated, can be described as under utilised. It seems like if the participants primary focus was on Confidence, z-score = 0.38, and Motivation, z-score = 0.32. The data suggest that Confidence and Motivation were the two main psychological skills that they employed in their mental game of cricket. The use of Arousal Control, z-score = 0.26, as a psychological skill appears to be very moderate. The two psychological skills least used by the cricketers were Concentration, z-score = - 0.16, and Visualisation, z-score = - 0.83.

7.3.2. The second phase of the empirical study

The second phase of the empirical study was only done after the completion of the six weeks intervention program (6.3). The selected data analysis method employed to evaluate the effectiveness of the program was the t-test for dependant groups. The t-value analysis of the experimental group is 11.9 and the critical value at the 0.001 level is 4.8. The critical value (4.8) is less than the calculated value (11.9) at the 0.001 level. This difference in the critical value suggests that there is a 99.999% confidence of rejecting the null hypothesis (H_0: $\mu_1 = \mu_2$). This significant result indicates that the null hypothesis for the experimental group can be rejected and that the alternative hypothesis (H1: $\mu_1 \neq \mu_2$) can be accepted. The t-value analysis for the control group is 1.7.

It was found that the difference between the means was not significantly different at the significance levels. The difference between the means between the pre-test and post-test might be contributed to chance. This insignificant result indicates that the null hypothesis for the control group cannot be rejected and that the null hypothesis (H_0: $\mu_1 = \mu_2$) can be accepted. The above results indicate that the participants in the experimental group improved in their mental toughness performance significantly, whereas the participants in the control group showed no significant improvement in their mental toughness performance. It can therefore be concluded that the psycho-educational program to enhance the mental toughness of secondary school cricketers was successful.

The results from the first phase of the empirical study suggested that the participants were in need for an intervention program to enhance their effective utilisation of psychological skills. These results also made it clear that certain psychological skills would require a greater emphasis from the psycho-educator, when he prepare and present the program. The statistical significantly higher post-test scores of the experimental group as compared to the statistical insignificant increase in the post-test scores of the control group, illustrates the value of the intervention program. The results of the empirical study suggest that the effective learning of psychological techniques might improve the mental toughness of secondary school cricket players. The literature review showed that the mental toughness of cricketers plays a paramount role in the cricket performance of cricketers. When the findings of the literature review and the results of the empirical study are combined, it appears as if this intervention program will have a positive influence on the cricket performance of secondary school cricketers. Thus, it adds to the body of evidence that exist in support of the paramount role that psychological skills play in cricket performance.

7.4.   Limitations of the study

Several factors that could have been possible sources of error within the study were observed. The following factors could place limitations on the reliability and generalization of the findings of the study:

- The data collection phase of the empirical study was conducted over a period of six weeks. This relative short data collection phase could place pressure on the reliability of the findings. The reliability of the research findings could be enhanced by a longer period of carrying out the actual treatment phase of the study.

- The limited number of the population and the small sample size could have influenced the degree to which the findings of the study can be generalised to other populations.

- This study was conducted in one cricket academy with twenty participants. Twenty participants took part in the pre-test and post-test, but only ten (experimental group) took part in the intervention program. This means that I can only comment on how the intervention program benefited the ten participants who took part in the intervention program. I can not easily generalise my findings to other cricketers.

- The results of this study cannot be taken as the final conclusion for cricketers of all ages. The study only included cricketers in the age group fourteen to eighteen years; it did not include cricketers younger than fourteen years or cricketers older than eighteen years of age.

- It would have been beneficial to utilise more data collection methods that could have provided a clearer understanding of the influence of specific psychological skills on the mental toughness of the participants. A qualitative research design with emphasis on interviews could have filled this gap.

- All the participants in the study came from well-resourced communities. The results could have been more easily generalised to a broader population if participants from less well-resourced communities were included in the study.

7.5. Contributions made by the study

This section highlights the implications and recommendations based on the research questions and major findings from this study. The findings from this study have a variety of implications for effective cricket coaching.

The research findings and the intervention program provide a sound base for disseminating an understanding of mental toughness within secondary school cricket.

From the findings, this study accomplished its goal of answering the research questions:

- Which psychological skills are used by the participants, before they took part in the intervention program?

The implications of the findings in the investigation of this research question pointed out that concentration and visualisation are the two least utilised psychological skills of the participants. These findings might suggest that secondary school cricket coaches need to focus their psychological skill coaching on these two psychological skills.

The second phase of the empirical study focused on answering the main research question of the study:

- What is the influence of a psycho-educational intervention program, using psychological skills and psychological techniques, on the mental toughness of secondary school cricket players?

The psycho-educational intervention program and guidelines for the secondary cricketer, documented in this thesis, may be used by secondary school cricket coaches as a departure point in designing their own tailored programs for their cricketers.

The findings of this study can be applied in the fields of Sport Psychology, Educational Psychology and youth development. In this study I applied Sport Psychology to enhance positive youth development. This was a Psycho-Educational approach to Educational Psychology.

This study filled a gap in the international and specifically national research done in the field of youth Sport Psychology. It provided secondary school cricket coaches and secondary school cricketers with hands-on practical guidelines and psychological interventions that will enrich their understanding and practical implementation of the theoretical concepts of mental toughness. These guidelines and intervention program can also be tailored to meet the mental toughness needs of cricketers from other age groups.

Minor adjustments to the guidelines and intervention program will make it suitable for all sport participants, who have the need to strengthen their mental toughness.

The Cricket Mental Toughness Questionnaire was developed to serve as a measuring tool to assess the mental toughness of secondary school cricket players. The CMTQ may be used as a starting point to evaluate the mental toughness of cricketers. This questionnaire may be adapted to assess the mental toughness of cricketers of all ages and different sport participants.

The intervention program can be tailored so that it can be used individually instead of in a group or in a team format. The learning material of the intervention program is not only restricted to the use of cricketers, it can be tailored to fit the psychological needs of all athletes who want to enhance their mental toughness.

The findings in this study will specifically help secondary school cricket coaches and secondary school cricketers broaden their understanding of the mental game of cricket. Cricketers from all age groups, cricket coaches, sport psychologist and parents of cricketers will find these findings and results interesting and helpful in their understanding of the concepts of mental toughness.

7.6.   Recommendations for future research

This research study identified several pertinent issues related to the role that mental toughness plays in the cricket performance of secondary school cricketers.

There are numerous avenues for future research including the extension of aspects of this study.

The following future research avenues can be suggested:

- The research study itself may be duplicated with elite cricketers, in order to evaluate the usefulness of the psycho-educational intervention program for elite cricketers.
- The research study itself may be duplicated with large groups of participants in order to see whether similar results are obtained.

- This study can also be adapted to other sports. A similar mental toughness study can be performed with rugby, soccer or netball participants.

- A study that includes female cricketers and not only male participants would be beneficial for the overall development of cricket.

- A qualitative research design study that makes use of interviews to explore the influence of mental toughness on cricket performance.

- A mixed research design where the researcher makes use of interviews, observations and questionnaires to explore the role of psychological skills in the mental toughness development of cricketers.

- A parallel study of this study, but where the participants do not come from the same cricket academy.

- A parallel study of this study, but with cricketers who do not come from well-resourced communities.

- A study to determine if an enhancement of the mental toughness of the cricketer could lead to an overall positive development of the cricketer's self-concept.

- A study to explore the reasons why certain cricketers tend to be more prone to mental toughness enhancement than other cricketers.

- A study to evaluate the connection between the mental toughness of elite cricketers and their cricket achievements.

7.7. Concluding remarks

It is hoped that the findings of this study can be used to stimulate further research in the field of mental toughness and cricket. These findings can be used to enhance the coaching of secondary school cricketers, because these cricketers are our future international cricketers. I believe that the findings of this study will make a positive contribution to the coaching of secondary school cricketers. However, I am convinced that cricketers and cricket coaches of all ages can benefit from these findings.

When a cricketer comes to recognise that learning mental toughness may be more valuable to him than bowling a good Yorker, he shifts from being primarily a player of the outer game of cricket of being a player of the inner game of life.

Then, instead of learning mental toughness to improve his cricket, he practices cricket to improve his mental toughness.

I conclude with the poem: *"A state of mind".* This poem encapsulates the essence of mental toughness.

A state of Mind

(The man who thinks he can)

By A.D Wintle

If you think you are beaten, you are.

If you think you dare not, you don't

If you like to win, but you think you can't

It is almost certain you won't.

If you think you'll loose, you lost

For out of the world we find

Success begins with a fellow's will-

It's all in the **state of mind.**

If you think you are outclassed, you are

You've got to think high to rise.

You've got to **be sure of yourself** before

You can ever win a prize.

Life's battles don't always go

To the stronger or faster man.

But soon or later the man who wins

Is the man **WHO THINKS HE CAN**

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Psycho-educational intervention program to enhance mental toughness

Appendix A (1)

Participant Information Sheet A

PROJECT TITLE

Psycho-educational intervention program to enhance mental toughness

My name is Mr. Griffith and I am studying educational psychology. I am conducting this research project to complete a DED degree. I seek your assistance in this research project concerning mental toughness. Mental toughness is how we think about everyday situations. It's about our attitude towards challenges and the way we react and think in different situations. An elite cricketer needs to spend many hours mastering his cricket techniques. Most of the professional cricketers use also mental techniques to master their mental toughness and their cricket game.

I developed a program specifically for young cricketers to help them to be mentally tough during cricket matches. Part of my research project is to test the effectiveness of this program. The main purpose of my research is to evaluate the effectiveness of this program. The participation in this project will involve completing questionnaires and attending a mental toughness program. The venue will be at the sport grounds of Roodepark School. The dates and time will be confirmed at a later stage.

You have been selected to be part of this research project, but before we can continue I need to explain how the project will work:

 The research project will have four parts:

1. Part one: Selecting 20 cricketers to be part of the study.
2. Part two: Completing a questionnaire.
3. Part three: Ten randomly selected boys out of this group of twenty will attend a seven week mental toughness program.

4. Part four: All twenty cricketers complete a questionnaire one more time after the seven week period.

Today I am going to invite you to be part of the second and fourth part of my research project: Selecting twenty cricketers to be part of this research project and completing questionnaires.

There may be some words you don't understand or things that you want me to explain more in this form. I will read through this form with you. Please ask me to stop at any time while we read this form, and I will explain.

Completing the questionnaire

I will ask you to answer a questionnaire. This is just questions about how you feel during a cricket match, these questions are written down on paper and you will only circle an answer. I will be there to assist you if you need any help in reading or answering these questions. Remember when you complete the questionnaire; you don't have to worry about getting the answers right or wrong. The questions are only about how you feel. There is no right or wrong answer.

Who will I tell about the results and what will I do with your questionnaire?

Once you have returned your completed questionnaire to me, I will score it and then lock it away safely. All information provided by participants will be kept strictly confidential and no names, addresses or any other identifying information will be included in any report. I won't let other people see your answers. The only person who will know your answers will be my professor. My professor is someone who works at the university where I study. She is helping me to do this research project. However she will never meet you or know your name, so you don't have to worry about somebody else knowing personal things about you.

At the completion of the questionnaire you will be asked whether you would like to discuss any of the matters raised in the questionnaire. I will be happy to discuss any concerns or issues at this time. You will also be invited to offer feedback to me, either verbally or in writing, at the end of the questionnaire session and you are welcome to offer feedback at any time later. If you wish to receive a copy of the summary of research findings from this phase of the project, I will ask you for your contact information so that I can send this information to you.

This study has been cleared by the ethics committees of the college of educational studies of The University of South Africa. You are free to discuss your participation in this study with my supervisor, Professor H.E Roets on (012) 429-4588.

Thank you for considering being part of this phase of the study.

W.C GRIFFITH

Psycho-Educational Intervention Program to Enhance Mental Toughness

Appendix A(2)

Participant Information Sheet B

PROJECT TITLE

Psycho-educational intervention program to enhance mental toughness

My name is Mr. Griffith and I am studying educational psychology. I am conducting this research project to complete a DED degree. I seek your assistance in this research project concerning mental toughness. Mental toughness is how we think about everyday situations. It's about our attitude towards challenges and the way we react and think in different situations. An elite cricketer needs to spend many hours mastering his cricket techniques. Most of the professional cricketers use also mental techniques to master their mental toughness and their cricket game.

I developed a program specifically for young cricketers to help them to be mentally tough during cricket matches. Part of my research project is to test the effectiveness of this program. The main purpose of my research is to evaluate the effectiveness of this program. The project will involve completing questionnaires and participating in a mental toughness program. The venue will be at the sport grounds of Roodepark School. The dates and time will be confirmed at a later stage.

You have been selected to be part of this research project, but before we can continue I need to explain how the project will work:

The research project will have four parts:

1. Part one: Selecting 20 cricketers to be part of the study.
2. Part two: Completing a questionnaire.
3. Part three: Ten randomly selected boys out of this group of twenty will attend a seven week mental toughness course.

4. Part four: All twenty cricketers complete a questionnaire one more time after the seven week period.

Today I am going to invite you to be part of the third part of my research project: Attending a seven week mental toughness course.

There may be some words you don't understand or things that you want me to explain more in this form. I will read through this form with you. Please ask me to stop at any time while we read this form, and I will explain.

I will ask you to attend a seven week mental toughness course. I will confirm the venue and date with you in due time. The course will be presented by me. The sessions will only be 90 minutes long and it will not interfere with your normal cricket practice times. Monday and Friday afternoons from 15:00 – 16:30 seems to be the best time, but we will confirm the dates, time and venue at a later stage. I will ask you for your consent to be part of this phase of the research project, but you will be free to stop your participation at any time. Even if you signed any forms, it will still be okay if you should decide to stop your participation for any reason.

All information provided by participants will be kept strictly confidential and no names, addresses or any other identifying information will be included in any report. All information gathered and reports will be securely locked away in a cabinet. The only other person who will have access to this information will be my professor. My professor is someone who works at the university where I study. She is helping me to do this research project. However she will never meet you or know your name, so you don't have to worry about somebody else knowing personal things about you.

At the completion of the seven week program you will be asked whether you would like to discuss any of the matters raised in the program. I will be happy to discuss any concerns or issues at this time. You will also be invited to offer feedback to me, either verbally or in writing, at the end of the program and you are welcome to offer feedback at any time later. If you wish to receive a copy of the summary of research findings from this phase of the project, I will ask you for your contact information so that I can send this information to you.

This study has been cleared by the ethics committees of the college of educational studies of The University of South Africa. You are free to discuss your participation in this study with my supervisor, Professor HE Roets on (012) 429-4588.

Thank you for considering being part of this phase of the study.

W.C GRIFFITH

PSYCHO-EDUCATIONAL INTERVENTION PROGRAM TO ENHANCE MENTAL TOUGHNESS

APPENDIX B (1)

Informed Consent Form for _____

This informed consent form is for parents of cricket boys (14 – 17 years old) from Red Cap Cricket who are being invited to participate in the second and the fourth phase (completing a questionnaire) of the research study titled "Psycho-educational intervention program to enhance mental toughness".

Name of researcher: William Griffith

Name of University: University of South Africa (UNISA)

This Informed Consent form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you agree that your child may be assessed for mental toughness)

You will be given a copy of the full Informed Consent form after all signatures have been given.

PART I: INFORMATION SHEET

Introduction

I am William Griffith, a DED. Educational Psychology degree student at the University of South Africa (UNISA). I am doing research to evaluate the use of a psycho-educational program to enhance the mental toughness of young cricketers.

The research project will have four parts:

Part one: Randomly selecting 20 cricketers to be part of the study.
Part two: Completing a questionnaire.
Part three: Ten randomly selected boys out of this group of twenty will attend a seven week mental toughness program.

Part four: All twenty cricketers complete a questionnaire one more time after the seven week period.

Consent Forms

Whenever researchers study children, we explain the study to the parents and ask for their permission.

After you have read more about the study, and if you agree to have your child participate in the assessment phase, I will ask your child for his agreement as well. Both of you have to agree independently before your child can take part in the research study.

Please note: This specific consent asks parental consent for **only the second and fourth part of the study, namely the questionnaire phase**. A second consent form, asking for consent to attend the program, will be given only to the parents of learners who are randomly selected for the third phase.

If you have any further questions after reading the information provided in this consent form, you are welcome to contact me. My contact details will be provided at the end of this consent form.

Purpose

The purpose of this part of the research project is to complete questionnaires.

Procedure

1. Your child, as well as all of the other identified cricketers, is invited to complete a questionnaire. The date and venue will be confirmed. It is important to note that this questionnaire will only assess certain emotions that your child experience during cricket participation, there are no wrong answers.
2. The questionnaire session will be 90 minutes. I will score the questionnaires after the session. The results will be available the following day. You are welcome to contact me to discuss the results or any other questions you may have.
3. All the completed questionnaires and results will be locked away in a cabinet; no other persons will have access to these documents except for my professor. Professor H.E Roets is my supervisor for this research project, she will gladly answer any questions you may have relevant to the research. She may be contacted on (012) 429-4588.

Voluntary Participation

You do not have to agree that your child be assessed. You can choose to say no and that will be no problem. No one will discriminate against you or your child for deciding to decline this invitation. You or your child may decide to decline this invitation even after you have signed the consent form.

Risks and Discomforts

It is not anticipated that your child will experience any risks or discomforts completing the questionnaire. You must know that he does not have to answer any question if he doesn't wish to do so. He does not have to give me any reason for not responding to any question.

Benefits

There may be no immediate and direct benefit to your child or to you, but your child's participation in the assessment may lead me to discover important psychological skills that he needs to develop to be a good cricketer.

Confidentiality

I will not be sharing information about your child, obtained through the questionnaire, with anybody except for my Professor who guides me in my study. The information that I will collect will thus be kept confidential.

The questionnaires will be locked away and no-one but myself and my Professor will be able to see it. I will share the results of the assessment with your child. Your child will be informed about whom the results will be shared with.

Informed assent

If you give your consent for your child to be assessed, I will additionally need the agreement of your child. He will thus be given the opportunity to either give or refuse his informed assent as well.

An assent form, which will be very similar to this consent form, will be provided to your child during a brief individual meeting. Care will be taken to assure that your child understands all parts of the assessment procedure before his assent is asked.

If your child gives his assent to participate in the assessment, he may still discontinue the completion of the questionnaire at any time that he wishes and no explanation will be required.

If both your consent and your child assent are obtained, an assessment time for your child will be scheduled to take place within the following two weeks.

Who to Contact

If you have any questions you are welcome to contact me.

Contact details

Cell phone number: 072 123 1244

E-mail address: willis.griffi@gmail.com

PART II: CERTIFICATE OF CONSENT

I, parent/legal guardian of _____, have been asked to give consent for my son to participate in the second and fourth part (the assessment phase) of this research project, which will involve him completing a questionnaire.

I have read the foregoing information. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction.

I hereby voluntarily give my consent.

Print Name of Parent or Guardian _____

Signature of Parent of Guardian_____

Date _____

      Day/month/year

OR

I do not give my consent.

Print Name of Parent or Guardian _____

Signature of Parent of Guardian_____

Date _____

      Day/month/year

To be completed by the researcher

Statement by the researcher taking consent

I confirm that the parent/guardian was given an opportunity to contact me in order to ask questions about this project and all the questions asked by them have been answered correctly and to the best of my ability. I confirm that the parent/guardian has not been coerced into giving consent, and the consent has been given freely and voluntarily. A copy of this Informed Consent Form has been provided to the parent or guardian of the participant.

Print Name of Researcher taking the consent: _____

An Informed Assent Form will _____ OR will not _____ be completed.

This form has been reviewed and approved by Professor H.E. Roets, who guides me in my study and who helps to make sure that ethical procedures are followed during this research project.

THANK YOU

WILLIAM GRIFFITH

Psycho-educational Intervention Program to Enhance Mental Toughness

Appendix B (2)

Informed Consent Form for _____

This informed consent form is for parents of cricket boys (14 – 17 years old) from Red Cap Cricket who are being invited to participate in the third part (attending a mental toughness program) of the research study titled "Psycho-educational intervention program to enhance mental toughness".

Name of Investigator: William Griffith

Name of University: University of South Africa (UNISA)

This Informed Consent form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you agree that your child may be assessed for mental toughness)

You will be given a copy of the full Informed Consent form after all signatures have been given.

PART I: INFORMATION SHEET

Introduction

I am William Griffith, a DED. Educational Psychology degree student at the University of South Africa (UNISA). I am doing research to evaluate the use of a psycho-educational program to enhance the mental toughness of young cricketers.

The research project will have four parts:

Part one: Randomly selecting 20 cricketers to be part of the study.
Part two: Completing a questionnaire.

Part three: Ten randomly selected boys out of this group of twenty will attend a seven week mental toughness program.

Part four: All twenty cricketers complete a questionnaire one more time after the seven week period.

Consent Forms

Whenever researchers study children, we explain the study to the parents and ask for their permission.

After you have read more about the study, and if you agree to have your child participate in the psycho-education phase, I will ask your child for his agreement as well. Both of you have to agree independently before your child can take part in the research study.

Please note: This specific consent asks parental consent for **the third part of the study, namely attending a seven week mental toughness program.** Your son has been randomly selected to be invited to attend this program.

If you have any further questions after reading the information provided in this consent form, you are welcome to contact me. My contact details will be provided at the end of this consent form.

Purpose

The purpose of this third part of the research project is to present a psycho-educational program, that will focus on psychological techniques that might enhance the mental toughness of young cricketers.

Procedure

Your child, as well as nine of the other random selected cricketers, is invited to attend a seven week program. The date and venue will be confirmed.

Most of the sessions will be 90 minutes. Your child will receive a detailed schedule of the program two weeks before the commencement of the program.

Each session will focus on one specific mental technique. The participants will also receive homework after each session. The researcher will expect them to do the homework, but he will not discriminate against any participants for not doing their homework.

Each participant will receive a workbook. These workbooks will consist of class work activities, homework activities and a summary of each session.

Voluntary Participation

You do not have to agree that your child attend this program. You can choose to say no and that will be no problem. No one will discriminate against you or your child for deciding to decline this invitation. You or your child may decide to decline this invitation even after you have signed the consent form. Participants may stop attending the program at any stage.

Risks and Discomforts

It is not anticipated that your child will experience any risks or discomforts when attending this program. You must know that he does not have to answer any question if he doesn't wish to do so. He does not have to give me any reason for not responding to any question.

Benefits

The main focus of this program is to teach participants to use psychological skills effectively, to enhance their mental toughness. Participation in this program might help participants to be more mentally tough on and off the cricket field.

Confidentiality

I will not be sharing information about your child, obtained through the program, with anybody except for my Professor who guides me in my study. The information that I will collect will thus be kept confidential. All confidential documentation regarding your child and the research will be locked away and no-one but myself and my Professor will be able to see it.

Informed assent

If you give your consent for your child to be assessed, I will additionally need the agreement of your child. He will thus be given the opportunity to either give or refuse his informed assent as well.

An assent form, which will be very similar to this consent form, will be provided to your child during a brief individual meeting. Care will be taken to assure that your child understands all procedures regarding the psycho-educational program before his assent is asked.

If your child gives his assent to participate in the program, he may still discontinue his attendance to the program at any time.

Who to Contact

If you have any questions you are welcome to contact me.

Contact details

Cell phone number: 072 123 1244

E-mail address: willis.griffi@gmail.com

PART II: CERTIFICATE OF CONSENT

I, parent/legal guardian of _____, have been asked to give consent for my son to participate in the third part (the psycho-educational program) of this research project which will involve him attending a seven week program.

I have read the foregoing information. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction.

I hereby voluntarily give my consent.

Print Name of Parent or Guardian _____

Signature of Parent of Guardian_____

Date _____

     Day/month/year

OR

I do not give my consent.

Print Name of Parent or Guardian _____

Signature of Parent of Guardian_____

Date _____

     Day/month/year

<u>To be completed by the researcher</u>

Statement by the researcher taking consent

I confirm that the parent was given an opportunity to contact me in order to ask questions about this project and all the questions asked by them have been answered correctly and to the best of my ability. I confirm that the parent/guardian has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Informed Consent Form has been provided to the parent or guardian of the participant.

Print Name of Researcher taking the consent: _____

An Informed Assent Form will _____ OR will not _____ be completed.

This form has been reviewed and approved by Professor H.E. Roets, who guides me in my study and who helps to make sure that ethical procedures are followed during this research project.

THANK YOU

WILLIAM GRIFFITH

APPENDIX B (3)

INFORMED CONSENT FORM FOR PERSONS 18 YEARS OF AGE OR OLDER

(To be completed after Participant Information Sheet has been read)
Psycho-educational intervention program to enhance mental toughness

The purpose and details of this study have been explained to me. I understand that this study is designed to further scientific knowledge and that all procedures have been approved by the ethical committee of the college of educational studies of the University of South Africa.

- I have read and understood the information sheet and this consent form.
- I have had an opportunity to ask questions about my participation.
- I understand that I am under no obligation to take part in the study.
- I understand that I have the right to withdraw from this study at any stage for any reason, and that I will not be required to explain my reasons for withdrawing.
- I understand that all the information I provide will be treated in strict confidence and will be kept anonymous and confidential in a save place by the researcher.

I agree to participate in this study.

Your name

_____

Your signature

_____

Signature of investigator

_____

Date

_____

William Griffith

Med (Guidance & Counselling);Bed (Hons);BA(Ed & Psych);H.E.D(School Guidance)

EDUCATIONAL PSYCHOLOGIST

Pr No: 0860030445797

Consulting Rooms

Tel: *0731231244*

22 Cristiaan de wet road

Discovery

E-Mail: willis.griffi@gmail.com

APPENDIX B (4)

INFORMED ASSENT FORM FOR CHILDREN/MINORS (PHASE 1)

Informed Assent Form for _____

This informed assent form is for cricket boys in the age group 14 – 18 years who attend the Red Cap Cricket Academy and who I am inviting to participate in the first phase (assessment phase) of the research study titled "A Psycho-educational intervention program to enhance mental toughness."

Name of Investigator: William Charles Griffith

Name of University: University of South Africa (UNISA)

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you agree to participate in the assessment)

You will be given a copy of the full Informed Consent Form after all signatures have been given.

PART I: INFORMATION SHEET

Introduction

My name is Mr. Griffith and I am studying psychology. My research project is specifically about "mental toughness". Mental toughness is how we think about everyday situations. It's about our attitude towards challenges and the way we react and think in different situations. An elite cricketer needs to spend many hours mastering his cricket techniques. Most of the professional cricketers use also mental techniques to master their mental toughness and their cricket game.

I developed a program specifically for young cricketers to help them to be mentally tough during cricket matches. Part of my research project is to test the effectiveness of this program.

You have been selected to be part of this research project, but before we can continue I need to explain how the project will work:

The research project will have four parts:

5. Part one: Selecting 20 cricketers to be part of the study.
6. Part two: Completing a questionnaire.
7. Part three: Ten randomly selected boys out of this group of twenty will attend a seven week mental toughness course.
8. Part four: All twenty cricketers complete a questionnaire one more time after the seven week period.

Today I am going to invite you to be part of the first part and fourth part of my research project: Selecting twenty cricketers to be part of this research project. There may be some words you don't understand or things that you want me to explain more in this form. I will read through this form with you. Please ask me to stop at any time while we read this form, and I will explain.

Completing the questionnaire

I will ask you to answer a questionnaire. This is just questions about how you feel during a cricket match, these questions are written down on paper and you will only circle an answer. I will be there to assist you if you need any help in reading or answering these questions. Remember when you complete the questionnaire; you don't have to worry about getting the answers right or wrong. The questions are only about how you feel. There is no right or wrong answer.

Who will I tell about the results and what will I do with your questionnaire?

Once you have returned your completed questionnaire to me, I will score it and then lock it away safely. I won't let other people see your answers. The only person who will know your answers will be my professor. My professor is someone who works at the university where I study. She is helping me to do this research project. However she will never meet you or know your name, so you don't have to worry about somebody else knowing personal things about you.

You can decide

I have talked to your parents and they know that I am inviting you to the first phase of my research. They have given their permission for me to give you the questionnaire. But if you do not want to complete questionnaire, you do not have to, even if your parents have said yes.   If

you decide not to, it is okay. Even if you say "yes" now, you can change your mind later and it is still okay.   No one will be mad or disappointed with you if you say no. It is your choice.

If you choose to complete the questionnaire I will also give you a copy of this paper to keep for yourself. You can ask your parents to look after it if you want.

PART 2: CERTIFICATE OF ASSENT

I understand that this part of the research is for Mr. Griffith to find out how I feel during cricket performances. I understand that I will complete a questionnaire to help Mr. Griffith learn more about my mental toughness.

Statement by the child

I have read this information (or had the information read to me). I have had my questions answered and I know that I can ask questions later if I want to.

*I agree to complete the questionnaire *OR*

**I do not wish to complete the questionnaire and I have <u>not</u> signed the assent below. _____ (initialled by child/minor)

---

*Only if child assents:

Print name of child _____

Signature of child: _____

Date:_____

      day/month/year

Statement by the witness (only if child required help with reading)

I have witnessed the accurate reading of the assent form to the child, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness   _____

Signature of witness   _____

Statement by the researcher taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the child understands that he/she will, by choice, complete the questionnaire.

I confirm that the child was given an opportunity to ask questions about the assessment procedures, and all the questions asked by him/her have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

 A copy of this assent form has been provided to the participant.

Print Name of Researcher/person taking the assent_____

Signature of Researcher /person taking the assent _____

Date _____

          Day/month/year

Copy provided to the participant _____ (signed by researcher)

Parent/Guardian has signed an informed consent form ___Yes   ___No

_____ (signed by researcher)

This form has been reviewed and approved by Professor H.E. Roets, who guides me in my study and who helps to make sure that ethical procedures are followed during this research project.

THANK YOU

Med (Guidance & Counselling);Bed (Hons);BA(Ed & Psych);H.E.D(School Guidance)

EDUCATIONAL PSYCHOLOGIST

Pr No: 0860030445797

Consulting Rooms

Tel: *0731231244*

22 Cristiaan de wet road

Discovery

E-Mail: willis.griffi@gmail.com

APPENDIX B (5)

INFORMED ASSENT FORM FOR CHILDREN/MINORS (PHASE 2)

Informed Assent Form for _____

This informed assent form is for cricket boys in the age group 14 – 18 years who attend the Red Cap Cricket Academy and who I am inviting to participate in the second phase (The psycho-educational intervention program) of the research study titled "A Psycho-educational intervention program to enhance mental toughness."

Name of Investigator: William Charles Griffith

Name of University: University of South Africa (UNISA)

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you agree to participate in the assessment)

You will be given a copy of the full Informed Consent Form after all signatures have been given.

PART I: INFORMATION SHEET

Introduction

My name is Mr. Griffith and I am studying psychology at UNISA. My research project is specifically about "mental toughness". Mental toughness is how we think about everyday situations. It's about our attitude towards challenges and the way we react and think in different situations. An elite cricketer needs to spend many hours mastering his cricket techniques.

Most of the professional cricketers use also mental techniques to master their mental toughness and their cricket game. I developed a program specifically for young cricketers to help them to be mentally tough during cricket matches. Part of my research project is to present a mental toughness program of seven weeks. You have been selected to be part of this part of the research project, but before we can continue I need to explain how the project will work:

The research project will have four parts:

Part one: Selecting 20 cricketers to be part of the study.
Part two: Completing a questionnaire.
Part three: Ten randomly selected boys out of this group of twenty will attend a seven week mental toughness program.
Part four: All twenty cricketers complete a questionnaire one more time after the seven week period.

Today I am going to invite you to be part of the third part of my research project: Attending a seven week mental toughness course. There may be some words you don't understand or things that you want me to explain more in this form. I will read through this form with you. Please ask me to stop at any time while we read this form, and I will explain.

Attending the seven week course

I will ask you to attend a seven week mental toughness course. I will confirm the venue and date with you in due time. The course will be presented by me. The sessions will only be 90 minutes long and it will not interfere with your normal cricket practice times. Monday and Friday afternoons from 15:00 – 16:30 seems to be the best time, but we will confirm the dates, time and venue at a later stage.

You can decide

I have talked to your parents and they know that I am inviting you to attend this program. They have given their permission for me to present the program. But if you do not want to attend the program, you do not have to, even if your parents have said yes. If you decide not to, it is okay. Even if you say "yes" now, you can change your mind later and it is still okay. No one will be mad or disappointed with you if you say no. It is your choice. You may even stop attending the program at any stage, and it will still be okay. It remains your decision.

If you choose to attend the program I will also give you a copy of this paper to keep for yourself. You can ask your parents to look after it if you want.

PART 2: CERTIFICATE OF ASSENT

I understand that this part of the research is for Mr. Griffith to present a mental toughness program. I decided to attend this six week program out of my own free will.

Statement by the child

I have read this information (or had the information read to me). I have had my questions answered and I know that I can ask questions later if I want to.

*I agree to attend this program *OR*

**I do not wish to attend this program and I have <u>not</u> signed the assent below. _____ (initialled by child/minor)

---

*Only if child assents:

Print name of child _____

Signature of child: _____

Date:_____

     day/month/year

Statement by the witness (only if child required help with reading)

I have witnessed the accurate reading of the assent form to the child, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness   _____

Signature of witness   _____

Date _____

       Day/month/year

Statement by the researcher taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the child understands that he/she will, by choice, attend the seven week program.

I confirm that the child was given an opportunity to ask questions about the program, and all the questions asked by him/her have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

 A copy of this assent form has been provided to the participant.

Print Name of Researcher/person taking the assent_____

Signature of Researcher /person taking the assent _____

Date _____

     Day/month/year

Copy provided to the participant _____ (initialled by researcher)

Parent/Guardian has signed an informed consent form ___Yes   ___No

_____ (Signed by researcher)

This form has been reviewed and approved by Professor H.E. Roets, who guides me in my study and who helps to make sure that ethical procedures are followed during this research project.

THANK YOU

Appendix C

William Griffith

MEd (Guidance & Counselling);BEd (Hons);BA(Ed & Psych);H.E.D(School Guidance)

EDUCATIONAL PSYCHOLOGIST

Pr No: 0860030445797

Consulting Rooms

Tel: *0731231244*

22 Cristiaan de wet road

Discovery

E-Mail: willis.griffi@gmail.com

_____

MEMO

DATE   :   2012-05-10

TO   :   ROODEPARK SCHOOL

ATTENTION   :   MRS. R. VAN DER MERWE

FROM   :   WILLIAM GRIFFITH

SUBJECT   :   USE OF SPORT FASILITIES

I am currently busy with a research project. This research project is part of a DED degree that I am doing at the University of South Africa.

Part of the research project is to present a seven week psycho-educational program. I will need a venue to present this program. The sport club house of Roodepark School will be perfect for this. I would appreciate it if you would make this venue available for this seven week program. I will confirm the dates and time at a later stage.

Kind regards

W.C GRIFFITH

APPENDIX D

William Griffith

Med (Guidance & Counselling);Bed (Hons);BA(Ed & Psych);H.E.D(School Guidance)

EDUCATIONAL PSYCHOLOGIST

Pr No: 0860030445797

Consulting Rooms

Tel: *0731231244*

22 Cristiaan de wet road

Discovery

E-Mail: willis.griffi@gmail.com

MEMO

DATE   :   2012-05-10

TO   :   RED CAP CRICKET

ATTENTION   :   MR. G. GOOSEN

FROM   :   WILLIAM GRIFFITH

SUBJECT   :   ASSISSTENCE FOR RESEARCH PROJECT

I am currently busy with a research project, as I explained during our meeting on the fifth of May 2012. This research project is part of a DED degree that I am doing at the University of South Africa. Part of the research project is to do random sampling of potential participants. The research project is about the influence of mental toughness on young cricketers. The cricketers of your academy fall in this age group.

I would appreciate it if you will give me written permission to conduct a random sample of possible participants. Twenty cricketers will be randomly selected to take part in this research project.

Kind regards

W.C GRIFFITH

APPENDIX E

ROODEPARKSKOOL • ROODEPARK SCHOOL   Reg. No: 250993

1309 FLORIDA 1710   Clarendonrylaan 50 Clarendon Drive, Discovery 1709
(011) 672 0546/7   (011) 672 7269   E-Mail: roodeparkschool@absamail.co.za

Mr. Griffith

Re: Permission to use facilities of Roodepark School

It is our pleasure to inform you that you are welcome to make use of our sport facilities for your research project. Please book the venue four weeks in advance.

Regards

Mrs. R. Van der Merwe

Principal

RED CAP CRICKET (RCC)

082 560 7221 ("the goos") *Private coach*   *"TAKE WICKETS!"*

Memo

DATE	:	2012-05-15
ATTENTION	:	William Griffith
FROM	:	Gerhard Goosen
CEL	:	082 560 7221
SUBJECT	:	RESEARCH PROJECT

I will gladly assist you with your research. Give me a call so we can sort out the details.

Regards

G.GOOSEN

Appendix F

Workbook

The Mind of a Cricket Star

It takes more than batting, bowling and fielding, to be the best…
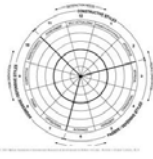
Lesson 1: Performance profiling

Class activity: Draw your own circular skills analyses profile

Homework:

Do a SWAT analysis – use this opportunity to explore your strengths and weaknesses. It is important to take your time when you do this activity.

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Lesson 2: Individual session

Homework:

- State what you can do to work on your weaknesses, as well as what you can do to further strengthen your strengths.

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Lesson 3: Mental toughness

Definition for the term mental toughness:

_____
_____
_____
_____
_____

Mental toughness characteristics that Hershel Gibbs shows while he is batting:

_____
_____
_____

Homework:

Similarities between the game of cricket and the game of life:

_____
_____
_____
_____
_____
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_____
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_____
_____
_____

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Lesson 4: Goal setting

"Don't set your goals too low. If you don't need much you won't become much".-Jim Rohn

Create a mind map of your cricket goals (Brainstorm) (20 minutes)

Homework:

My cricket goals for the next 6 weeks:

_____
_____
_____
_____

My cricket goals for the next 6 months:

_____
_____
_____
_____

My cricket goals for the next year:

_____
_____
_____
_____

My cricket goals for the next 5 years:

_____
_____
_____
_____

My cricket goals for the next 10 years:

_____
_____
_____

Lesson 5: Self-talk, positive thinking and affirmations

*"We are what we repeatedly do **and think**. Excellence then, is not an act, but a habit."*

Read and explore this poem:

A state of Mind

(The man who thinks he can)

By A.D Wintle

If you think you are beaten, you are.

If you think you dare not, you don't

If you like to win, but you think you can't

It is almost certain you won't.

If you think you'll loose, you lost

For out of the world we find

Success begins with a fellow's will-

*It's all in the **state of mind**.*

If you think you are outclassed, you are

You've got to think high to rise.

*You've got to **be sure of yourself** before*

You can ever win a prize.

Life's battles don't always go

To the stronger or faster man.

But soon or later the man who wins

*Is the man **WHO THINKS HE CAN!***

Compile your own Smart-Talk script.

I don't like cricket. I love cricket

because..._____

_____

_____

_____

_____

Compile ten affirmations that you can use in the game of cricket.

_____

_____

_____

_____

_____

_____

Less effective affirmations:

- I am not stressed
- Stop being so tensed
- Stop frowning
- Try to relax
- I am not a bad cricketer
- Cricket is o.k.
- I am trying to listen   .
- Try harder to concentrate
- I must practice hard
- I hope to achieve my goals
- I will try to enjoy cricket

Effective

afirmations:_____

_____

_____

_____

_____

Design 4 cue cards that you will use during your next match.

Homework Assignment: Count negative thoughts

You need to conduct a negative thought count for an entire day, because problems in your daily life tend to intrude on your cricket performance. Do this exercise for five consecutive days.

To perform an all day count of negative thoughts you need to put the counters in your pants pocket. Each time you catch yourself using a negative thought, you must move one counter to a different pocket.

Totals for cricketers will vary based on how vigilant and picky they are, so it is unimportant how their counts compare with each other. What matters is whether negative thoughts decrease with the use of smart-talk.

Designing positive affirmations:

- Write 10 affirmations in your workbook and read it out load twice a day for the duration of the course.

- You can also write the affirmations on cue cards and then leave the cue cards in places where you will run across them throughout the day.

_____
_____
_____
_____
_____
_____
_____
_____
_____

Lesson 6: Visualization and Imagery

Homework:

❖ Visualise success

See your name in the newspaper as a top cricketer. As you visualise, see yourself batting, bowling and fielding. When you see yourself performing these cricket skills, see how you execute them with smooth confident movements, perfectly coordinated, calm and focused. Repeat this exercise every day for the next week. Make the picture as vivid and colourful as possible.

❖ Use visualisation 10 minutes before you go to cricket practice and during practise as well.

➢ See yourself hitting a ball perfectly in the nets
➢ See yourself bowling the perfect ball
➢ See how you catch the ball
➢ See how you hit the stumps

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Do these exercises a few times until you feel energised and ready for your practice session.

Visualisation and Imagery homework exercises

Do these exercises for the next week at least twice a day:

Visualisation exercise

Close your eyes, and imagine that you are watching yourself performing a specific batting technique.

Start at the beginning of the movement and slowly move through to the end. Make the picture bright and bold and compelling. See yourself in the picture and now run the film watching yourself batting perfectly. Now rewind run the film backwards and now run the film forward again.

Every time you run the film, forwards and backwards, try to notice something different about your movements. Run the film as many times as you can, each time making the movements even more perfect and the film even faster.

Imagery exercise

This technique is the same, running a film of the perfect performance, but this time you are in it, seeing and feeling and hearing the performance through with you in it, know that the performance is perfect and notice how you feel, what you see and what you hear.

Lesson 7: Routines and body language

"How well you perform is very often decided before you play. The will to win is important, but the will to prepare to win is essential."

Group activity: (15 minutes) Poster designing

You are playing a cricket match tomorrow. Brainstorm with your group some possible routines that you can follow to help you to focus on your match preparation.

- Design and present your posters to the rest of the group.

Brainstorm:

Group activity:

List all the positive body language qualities that you see by looking at this photo of Jacque Kalis.

_____

_____

_____

_____

_____

Homework:

Complete the routine time table:

The pre-match routine

The night before: checkpoints

- _____

- _____

- _____

The morning before: checkpoints

- _____

- _____

- _____

- _____

20 minutes before the match: checkpoints at the ground

- _____

- _____

Last few minutes/moments before match and during the match

Batting Routines

- _____

- _____

- _____

Walking to the crease
- _____

At the crease
- _____

- _____

Bowling routines

Preparing for bowling spell
- _____

During bowling spell
- _____

- _____

- _____

- _____

While fielding

- _____

- _____

Focus this week on your positive body language.

Think: What can I do to better my cricket body language?

_____

_____

Lesson 8: Arousal control

Group activity: Which pictures describe the arousal state of a batsman, bowler and fielder the best?

_____

_____

_____

_____

_____

_____

Homework:

Do the following relaxation activity twice a day for the next week:

Find a quiet place, real or imagined, for 5-10 minutes, twice a day to achieve lasting benefits. Breathe slowly and deeply and allow the tension to leave your muscles as you exhale.

The more you practice relaxation, the easier and more effective it becomes. When you are totally relaxed, you can give yourself all the positive affirmations you need, building on all the elements of mental toughness to reduce nervousness, moving effortlessly into the visualisation.

A good way to start developing your skills is through recreating the image of an expert in your field and then to imagine yourself as that performer in full flow. Go with that flow for a couple of moments and slowly increase the intensity of the experience through progressively adding each of the senses.

Basic breathing exercise

- The first breathing practice is simplicity itself. At this point, taking the first step – becoming aware of your breathing – is all you need to do. Notice yourself right now as you breath.
- During every moment of your life, this ebb and flow is part of your being: Feel the physical sensation of flowing down into your lungs, then sense flowing out again.

- Relaxed diaphragm breathing technique

- Step 1: Imagine that your lungs have three parts: a lower, middle, and upper section. Now close your eyes and imagine that you are just going to fill up the bottom, or lower, third of your lungs as you breathe in. Do this by imagining that you are pushing out your diaphragm, stretching it to its max and then opening up your abdomen.

- Step 2: Next imagine filling the second third of your lung cavity. Do this by expanding your chest cavity and raising your rib cage and chest to their maximum capacity.

- Step 3: Finally, fill the last sector of your lungs by raising your chest and shoulders.

- Do all three stages over and over again with a soft, smooth motion – do not force it.

- Each time you exhale, remind yourself to pull in your abdominal wall so that all the air is removed from your lungs. And at the end of the exhalation, don't forget to say goodbye to all muscular and emotional tension so you feel totally relaxed.

Lesson 9: Mindfulness: The passage to the zone

Group activity: Establishing your "winning feeling" (15 minutes)

Think carefully about the last time you were performing at the top of your cricket game, and then list every detail you might associate with that "winning feeling" that you experienced.

Pick out the ten most important aspects of this positive feeling and write them down. You can use your "winning feeling" to help create an optimum competition mindset through consciously using imagery before a match or practice session to recall these feelings.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Individual work: one – minute concentration drills

External: for 20 seconds, practise observing everything that you can see, hear and feel. Don't let your mind think of anything else except external thoughts.

Internal: for 20 seconds, think only about what you feel within your body. Muscle tension, your breathing heart-beat, the feel of your arms and legs etc. And sense where they are in space without looking.

Control: for 20 seconds, pick up a cricket ball and look at it and only think of the ball. Focus on the colour, feel, shape, smell and logo of the ball. This is hard to do, but if you can control your focus on the ball for 20 seconds, you will have the concentration required to commit to an innings.

What are the top 5 psych-techniques that you have learned during this course?

_____

_____

_____

_____

Homework:

Practice this simple concentration technique during matches and practice sessions:

You can use this technique at any rest point before or during a match, in between deliveries or waiting to bat to focus your concentration:

- Get in a comfortable standing or sitting position.

- Take a deep breath in through the nose, concentrating on relaxing your face muscles.
- Slowly breathe out through your mouth, concentrating on relaxing the rest of your body (particularly your arms and legs).
- Think something general and positive like "watch the ball".

This can be repeated as many times as possible or desired to help you focus and relax.

Use these exercises to practice mindfulness:
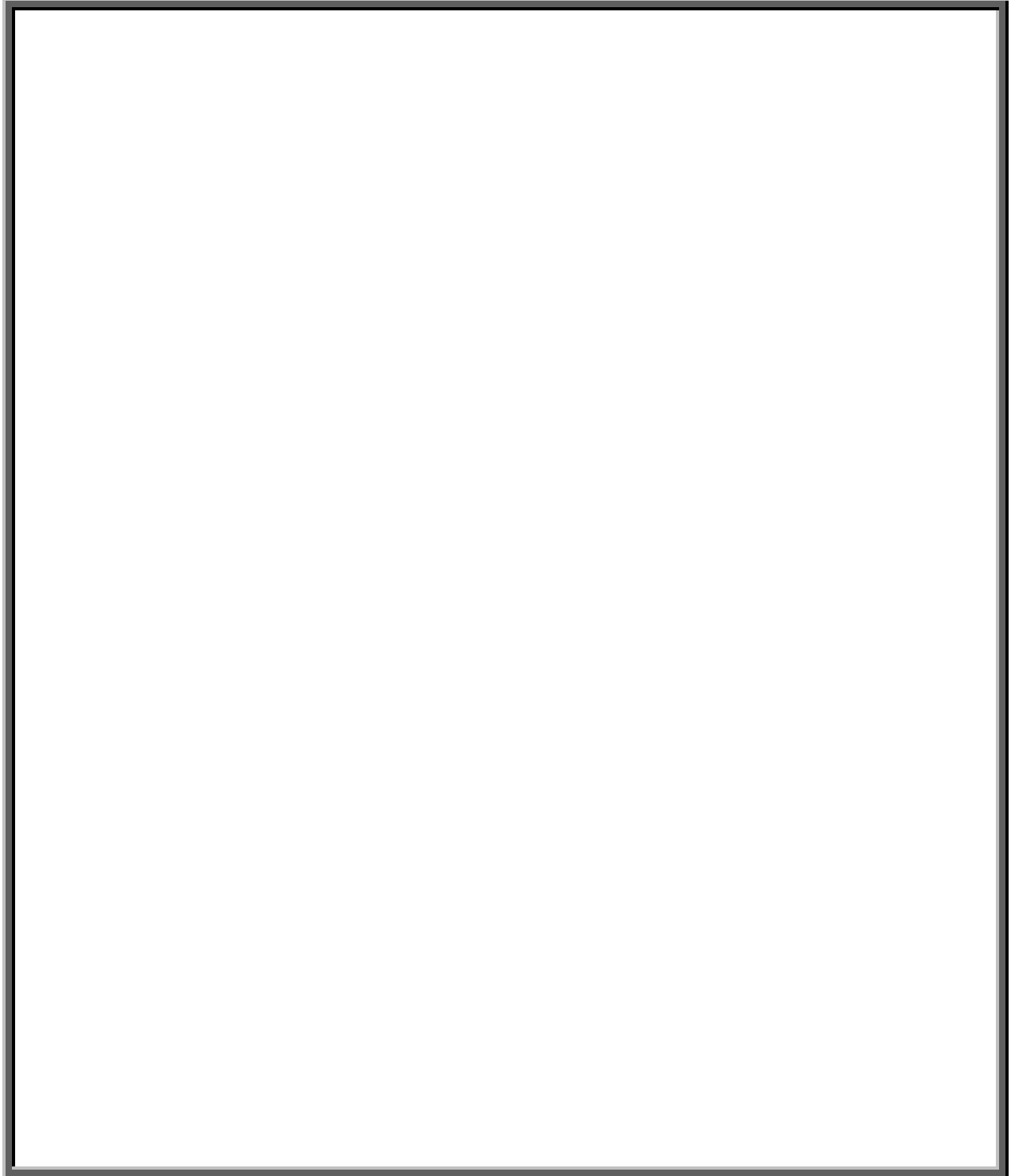
External: for 20 seconds, practise observing everything that you can see, hear and feel. Don't let your mind think of anything else except external thoughts.

_____

_____

_____

_____

Internal: for 20 seconds, think only about what you feel within your body. Muscle tension, your breathing heart-beat, the feel of your arms and legs etc. And sense where they are in space without looking.

_____

_____

_____

_____

Control: for 20 seconds, pick up a cricket ball and look at it and only think of the ball. Focus on the colour, feel, shape, smell and logo on the ball. This is hard to do, but if you can control your focus on the ball for 20 seconds, you will have the concentration required to commit to any innings.

_____

_____

_____

_____

Brainstorm: _make a mind map of the most important things that you have learned during this program._

Brainstorm:

APPENDIX G

CRICKET MENTAL TOUGHNESS QUESTIONNAIRE (CMTQ)

Rate yourself on each of the following questions.

The scale:

6   Never
7   Seldom
8   Sometimes
9   Most of the time
10   Always

1. I see myself as a great cricketer, it doesn't matter what other people say.

      _____

2. I stay calm during matches and practice sessions.

      _____

3. I stay focused during practice sessions and matches.

      _____

4. I have used visualisation during my warm up session before a match

      _____

5. I give my best during matches and practice sessions.

      _____

6. I stay positive during matches and practice, even if my performance is bad.

      _____

7. I try to keep my mind busy with positive thoughts during practice and matches.

      _____

8. I believe in myself as a cricket player.

_____

9. When it's my turn to bat, I stay calm and I don't get nervous.

_____

10. When I need to hit the winning runs, I find it easy to keep my focus on the ball.

_____

11. I can use my mind practicing my cricket skills, without getting up from my chair.

_____

12. It is very important for me to set cricket goals for myself.

_____

13. I like it if the competition is tough, the harder the match the bigger the enjoyment.

_____

14. I speak to myself in a positive manner during matches.

_____

15. When I have a poor batting day, I remain confident in myself.

_____

16. I am not hard on myself for making mistakes during a match.

_____

17. I keep my focus on the match, no matter what.

_____

18. I can see myself batting (in my mind) during my previous match.

    _____

19. I do not need anyone motivating me to go to practice. I am doing it for myself.

    _____

20. I am relaxed and focused, at the same time, during a match.

    _____

21. I always do my best, during matches and even during practice.

    _____

22. I have the talent to become a much better cricket player.

    _____

23. My muscles are always relaxed even if I feel nervous during cricket matches.

    _____

24. it's easy to forget about all my problems when I *"zoom"* into my game.

    _____

25. I use visualisation often to see, in my mind, how I'm batting perfectly.

    _____

26. I will do whatever it takes to become the best possible cricketer.

    _____

27. Practice time is most important, I always apply myself 100% to practice sessions.

　　_____

28. I can change my negative moods into positive ones by controlling my emotions.

　　_____

29. I am a mentally tough cricketer.

　　_____

30. I stay calm, even when an empire makes bad decisions.

　　_____

31. I find myself thinking of previous good shots I played, as I'm busy batting.

　　_____

32. I use visualisation during my batting session that helps me to perform better.

　　_____

33. I stay focused during cricket matches and practice sessions.

　　_____

34. During a challenging match I tend to get highly motivated and inspired.

　　_____

35. My coaches would say that I have a good attitude.

　　_____

36. I project the outward image of a confident cricketer.

　　_____

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37. I can remain calm, even if my team is busy losing.

    _____

38. My concentration is as strong as steel.

    _____

39. When I visualise myself playing cricket, I can see and feel things vividly.

    _____

40. I am exited about playing and practicing cricket.

    _____

41. Playing cricket gives me a genuine sense of joy and fulfilment.

    _____

42. I can turn a crisis into an opportunity, during a cricket match.

    _____

43. I have a fixed routine that I follow when I bat.

    _____

44. I stay focused when I'm batting, even if the fielders "chirp" me.

    _____

45. I like to daydream about my cricket performances.

    _____

46. I speak to myself in a positive manner, when I make mistakes during a match.

  _____

47. When I do fielding I find it easy to follow the ball, with my eye, the whole innings.

  _____

48. I can see my team winning the match, even before we start playing.

  _____

49. I find it easy to read the body language of other cricketers.

  _____

50. I don't think about my score when I'm batting, I take it one ball at a time.

  _____

51. When I close my eyes I can see myself playing a forward drive perfectly.

  _____

52. I walk tall when I walk onto the cricket field to go and bat.

  _____

53. My concentration has been during a net practice just as strong as during a match.

  _____

54. I use visualisation effectively to help me to relax.

  _____

55. I don't criticise myself, when I make mistakes.

_____

56. I don't get bored during a fielding innings.

_____

57. I can see myself taking the big catch, before a fielding innings.

_____

58. I have all the talent to become a great cricket star.

_____

59. I can keep my focus on a match even if my team mates find it hard to focus.

_____

60. When I close my eyes I can picture myself hitting a big six.

_____

APPENDIX H

CRITICAL ASSESSMENT OF INDEPENDENT REVIEWERS OF THE *"I'M A CRICKET STAR"* INTERVENTION PROGRAM

1. How would you rate the overall presentation of the program (Circle one number)

    1- Poor
    2- OK
    3- Good
    4- Excellent

2. To what extent was attending this training worth your time (Circle one number)

    1- Not at all
    2- Slightly
    3- Moderately
    4- Very
    5- Extremely

3. Please rate the program on the following items (Circle one number for each item)

	VERY POOR	POOR	FAIR	GOOD	EXCELLENT
Content	1	2	3	4	5
Organisation	1	2	3	4	5
Instructional aids	1	2	3	4	5
Creating interest	1	2	3	4	5
Creativity	1	2	3	4	5

4. How much of the techniques presented in the program will be useful to your cricket coaching needs? (Circle one)

a- 0-20%
b- 21-40%
c- 41-60%
d- 61-80%
e- 81-100%

5. How much of the techniques presented in the program will be useful to secondary school cricketers? (Circle one)

a- 0-20%
b- 21-40%
c- 41-60%
d- 61-80%
e- 81-100%

6. Should this program be repeated? (Circle one)
a- Yes
b- No
c- It depends

Please explain:

_____

_____

_____

7. Would you recommend this program to other cricket coaches and cricketers?
a- Yes
b- No
c- Uncertain

8. Please evaluate this program by circling a number on the following scale: (Circle one number for each)

1=Very poor; 2=Below average; 3=Average; 4=Above average; 5= Excellent

a- General overall impression   1 2 3 4 5
b- Usefulness of techniques for me professionally   1 2 3 4 5
c- Usefulness of techniques for me personally   1 2 3 4 5
d- Usefulness of techniques for secondary school cricketers   1 2 3 4 5
e- Usefulness of techniques for cricket coaches   1 2 3 4 5

9. Which technique did you find most useful?

_____

10. Which technique did you find least useful?

_____

Please comment on the quality of this program:

11. The things that could have been omitted from the program:

_____

_____

_____

12. What I was looking for in this program but did not get:

_____

_____

13. Have you attended similar programs provided by others? (Circle one)

a- Yes

b- No

If yes, how do they compare with this program.

_____

_____

14. From the following list of techniques that were covered in the program, please indicate how useful you found each to be. (Circle one for each technique)

1=Not useful; 2=Slightly useful; 3=Moderately useful; 4=Very useful

a-	Performance profiling	1 2 3 4
b-	Goal setting	1 2 3 4
c-	Chirping	1 2 3 4
d-	Psyching	1 2 3 4
e-	Self-talk	1 2 3 4
f-	Affirmations	1 2 3 4
g-	Cue cards	1 2 3 4
h-	Visualisation	1 2 3 4
i-	Routines	1 2 3 4
j-	Arousal control	1 2 3 4

15. How well did the information presented meet your expectations (Circle one)

Far bellow   Below   Met expectations   Above   Far above

    1   2   3   4   5

16. Please rate the program content on the following scale:

1=Very poor; 2=Fair; 3=Good; 4=Very good; 5=Excellent

a- Met my needs   1 2 3 4 5

b- Suitable to my level of experience   1 2 3 4 5

c- Suitable for other cricket coaches   1 2 3 4 5

d- Suitable for secondary school cricketers   1 2 3 4 5

e- Suitable for cricket coaching sessions   1 2 3 4 5

f- Understandable   1 2 3 4 5

g- Logically organised   1 2 3 4 5

h- Included sufficient examples   1 2 3 4 5

i- Overall rating of program content   1 2 3 4 5

Please indicate your agreement with the following statements about the program by circling your answers.

1= Strongly disagree; 2=Disagree; 3=Neither agree nor disagree;   4=Agree
5=Strongly agree; 6=No opinion

The educational materials and content...

17. Helped me better understand mental toughness   1 2 3 4 5 6

18. Provided information relevant to cricket coaching   1 2 3 4 5 6

19. Were based on content, up-to-date information   1 2 3 4 5 6

20. Addressed the topic identified in the title   1 2 3 4 5 6

21. Were easy to understand   1 2 3 4 5 6

22. Secondary school cricketers will find it easy to understand   1 2 3 4 5 6

23. Secondary school cricketers will learn valuable life skills 1 2 3 4 5 6

24. Will be of great immediate use to me as a cricket coach 1 2 3 4 5 6

25. Will be of great immediate use to school cricketers   1 2 3 4 5 6

26. Will be of great use for other cricketers   1 2 3 4 5 6

27. Will be of great use for other cricket coaches   1 2 3 4 5 6

28. Can be tailored for the use of other sport participants   1 2 3 4 5 6

29. Please rate the workbook on the following scale:

1=Poor; 2=Fair; 3=Good; 4=Very Good

a- Easy to read   1 2 3 4

b- Easy to understand   1 2 3 4

c- Effective learning tool   1 2 3 4

d- Well organised   1 2 3 4

e- Creativity   1 2 3 4

f- Suitable for the age level of secondary school cricketers 1 2 3 4

30. What reaction do you have to the methods that were used in the presentation of the program. Use the following scale:

1=Poor; 2=Fair; 3=Good; 4=Very good; 5=Excellent

Lectures   1 2 3 4 5

Visual aids   1 2 3 4 5

PowerPoint presentation   1 2 3 4 5

DVD clips   1 2 3 4 5

Group activities   1 2 3 4 5

Cricket field activities   1 2 3 4 5

The CMTQ   1 2 3 4 5

31. To what extent did the psycho-educator:

1=Not at all; 2=Not much; 3=Some what; 4=Quite a bit; 5=A great deal

a- Know the subject   1 2 3 4 5

b- Encourage participation   1 2 3 4 5

c- Answer questions completely   1 2 3 4 5

d- Respect your knowledge and experience   1 2 3 4 5

e- Use appropriate examples   1 2 3 4 5

f- Provide clear explanations   1 2 3 4 5

g- Generate a desire to learn   1 2 3 4 5

h- Use a mix of lectures and exercises   1 2 3 4 5

32. Which of the following techniques do you intend to use in your coaching
    sessions that you did not use before attending this program? (Tick your
    answer)

Technique	Used before	Intend to use	Don't intend to use
Performance profiling			
Goal setting			
Self-talk			
Affirmations			
Chirping			
Psyching			
Visualisation			
Imagery			
Routines			
Body language			
Arousal Control			

33. Circle the appropriate number to indicate your degree of understanding of the
    listed topics after the presentation of the program and before the presentation
    of the program (Use the following scale)
1=Very little; 2=Some; 3=Quite a bit; 4=A lot

	After program				Before program			
	1	2	3	4	1	2	3	4
Mental toughness								
Perform.profiling								
Arousal control								
Affirmations								
Mindfulness								
The zone								

34. Please rate the presentation of the following techniques (tick your answer)

Technique	Needs attention	Acceptable	Very good
Performance profiling			
Goal setting			
Self-talk			
Affirmations			
Chirping			
Psyching			
Visualisation			
Imagery			
Routines			

Body language			
Arousal Control			

35. Please state any suggestions on how I can better this program.

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THANK YOU FOR UNDERTAKING THIS CRICKET JOURNEY WITH ME!

APPENDIX I

PROGRAM EVALUATION FORM

1. How would you rate the overall presentation of the program (Circle one number)

    5- Poor
    6- OK
    7- Good
    8- Excellent

2. To what extent was attending this training worth your time (Circle one number)

    6- Not at all
    7- Slightly
    8- Moderately
    9- Very
    10- Extremely

3. Please rate the program on the following items (Circle one number for each item)

	VERY POOR	POOR	FAIR	GOOD	EXCELLENT
Content	1	2	3	4	5
Organisation	1	2	3	4	5
Instructional aids	1	2	3	4	5
Creating interest	1	2	3	4	5
Creativity	1	2	3	4	5
Stimulating	1	2	3	4	5

4. Would you recommend this program to other cricket coaches and cricketers?
   d- Yes
   e- No

5. From the following list of techniques that were covered in the program, please indicate how useful you found each to be. (Circle one for each technique)

   1=Not useful; 2=Slightly useful; 3=Moderately useful; 4=Very useful

   k- Performance profiling   1 2 3 4
   l- Goal setting   1 2 3 4
   m- Self-talk   1 2 3 4
   n- Affirmations   1 2 3 4
   o- Cue cards   1 2 3 4
   p- Visualisation   1 2 3 4
   q- Routines   1 2 3 4
   r- Arousal control   1 2 3 4

6. Please rate the workbook on the following scale:

   1=Poor; 2=Fair; 3=Good; 4=Very Good

   g- Easy to read   1 2 3 4
   h- Easy to understand   1 2 3 4
   i- Effective learning tool   1 2 3 4
   j- Well organised   1 2 3 4
   k- Creativity   1 2 3 4
   l- Suitable for the age level of secondary school cricketers 1 2 3 4

7. What reaction do you have to the methods that were used in the presentation of the program. Use the following scale:

   1=Poor; 2=Fair; 3=Good; 4=Very good; 5=Excellent

   PowerPoint presentation   1 2 3 4 5
   DVD clips   1 2 3 4 5
   Group activities   1 2 3 4 5
   Cricket field activities   1 2 3 4 5
   The CMTQ   1 2 3 4 5

8. To what extent did the presenter:

1=Not at all; 2=Not much; 3=Some what; 4=Quite a bit; 5=A great deal

i-	Know the subject	1 2 3 4 5
j-	Encourage participation	1 2 3 4 5
k-	Answer questions completely	1 2 3 4 5
l-	Use appropriate examples	1 2 3 4 5
m-	Provide clear explanations	1 2 3 4 5
n-	Generate a desire to learn	1 2 3 4 5

9. Which of the following techniques do you intend to use in your game of cricket? (Tick your answer)

Technique	Used before	Intend to use	Don't intend to use
Performance profiling			
Goal setting			
Self-talk			
Affirmations			
Chirping			
Psyching			
Visualisation			
Imagery			
Routines			
Body language			
Arousal Control			