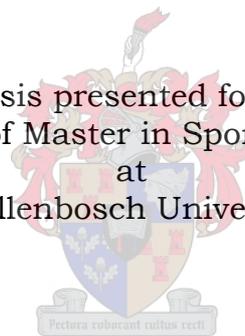


# **THE DEVELOPMENT OF A PERSONAL TRAINING PROGRAMME BASED ON THE PRINCIPLES OF FLOW**

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Degree of Master in Sport Science  
at  
Stellenbosch University



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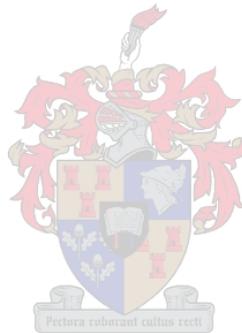
## **DECLARATION**

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it to any university for a degree.

Signature:

Date:

Anthony Berzack



## SUMMARY

The motivation for this research evolved from a study of *Flow in Sport* (Jackson & Csikszentmihalyi, 1999). Flow is described as a state of optimal experience that could be attained by becoming immersed in a challenging task that absorbs all the attention on the task at hand. Physical exercise was used in this study because it provides a flow-conducive environment in which challenges can easily be gauged and increased, giving essential motivational feedback.

A broad spectrum of sport psychology and flow-related research was applied in the design of a comprehensive and easily accessible system of understanding what it means to experience flow. Research that relates to the use of visualisation, relaxation and the use of natural triggers are key factors used in the implementation of the programme.

The concept of flow was founded in seven fundamental elements that need to be present in order to experience flow. The programme was developed during several phases of sample testing over a period of two years to refine and condense the system so it would not detract attention from the task at hand. The final seven-week programme was presented to a sample of seven participants on a one-on-one basis.

A combination of quantitative (measurements of performance levels in the chosen activity taken before and after the intervention programme intervention and qualitative (participants' comments which were written down in terms of personal experiences related to the programme after completing the programme) methods were used to assess the effectiveness of the devised programme. Ground Evaluation Theory is described by Patton (1980) as the systematic working out of hypotheses and concepts during the course of research. This was a central feature of the nature of the development of the present programme. Patton (1980) describes a meta-evaluation as an evaluation of an evaluation. This was applied over the two-year period

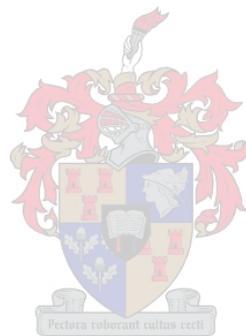
while refining and simplifying the present intervention so as to reduce potentially distracting analysis by participants.

Using a standardised protocol, participants made use of personal past optimal experiences that epitomise each of the fundamental aspects of being in flow. These experiences (or blueprints) were then associated with natural triggers formed by seven segments of the human body to subconsciously refresh and enhance access to these past optimal states. A flow-chart on which these images were drawn was designed. It was used in conjunction with relaxation and visualisation to continually re-visit, refresh and apply these states of mind to reaching new peaks. Subjects were to visualise themselves immersed in performance of their task at the level set as the goal for the end of the programme. The past blueprinted states were used to recreate an optimal mental approach during this visualised performance. The goals were broken down into achievable challenging steps of progression with the use of personal training programmes designed by a sports scientist to be effective for attaining goals which were set.

The flow-programme was evaluated in terms of setting training schedules, taking measurements and setting goals before intervention and then gauging the progress of these factors after the implementation of the programme. The factors measured were: the level of flow experienced in the chosen activity; satisfaction with life; adherence to the programme; and achievement of training goals. These variables were measured by comparing results in standardised tests which have proven reliable for measuring flow and satisfaction with life. Adherence to the programme was measured relative to the amount of training that had been specified in the programme designs. The attainment of goals was also measured by the percentage of goals that had been achieved, compared with those set by each participant for the programme.

The results show that the subjects benefited from the programme on the four measures. The subjects also commented that they found the programme to be a highly effective tool for grasping an understanding of the concept of flow, as well as experiencing this elusive state. It was concluded that flow could be tapped into at a volitional level by using the devised intervention.

**Key words:** Flow; Physical training; Personal training; Well-being



## OPSOMMING

Die motivering vir hierdie navorsing het sy oorsprong in 'n studie oor vloei, *Flow in Sport* (Jackson & Csikszentmihalyi, 1999). Vloei kan beskryf word as 'n toestand van optimale ervaring wat verkry word deur verdiep te raak in 'n uitdagende aktiwiteit wat algehele aandag vereis. Fisieke oefening is in hierdie studie gebruik omdat dit 'n geleentheid bied om vloei te ervaar en omdat fisieke oefening meetbaar is in terme van terugvoering oor persoonlike beleving .

'n Omvattende spektrum van sportsielkunde literatuur en relevante navorsing op die gebied van vloei is as verwysingsraamwerk benut vir die ontwerp van 'n toeganklike sisteem wat insig bied in wat dit beteken om vloei te ervaar. Navorsing wat betrekking het op visualisering, ontspanning en die gebruik van natuurlike ankers was rigtinggewend by die implementering van die program.

Die bereiking van 'n vloei-staat is gegrond op sewe fundamentele elemente wat teenwoordig moet wees ten einde vloei te ervaar. Die program is deur verskeie fases van beproewing oor 'n periode van drie jaar ontwikkel ten einde dit te verfyn en te verkort en te verseker dat die aandag wat op die taak toegespits moet word, nie versteur word nie. Die finale program wat sewe weke sou duur, is aan 'n steekproef van sewe proefpersone op 'n individuele basis aangebied.

Beide kwantitatiewe (metings voor en na intervensie) en kwalitatiewe (opmerkings van deelnemers) gegewens is ingewin om die effektiwiteit van die intervensie program te evalueer. Volgens Patton (1980) verwys die "Ground Evaluation Theory" na 'n sistematiese beplanning van hipoteses en konsepte tydens die navorsing. Dit was 'n sentrale eienskap by die ontwikkeling van die huidige program. Patton (1980) beskryf 'n meta-evaluasie as die evaluasie van 'n evaluasie. Dit is oor 'n periode van twee jaar gedoen as verfyning en vereenvoudiging van

die intervensie sodat 'n potensieel afleidende ontleding deur die deelnemers vermy kon word.

'n Standaard protokol is toegepas waar proefpersone optimale ervarings uit hul verlede benut wat met die fundamentele kenmerkende elemente van vloei verband hou. Hierdie ervarings dien as bloudrukke en word vervolgens geassosieer met natuurlike ankers wat op sewe segmente van die menslike liggaam gebaseer is om proefpersone te help om vorige optimale ervarings te reproduseer. 'n Vloeidiagram is ontwerp waarin hierdie beelde geskets is. Dit is gebruik saam met ontspanning en visualisering om gereeld terug te keer na vorige positiewe gemoedstoestande. Die proefpersone moes hulself visualiseer verdiep in die uitvoering van hul taak aan die hand van die bloudruk staat vir die bereiking van hul doelwitte. Die doelwitte is verfyn tot bereikbare dog uitdagende vorderingstappe wat op wetenskaplik-gefundeerde fisieke oefenprogramme gebaseer is.

Die vloei-program is geëvalueer in terme van die bepaling van die inoefening skedulering, die afneem van die metings en die bepaling van doelwitte voor intervensie gevolg deur die meting van vordering na die implementering van die programme. Die vier metings voor en na intervensie was: die graad van die ervaring van vloei in die gekose aktiwiteit; lewensbevrediging; oefenvolharding; en die bereiking van oefendoelwitte.

Die resultate dui daarop dat die proefpersone baat gevind het by die program in terme van die vier areas wat gemeet is. Volgens die terugvoering van die proefpersone is die program as 'n effektiewe middel bestempel om die konsep van vloei te verstaan en te ervaar. Die afleiding is gemaak dat 'n toestand van vloei willekeurig bereik kan word.

**Sleutelwoorde:** Vloei; Fisieke oefening; Welstand.

## **ACKNOWLEDGEMENTS**

I would like to thank all the subjects who participated in the programme, as well as those who gave invaluable feedback during the development of the programme.

I would also like to thank Professor Justus Potgieter for his guidance and for introducing me to the realm of flow, which initiated this study.

*Pectora roborant cultus recti*

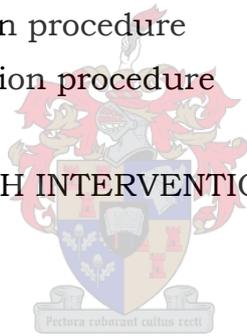
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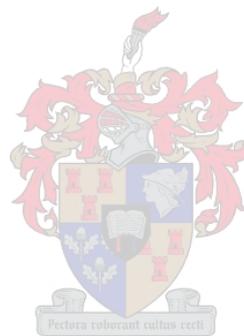


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# CHAPTER ONE

## STATEMENT OF THE PROBLEM

### INTRODUCTION

Csikszentmihalyi (1990) describes flow as a state of optimal performance, which is reached by being completely immersed in and enjoying a challenging activity. In this state, awareness shifts away from all aspects other than the task at hand. The mind is focused and the individual feels in control. Csikszentmihalyi (1990) outlines certain fundamental aspects that need to be in place or “set the stage” for being in flow. The presence of these aspects creates a state conducive to optimal performance and enjoyment. This elated state is an escape from the chaos of daily life, creating a magnetic desire for one to seek ever-greater flow-conducive challenges.

Flow has a close association with happiness. In a recent special issue of *Time* magazine which was dedicated to “The New Science of Happiness”, Wallis, (2005) discusses the meeting of three leading psychologists who now meet annually to create a structure for people to be happier in their lives. Csikszentmihalyi is one of these psychologists, and is recognised for exploring a happy state of mind called flow, which he refers to as complete engagement in creative, playful experiences accessible to almost anyone who gets lost in his/her favourite activity.

Another of the invited psychologists is Seligman, who finds three components of happiness in his research. The first is pleasure (as when we are smiling), which is the least important, but most sought after. Then there is depth of involvement in activity and lastly the meaningfulness of experiences in the bigger picture of our lives.

Diener, known as “Doctor Happiness”, is the third invited psychologist in the group. He discusses the happiness levels of paraplegics as a basis for the idea that happiness is determined by what attention is allocated to, which also correlates well with the concept of absorption in flow.

The nine fundamentals of flow that are dealt with by Jackson and Csikszentmihalyi (1999) are:

- Challenge-skills balance
- Action-awareness merging
- Clear goals
- Unambiguous feedback
- Concentration on the task at hand
- Sense of control
- Loss of self-consciousness
- Transformation of time
- Autotelic experience

It is probable that most people have experienced flow states in activities that challenged them beyond their skill levels at the time. These form the happiest moments in life and enable us to break away from the natural tendency to be restful and complacent.

Jackson and Csikszentmihalyi (1999) state that people are happy when they have a sense of purpose and are actively involved in trying to reach a goal that challenges them. Any individual can experience a state of flow when enjoying being immersed in a challenging task to such an extent that all attention is focused on this task at hand and on nothing else. People get involved in sport for the pure joy and love of the experience, not just winning. This and the ever-present new levels of challenges that enhance striving to attain new skill levels, make sport an ideal activity in which to experience flow. However, the

activity can be anything that is perceived as a challenge to the individual.

According to Jackson and Csikszentmihalyi (1999), when one is in flow, perception of time can be shaped to suite the individual. Hanin (2000) recognises a similar effect with effort, where maximal efforts can seem to feel effortless. A marathon runner, who is working at high intensity for a long time can perceive the distance as much shorter when in flow. The time can seem to go by rapidly. An example of the reverse effect of time perception in flow is the table tennis player, making a fast reflex response. Here everything seems to slow down and the player feels that he/she has all the time in the world.

These precious moments form blueprints in our minds of the potential that lies within us, which we can strive toward and return to. This state often seems elusive, but this is only because the fundamental elements that need to be in place in order to be in flow have not been adequately explained to athletes or performers (Csikszentmihalyi, 1990). This elusiveness can be overcome by creating order in our conscious thoughts (controlling where we place our attention) as opposed to leaving things to chance, which usually does not evolve too much harmony in our lives (Jackson & Csikszentmihalyi, 1999). Millman (1999) suggests that when we achieve one-pointed focus, we become completely present, which has been called “flow” or being “in the zone”.

A “life theme” (Csikszentmihalyi, 1990) forms the essence of what an individual’s life revolves around. This is usually linked to an activity where flow was experienced in the past. A good example discussed by Cskszentmihalyi (1990) is of a young boy who is run over by a car and the medical expenses bring his family to ruin because the driver did not make good for the damage he had caused. The young boy took this on as a “challenge” and went on to become a highly successful

lawyer, who fought against such injustices. Most of us could probably find some past experience like this that we perceived as a challenge and we became so immersed in it that it became central to our life and prosperity.

Lemonick (2005) proposes that it would not be beneficial for the human race to be continually in a happy state, and that for a species to be successful, it must be miserable and therefore strive for happiness. As will be seen, this is in direct association with the golden rule of flow—challenge (Csikszentmihalyi, 1990). This means that if you are to experience flow, you will need to continually strive to push your skills slightly beyond your present level. (Jennings, 1993). You cannot enjoy doing the same thing at the same level for long. We get either bored or frustrated; and then the desire to enjoy ourselves again pushes us to stretch our skills, or to discover new opportunities for using them.

With this in mind, it is clear that a crucial element in attaining flow in physical activity is designing a training programme that will continue to challenge the individual to new optimal levels. Hanin (2000) states that the individual challenge-skill equation makes flow both a personal and universal experience. Flow occurs when the balance is optimal for the individual, and this theoretically can occur for any person; thus flow is an experience accessible to all performers.

So, flow can be experienced, whether learning how to serve a tennis ball or playing for match point in the Wimbledon tennis finals. Everyone experiences flow from time to time and will recognise its characteristics: People typically feel strong, alert, in effortless control, devoid of selfconsciousness and at the peak of their abilities. Csikszentmihalyi (1990) suggests that this state can in fact be controlled and not just left to chance. This is achieved by setting

challenges or goals that match our present abilities and influence our conscious progressions.

The perceived elusive and uncontrollable nature of flow is what the fundamental hypothesis of the present research challenges by applying the devised flow programme in order to create a system with which to create and enhance flow experiences. Hanin (2000) agrees with this view of the potential for flow being tapped into by visualising and creating natural trigger references to past moments of flow. Many athletes and coaches, as well as sport psychologists, regard flow as rather elusive. Hanin (2000) believes that one can achieve this by setting the scene and preparing for it. He believes that it should be something you can ask yourself to immerse yourself via disciplined training.

In the present research, a training programme was devised to guide participants in developing an awareness of what it means and feels like to be in flow. The focus was on mental preparation to create a frame of reference based on the fundamentals of flow, which was used as a mind-tool for becoming absorbed in and working through the challenges incorporated in the programme. The programme design made use of a “flow-chart” (Appendix B) to make the process of creating this frame of reference clearly visible and accessible (by using references from past experiences that relate to and are formed, based on the fundamentals of being in flow), thereby enhancing the ability to tap into a state of flow.

The fact that flow can be experienced in any challenging activity can be a pleasing thought in terms of life fulfilment. In the Western world, which is often dominated by materialistic thinking, we tend to imagine that we need wealth and relaxation in order to be happy. Flow sheds new light on this, because from the flow-perspective happiness is achieved by taking on and progressing with whatever the individual

perceives as a challenge. No matter what the situation of your life is, being in flow takes you to the essence of the idea that if you are growing and improving, then you will experience happiness.

Csikszentmihalyi (2003) proposes that to finally appreciate the value of flow one must realise that any activity can be enjoyable if the elements of flow are present—even pacing back and forth in a prison cell. This quotation refers to a story told about a man in solitary confinement who challenged himself to walk around the entire earth (imagined in his mind) during his imprisonment. So, in essence, no matter where you are or what your circumstances, there is always potential to discover challenges to become immersed in and thus to experience the joys of being in flow. Csikszentmihalyi (2003: 39) comments:

*What they are actually doing at the time is wildly different—they may be meditating, running a race, playing chess, or perhaps performing surgery—but what they feel at the moment is remarkably consistent. I have given the name “flow” to this common experience, because so many people have used the analogy of being carried away by an outside force, of moving effortlessly with a current of energy, at the moments of highest enjoyment.*

## **PURPOSE OF THE STUDY**

The primary aim of the present research was to develop a standardised format of a flow programme, which enables participants to enhance their understanding of flow, as well as their ability to access this state. This was achieved by applying a system of visualisations with which to tap into specifically chosen flow-related past optimal experiences and recreate the states of mind from these experiences.

The secondary aims of the present research were to ascertain whether the implementation of the designed programme had positive effects on the following variables, which in accordance with Jackson and Csikszentmihlyi (1999), are directly related to and influence the occurrence of flow:

- **Satisfaction with life**  
(a meaningful sense of happiness found in flow)
- **Adherence to a personalised seven-week training schedule**  
(returning to activities in which flow is experienced)
- **Achievement of individualised goals set for the programme**  
(having clearly defined goals in order to create flow-conducive challenges)
- **Levels of flow experienced during the chosen activity**  
(comparing pre- and post-intervention scores)

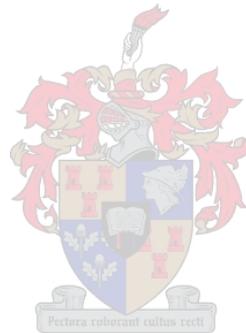
## **HYPOTHESES**

By applying the designed flow-programme, the study aimed to refute the common perception that flow is an elusive state that is not voluntarily attainable.

The present researcher hypothesised that flow experiences in the chosen physical activities would be enhanced by applying the devised programme of visualising past optimal experiences that incorporate the fundamental elements of being in flow. This would not only enhance flow states but would also promote a higher level of life satisfaction, greater adherence to a training programme and the achievement of set goals.

## **LIMITATIONS AND DELIMITATIONS**

Due the excessive time demands of dealing with participants on a one-on-one basis, this study was limited to a small sample of seven participants. It also focused primarily on fitness-related activities as these are easily measurable and challenges could be adjusted and gauged, to create a flow-conducive environment.



# CHAPTER TWO

## THE FUNDAMENTALS OF FLOW

### INTRODUCTION

In this chapter the fundamentals of flow, as proposed by Jackson and Csikszentmihalyi (1999) are discussed, affirmed and expanded upon, using relevant research findings.

During any experience of a state of flow, it can be noted that all the fundamental elements are present during the task. Thus, the converse idea evolves that if all these fundamentals form a structure for the mental approach to the task, then flow is more likely to be experienced. Jackson and Csikszentmihalyi (1999) use the word “FundaMentals” to emphasize the importance of enjoyment and the strong role of taking an enjoyable approach plays in finding flow in sport. The following seven fundamentals were applied by participants in the present programme in the order they appear below, as can be seen on the flow-chart (Appendix B).

A condensed version of the headings under each fundamental in this chapter was used as a reference for participants in the present programme to choose their relevant blue-print experiences for each fundamental. This was the basis of drawing up the devised individualised flow-charts. This ensured that there was not so much information for participants to absorb, that the programme would become a distraction, rather than a tool for becoming immersed in the task at hand.

## **FUNDAMENTAL 1: GOALS**

### **Goals form a map of where you are going and how you will get there**

Today's goals become tomorrow's realities, suggests Anderson (2000). Starting a sport psychology intervention with the idea that the athlete will develop specific behavioural goals provides a practical framework for shaping an intervention programme. Goals have been shifted to the first fundamental aspect of tapping into flow because this is what defines where you want to get to and clarifies and marks out the path that you are to follow in order to get there. Wilt and Bosen (1971) argue that the coach who wants to motivate an athlete must realise that the first step is to guide the athlete to clearly define his goals. Bull, Albinson and Shambrook (1996) propose that adherence to your mental training plan must become an accepted part of preparation for competition.

Davies (1989) suggests that it is invariably the case that if people are confident and expect to do well, then they do. Goals serve as a map so that you become well aware of which path to follow to reach your objective. Garfield and Bennett (1984) believe that it is a commitment to move toward something you want and are willing to work towards. This way, when distractions are placed in your path, you will recognise them more spontaneously and make decisions and choices that lead to your objective more consistently. Bull *et al.* (1996) maintain that setting goals will give you direction and purpose in training and competition. Rushall (1979) maintains that setting goals increases work output as much as 50% over that achieved when no goals are set.

Kremer and Scully (1994) argue that primarily, goal setting focuses attention, second, it mobilises effort, third, goals enhance persistence, and finally goals have an indirect effect in that they encourage the

individual to develop strategies for achieving the goals. By setting goals, the individual has a path to follow in steps that lead to the goals that have been set. This is achieved by setting short-term and long-term goals that will maintain task focus and decrease interference from distractions. Millman (1999) proposes that obstacles are those frightful things you see when you take your eyes away from the goal. Jackson and Csikszentmihalyi (1999) state that as the activity progresses, an athlete then knows moment-by-moment what to do next—and is thus more likely to experience flow. This is because clarity of intention helps to focus attention and avoid distraction.

### **Goals maintain focus on behaviour that leads to attaining them**

Suinn (1980) points out the preference for intrinsic motivation over extrinsic motivation in most athletic activities. Thus the motivation for achieving the goal must stem from an inner desire or need in the athlete to achieve what has been set out for, as opposed to an external reward such as finance or recognition for reaching a certain level.

Orlick (1990) writes about the personal aspect of motivation, where it may not make any difference to anyone else, but to the athlete. This refers to the feeling of accomplishing something that requires a commitment to extend personal limits. He goes on to say that the goal may never be reached, but if you accept that it is within your stretched potential, then you will remove some psychological barriers that currently limit your potentials.

Suinn (1980) argues that if activities are perceived as being relevant to the achievement of goals, motivation will be increased and practice will be sustained in an enthusiastic manner.

The use of an optimal past experience (in the “Flow Chart”) in which the participant has set, worked towards and accomplished a goal, acts as a trigger of the potential motivation that can be tapped into to

achieve the goals set for the present programme. Wilt and Bosen (1971) suggest that the individual athlete alone can provide his own personal internal motivation. The past experience gives a clear visual picture of what it means to each participant to experience success in an activity, by referring to their own personal blue-print of an outstanding goal they have worked towards and achieved in the past. Weinberg and Gould (1995) suggest that to understand someone's motivation, it must be understood what success and failure mean to that person. This will also give insight into the type of motivation that has worked for the individual in the past (what fulfilment needs are relevant). Miner, Shelley and Henschen (1995) propose that some motives may be reflections of needs, whereas others stem from psychological or sociological desires. This way the coach is making use of the athlete's personal experiences to get in touch with his/her specific, individual drives. Miner et al. (1995) believe that the coach must ascertain what motives inspire a particular athlete to perform and then aid him or her in acquiring these.

Bull *et al.* (1996) view mental toughness as a strong desire to succeed. In this regard, the athlete should ask the following questions: Do I know where I am going and how I will get there? Am I prepared to make the required sacrifices in order to progress?

Meyer and Plodzien (1988) believe that by integrating emotional and analytical thinking you become more goal-focused, thus becoming the best athlete that you can possibly be.

**Goals must be positively formulated and significant others must be told of them**

Positive belief in what you are setting out to do and confirmation from those around you makes goals more readily attainable. Orlick (1986) states that firewalkers are made of the same flesh and blood as you

and I, only their belief is different. Belief is the strength that creates reality.

Roberts, Spink and Pemberton (1986) found that only 40% to 65% of the individuals who begin a fitness programme persist in that programme. The more positive the attitude of significant others (people who form the athlete's support group), the better the chances are that a person will continue with the programme. The standard and volume of work is higher when goals are publicly expressed. Davies (1989) confirms that there is much research outside sport, particularly in the education field, concerning the powerful influence which the expectations of significant others has on an individual's motivation.

Horn (1992) suggests that sport practitioners encourage athletes to set goals in positive terms, focusing on what they want to accomplish. The intervention programme of the present study is based on a positive approach (looking at peak performances of the past and using these optimal moments as reference points for setting up future optimal performances and experiences). These motivate you to gravitate towards these positive experiences, rather than to avoid the negative ones. Millman (1999) suggests that in the long run a carrot motivates better than a stick, which also advocates the use of reinforcing positive experiences, rather than avoiding negative outcomes. Weinberg and Gould (1995) report that sport psychologists agree that the approach with sport and physical activity participants should be positive. Fear of failure usually causes a decrease in performance. This occurs because the athlete focuses more on the consequences of losing and making mistakes than on what to do to be successful. Having a positive perspective on what you aim for and believing that you are going to achieve it is essential. Millman (1999) brings to light an idea of Henry Ford, who argues that those who believe they can and those who believe they cannot are both right.

**Effective goals are SMART (Specific, Measured, Adjustable, Realistic and Timed)-**

General goals do not provide a clear map of exactly where you are headed or how you are going to get there. SMART puts all the important aspects in place that ensure that your goals are attainable and that if you put in the required effort and persistence, then their attainment becomes inevitable. Bull *et al.* (1996) outline the use of SMART when setting goals: specific measurable adjustable realistic time-based. Orlick (1990) maintains that establishing specific goals should help provide direction to your actions, give you a reference to determine whether you are attaining your goals, and encourage you to extend your limits.

Millman (1999) believes that most problems, once clearly defined are already partially solved. Roberts (1992) found that trained swimmers who set accurate personal performance goals demonstrated higher performance compared to a control group of trained swimmers who set vague or general goals.

Other researchers have related formulas. Kremer and Scully (1994) used a system coined SCAMP: specific, challenging, controllable, attainable, measurable, multiple and personal. Hill (2001) incorporates: specific, measurable, action-oriented, realistic, timed, elastic and repeatable when setting effective goals.

**Short-term and long-term goals should be set**

Hill (2001) reported on the usefulness of short-term and long-term goals. He proposed that a combination of short-term and long-term goals seems to be superior to only long-term goals.

The coach should apply a carefully planned progressive training programme that breaks up goals into small steps that each fall within

the present reach of the individual's abilities. Short-term goals are put together to form and achieve the long-term goals, which if taken on directly are overwhelming and would lead to feelings of despondence. Garfield and Bennett (1984) suggest that the foundation of every peak performer's training lies in his/her programme. They go on to say that if the routine of the programme is broken, you should just repeat the training that was neglected, rather than feeling guilty and allowing this to detract from your ambitions. This same approach is used in the seven-week testing of participants in this study.

Roberts *et al.* (1986) believe that the exercise programme should identify and aim to meet the achievement goal of the individual. This defines what success means to each individual. The goals for the programme must stem from the individual, who wishes to achieve these goals if the goals are to be motivational, argue Weinberg & Gould (1995). Involving the athlete in creating the programme structure enhances long-term participation. The long-term focus motivates, but this motivation is far off in the distance, so that it does not detract attention from the present small step of progression of the moment. Garfield and Bennett (1984) comment on visualising yourself (your thoughts and feelings) as having already achieved your long-term goal. This visual image is used in the blueprinting technique in the current programme, so that you have a clear image of what it will be like having achieved your goal. Lynch and Scott (1999) agree with the use of this technique of seeing yourself reaching your goal, and experiencing in your mind how that would feel. The clearer your imagery and picture of achievement, the easier it is to accomplish the task. The central nervous system does not distinguish between real and imagined events; your body will follow the visualised images as if they were real.

Weinberg and Gould (1995) believe that keeping a log is a standard technique used for changing a habit. Garfield and Bennett (1984)

propose that goal setting teaches you to appreciate progress not by comparing where you are at the moment with the final goal but by dividing the journey toward that goal in measurable increments. They suggest that your short-term goals should be lived and that the image created should be clearly focused on the performance of the new level of challenges.

### **Goals must be repeatable and rewardable**

Repeatability refers to the idea that attaining the goal was not done by luck, but that that level of performance has been reached and can be repeated again, so that a new level can be focused on at the moment.

Weinberg and Gould (1995) maintain that rewards should satisfy the needs of those receiving them. They also suggest that reinforcement is the use of rewards and punishments that respectively increase or decrease the likelihood of a similar response occurring in the future.

### **Winning must not be the only focus**

If winning is your only goal, you are setting yourself up for failure because this is not something that is completely within your control. An emphasis on the outcome also detracts from your focus on the task at hand. Millman (1999) proposes that when shooting for a prize of gold, two targets are seen. This idea is confirmed by Jennings (1993) who says that when one eye is fixed on your destination, there is only one eye left with which to reach that objective.

Csikszentmihalyi (2003) states that task enjoyment is often missed because focus is on the outcome, rather than savouring the steps along the way. He also believes that if you agree that the essence of life is happiness, rather than success, then it follows that it is the journey that counts, not reaching the destination.

## **FUNDAMENTAL 2: ENJOYMENT**

### **This is the essence of flow, and therefore must be incorporated when seeking flow experiences**

If an activity is not enjoyed, the absorption of flow will not be experienced. When seeking flow you should therefore choose an activity that is perceived as enjoyable (you love doing it with no external reward in mind). Weinberg and Gould (1995) maintain clearly and simply that the exercise must be enjoyable.

Lemonick (2005) suggests that the brain is highly plastic and can rewire itself in accordance with experiences. His ideas also relate closely with flow when he alludes to the pleasure you experience when nearing a goal. Only through these deeply absorbed challenging moments is true enjoyment really experienced. Hanin (2000) refers to the idea that to experience enjoyment you must have invested effort and focus.

### **Intrinsic motivation is important and comes from the inner joy of participating in the activity**

Roberts (1992) writes of intrinsic motivation, saying that sport comprises of activities people engage in for enjoyment. There are extensive extrinsic rewards in sport (such as trophies). People may participate to “prove themselves” rather than for the love of the game, so unfortunately intrinsic motivation may not always be at the forefront of sport involvement.

Orlick (1990) expounds on the nature of flow states, confirming Csikszentmihalyi’s belief that they require no external rewards but that the process itself is rewarding. An activity in which flow is to be experienced must be done purely for the love of that activity. There are often aspects such as prizes, recognition and financial gains that can motivate, but optimal performance is primarily reliant on doing the

activity because you love it just for what it is and the experience of this. The enjoyment and reward in the moment with this in place is far greater than any outcome reward that may result from good performance. Jackson and Csikszentmihalyi (1999) believe that what you get out exceeds what you put in. This reward is far greater because it is linked directly with the human need to feel at home with the natural energies of movement in terms of self-discovery. Straub and Williams (1984) believe that intrinsic motivation is based on the need to be competent in dealing with your surroundings. The rewards for such activities are the feelings and thoughts that accompany them. Weinberg and Gould (1995) give examples of reward as taking pride in accomplishment and feeling competent.

Gallwey (1979) suggest that the fundamental attribute of games is that they are simulations. Games are pretended realities in the context of something more real. So if you do not truly enjoy participating, then the simulation will be meaningless.

### **A magnetic return to flow experiences ensures continuity in practice of the activity**

The blueprint moments of enjoyment when in flow are what keeps us returning to the activity to achieve that same state of immersed joy, but it is only through persisting in the challenges of the activity that we discover these states in the first place. Csikszentmihalyi (2003) states that we usually pay attention to the things we like and that engage our skills. But the relationship works the other way around also, where we get to like whatever we pay attention to.

### **An element of playfulness must be maintained even in serious activities**

Ryan (1981) proposes that the psychological implication of there being no tangible end product in sport might be complicated, especially in

modern capitalist societies. Sport begins as a play activity with no other goal in mind.

Geron (1982) shows that studies of primitive tribes have revealed that the level of sociability can be measured by the games played by the children. When there is more play there are rich relations, comprehension, psychic well-being and positive interpersonal dynamics.

### **Focus must remain on the processes involved in task completion**

The stages or parts that make up the task must be the centre of mental attention to ensure becoming completely immersed in the task. Roberts (1992) maintains that athletes who are high in task orientation tend to push themselves and work harder during the exercise.

### **Performance must occur spontaneously as opposed to trying to make it happen, which detracts attention from the task**

The importance in this regard is to let the activity happen, and not to make it happen. While we are in flow, we are not happy, because to experience happiness we must focus on our inner states and that would take away attention from the task at hand. Only after the task is completed can we look back on what has happened, and then we perceive the excellence and happiness of the experience.

Jennings (1993) believes that a fundamental reason for the Zen method of training is to obtain enlightenment, which if “aimed for”, cannot ever be achieved. Kremer and Scully (1994) maintain that consciously trying to control an automatic process can disrupt the outcome in terms of performance. McCluggage (1983) suggests that once you have the feeling of the movement, you should let go of the metaphor that enabled you to visualise it. Garfield and Bennett (1984)

propose that letting go is ineffective unless the necessary physical conditioning and mental training precede it.

**Attaining goals should be enjoyable and form the driving force behind routine practice continuity**

Enjoyment stems from breaking down a difficult task into small, achievable steps that are each set just beyond the present performance level. This ensures plenty of opportunities for enjoyment of achieving the short-term goals that have been set.

**FUNDAMENTAL 3: HARMONY**

**This is a sure sign that flow has been experienced and is therefore an important fundamental in terms of “setting the stage” for flow**

Syer and Connolly (1984) believe that it is ultimately the quality of the body-mind relationship—its cultivation or neglect that determines how far you tap your full potential as an athlete. This is achieved when the performer becomes one with the activity, as when a dancer becomes the dance.

Harris and Harris (1984) argue that you can disrupt smooth execution of a skill by focusing on what you are doing. When in flow we become one with the activity, and the implements or surroundings that are relevant to the activity become an extension of our beings, states McCluggage (1983).

**All attention must be in the now (on the task of the moment)**

Millman (1999) says you should do what you can, with what you have, and where you are. This is how things are in flow: there is no distraction from things of the past or potentials of the future. All attention is focused on the task at that moment. Millman (1999) also

believes that this practice of the present moment may be one of the greatest benefits of training. There are no distractions from things that have happened in the past or things that may happen in the future, because these are out of the individual's control and will detract attention from being totally absorbed in the task at hand. Jennings (1993) maintains that if you evaluate actual performance during performance you become past orientated.

### **A loss of ego enhances concentration on the task at hand**

According to Csikszentmihalyi (2003) there is always extensive external judgement in modern sport from the likes of spectators and media. If the individual's mental attention becomes aware of this, attention is detracted from the task. Jennings (1993) suggests that you should not link sporting results with your own self-image. Your own self worth should be independent of your performance level.

Roberts (1992) infers that task involvement should link with intrinsic interest in an activity. In contrast, ego involvement leads to a decrease in intrinsic motivation. In such a case, external rewards or recognition become the driving force of the performance, rather than the joy of being absorbed in the activity.

Csikszentmihalyi (2003) states that concern for the self is so strong that if anything makes us self-conscious, it attracts our attention at the expense of our complete task involvement. If the ego surfaces and is not satisfied or justified, it will detract from the individual's desire to persist in the sport in order to avoid further damage to the ego. Roberts (1992) discusses persistence, arguing that individuals with high ego involvement will not persist if the sport does not meet his/her high ability goals.

### **A time-perspective shift in flow occurs when time seems to alter to suite the needs of the performer**

The individual is able to bend his/her perception of time to suit the needs of the task. So for an endurance athlete, hours of gruelling activity may seem to go by rather quickly (much faster than the normal passage of time). The converse applies for a high-speed reaction activity, when time may seem to slow down for a cricket player taking a reflex dive in the slips to make a catch.

### **An effort-perspective shift can also occur when what normally seems hard can feel almost effortless**

The effect of bending time has a similar effect in terms of effort perception, where an athlete making maximal intensity efforts has the feeling of doing so with far less perceived exertion than would normally be associated with that task (such as lifting a heavy weight for example). There is the much-quoted tale of the old lady lifting a car or heavy object to save a loved one from being crushed. This is a good example of un-distracted absorption in a challenging task.



### **The performer becomes at one with the task as the environment becomes an extension of the performer**

Jackson and Csikszentmihalyi (1999), when discussing athletes in flow, maintain that when they shoot a basket, the arc of the ball towards the hoop becomes an extension of their mind and will. Hanin (2000) believes that an optimal performance state usually provides the best internal conditions for total involvement in the task and best possible use of resources.

Whiting (1975) suggests that practice makes more perfect, but at the same time it reduces awareness of what is done. So there are no implements, game or opponents. All these things are about the player becoming at one with the activity.

### **Flow experiences provide an escape from daily life chaos**

There is no external interference from the thoughts of our daily life chaos. This is why being in flow offers an escape from the stress and concerns of daily life, as we get glimpses of how things can be. McCluggage (1983) proposes that looking cool can be part of shooting cool if this is what the athlete believes, since action follows belief.

### **FUNDAMENTAL 4: CONTROL**

#### **This is the ordering of conscious thought, so you are aware of what you are going to think of and how you will think**

Cratty (1984) found that experienced athletes did things somewhat differently to the less-experienced ones. The former make decisions about how much thinking to do about their mental life, and are more sophisticated about selecting useful ways of thinking, managing skills and emotions. If we allow things to happen spontaneously and “go with the flow” in our lives, our thoughts are always scattered and this is not conducive to getting immersed in a single task. By laying down the foundations of how we are to approach achieving a specific goal and setting the stage for optimal performance, we are ordering our thoughts and preparing the mind to attain new levels. McCluggage (1983) suggests that concentrating is what intelligence is (paying attention to the right things).

#### **Focus only on things that are within your control**

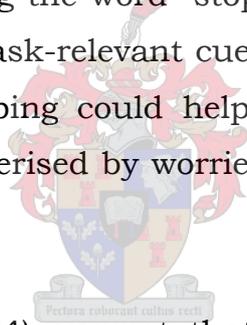
Jackson and Csikszentmihalyi (1999) state that what you cannot do must not interfere with what you can do. To function optimally the individual controls all aspects of the activity that are within control. Anything else, such as competitor behaviour and visual or auditory distractions are accepted as part of the environment that is out of the individual’s control and must not interfere with focus on controllable

aspects of the task. He also maintains that worry about different possibilities— particularly failure is rarely in the mind of an athlete in flow.

Orlick (1990) believes that if not controlled, your emotion will control you. If you do not deal with the uncontrollable aspects, then they will gain control over your optimal performance levels.

**Stop and replace any disruptive thoughts that detract attention from task-relevant cues**

Jackson and Csikszentmihalyi (1999) compare controlling distractions to switching channels on your TV or radio when the incoming station is not what you want to see or hear. Here, it may be useful to use a visual image or even saying the word “stop” to serve as a cue to shift thoughts away from non-task-relevant cues. Harris and Harris (1984) believe that thought stopping could help you prevent developing a pattern of thought characterised by worries and doubts that decrease confidence.



Straub and Williams (1984) suggest that instead of using imagery rehearsal to practise and strengthen the correct behaviours, imagery can be used to eliminate incorrect responses. Weinberg and Gould (1995) argue that a trigger which can be used to stimulate a specific state of mind can be a simple word like “stop” or snapping your fingers or hitting your hand against your thigh. The most effective cue depends on the meaning the individual places on it. A positive statement of thought should be used to replace the negative one, states Anderson (2000). By removing psychological barriers, the path is cleared to release potentials.

**In flow there cannot be complete control, because too much control means that you are not challenged optimally**

If there is too much control felt, then absorption in the task is decreased because the individual is not challenged to the maximum of his/her present skill levels. So there is no further flow if a certain level is reached and maintained, rather new levels must continually be sought after. Meyer and Plodzien (1988) propose that a new world cannot be discovered without forsaking an old one.

**Plan responses in terms of what you are going to do in each possible situation, so as to free maximal psychic energy for the task at hand**

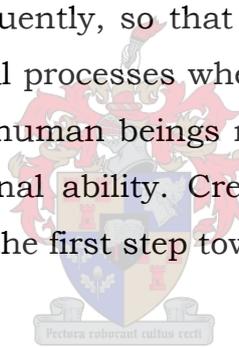
Miner *et al.* (1995) believe that what takes place in your mind impacts how you will perform. By planning responses before performing the task, the individual enhances the available amount of psychic energy available for the task. This is because the interference from analysis of what to do and why to do it has been minimised by thinking through and planning this in advance. Orlick (1990) reveals reflections of past Olympians who knew exactly what they had to do to perform their best, they knew what to focus on, and were completely confident that if they followed their focus plan, they would perform optimally. Planning ahead can prepare the mind to be at peace with tension before performing, and Orlick (1986) suggests that if an athlete is experiencing pre-event anxiety or fear, acceptance of that feeling should be part of the coping strategy.

McCluggage (1983) states that “how” is a relevant question in terms of the athlete getting in touch with his/her state of mind and body during performance. Questions such as, “how do I recognise that I am afraid?” “How am I holding my shoulders, my mouth?” “How do I change that?” “How” leads to a useful, specific awareness and can lead to doing something constructive about the actions of state. By

being aware of all of these questions and organising how you will deal with them in your mind during the task, potentials to experience flow are enhanced.

**Choose a few positive self-statements that you will use before and during your task to reinforce focus on optimal performance**

Lynch and Huang (1998) maintain that according to the Tao, the words you choose are the seeds from which your future realities grow. Scott and Pelliccioni (1982) in discussing success, suggest that the quality of your play is proportionate to the accuracy of your beliefs about how well you play. Syer and Connolly (1984) believe that the most effective affirmations are the ones that occur spontaneously in your own speech. This is why positive affirmations must be internalised and used frequently, so that they become a natural and spontaneous part of mental processes when performing the task. Bull *et al.* (1996) propose that human beings naturally engage in negative thinking and doubt personal ability. Creating a personalised list of positive self-statements is the first step towards overcoming this habit.



Harris and Harris (1984) see the only difference between the best performance and the worst performance as the variation in self-talk, the self-thoughts and attitudes. If these are accurate and in touch with reality, we will function well. Jackson and Csikszentmihalyi (1999) state that learning to control self-talk is a key mental skill for developing confidence. Scott and Pelliccioni (1982) confirm that what people say to themselves while they are engaged in a task will affect their success in completing the task.

**Practise relaxed breathing**

McCluggage (1983) suggests that because of the mind-body link, you cannot experience anxiety unless you are breathing as if you were anxious. Gallwey (1979) recognises that the most common physical

cause of error in golf, and perhaps in all sports, is “over tightness”. He emphasises that relaxed concentration is the key to excellence in all activities.

## **FUNDAMENTAL 5: CHALLENGE**

### **Getting immersed in challenges is the golden rule of flow and what it is essentially all about**

Horn (1992) indicates that difficult, realistic goals enhance performance more than easy goals. Weinberg and Gould (1995) agree with Csikszentmihalyi that flow experience occurs when your skills are equal to or just beyond your challenge. Flow cannot be experienced unless the activity is perceived as challenging to the individual. Hanin (2000) believes that task involvement should lead athletes to select competitive levels, opponents, and tasks conducive to maximal personal improvement and satisfaction.

### **Ensure that the challenges are just beyond present level (but within reach) and be sure to keep adjusting your challenges as you improve**

Millman (1999) maintains that unless you try to do something beyond what you have already mastered, you will not grow, nor will you experience flow. The challenge of the activity must be just beyond the present skill level. This ensures that all attention and energy is absorbed in the task. Sellars (1996) found that peak-performance is the direct correlation between self-confidence and success. Athletes (performers) who are truly outstanding are self-confident. The more success is experienced in a task, the more confidence is developed. If the challenge is too high, it will be overwhelmingly out of reach and if it is too low, the individual will become bored. Harris and Harris (1984) agree that the challenge of the situation must match your

perceived ability in order to maintain the concentration throughout the activity.

Sport provides ideal situations to keep raising the challenge levels. Harris and Harris (1984) propose that the nature of sport enhances concentration but specific practice improves it beyond that point. Millman (1999) suggests that by staying within (but near the top of) the comfort zone, masters take a little longer to improve, but their successive improvements last and continue for longer.

**Any potential distractions (such as environmental factors) can be perceived as a challenge rather than barriers**

Millman (1999) suggests turning problems into opportunities and stumbling blocks into stepping-stones to achieve new levels of performance. Environmental factors such as the weather, a referee, or crowd interference can detract attention from the task, but if they are perceived as challenges to the concentration, they can reinforce focus on the task at hand. So just because your environment may not appear to be ideal for what you are trying to do, by perceiving this as a challenge, rather than something that restrains you, you can achieve flow. Ryan (1981) proposes that the ghetto has consistently produced many of the finest athletes in the world even without having many tracks there.

**Personalise routines by finding methods that you relate to and that work for you**

Jennings (1993) suggests that developing an inner pride in the quality of your performance is necessary in order to continue making progress in your activity. By creating your own routines and method of approaching your performance, you personalise your approach and it becomes more a part of you and what you are trying to achieve.

### **Increase challenge and skills perception as your abilities grow**

Sellars (1996) states that thoughts or the beliefs that individuals have about the cause of events are believed to determine their behaviour. Your attention and absorption in the task will only be optimised if you perceive the challenge as being just beyond your present levels. So this can occur even if the challenge is too far beyond your reach (what counts for your absorption level is how you perceive it). Jackson and Csikszentmihalyi (1999) believe that the most important thing in terms of optimal performance is probably the feeling of having the ability to deal with the situation.

### **Take on and master risks in order to shift boundary walls once you become comfortable with the present limits**

By taking on risks and confronting fears, new levels of performance are achieved, as opposed to playing it safe and not pushing on to new levels. Jackson and Csikszentmihalyi (1999) believe that when we become comfortable with a certain performance level, we are in danger of losing flow and attaining new performance levels. He also maintains that mastering risks builds self-confidence by overcoming challenges.

### **Use a routine to overcome inertia**

Routines become a spontaneous and customised way of life, like brushing your teeth in the morning

As humans we tend to aspire to attaining states of rest, and perceive happiness as having achieved all we have set out to do. In truth, happiness is in those moments that we are absorbed in challenging activity. So having a routine that becomes spontaneous behaviour in order to maintain task involvement to provide opportunities to experience flow is essential. Bull *et al.* (1996) suggest that one of the key purposes of developing and implementing competition routines and programmes is to establish a consistent approach to performance.

## **FUNDAMENTAL 6: FEEDBACK**

**This is the fine-tuning of performance in order to maintain flow by adjusting your performance according to the relevant information you receive about your performance**

Klavora and Daniel (1979) agree with the suggestion that information feedback is the single most important variable governing acquisition and performance of motor skills.

Feedback is the information you receive to adjust your performance in order to attain your optimal levels of performance. Russell (1993) points out that students predictably experience an increased sense of competence following positive feedback and a decreased perception of confidence after receiving negative feedback.

**Feedback must occur immediately after task performance, so as to be associated with the task and effectively used to optimise similar future performances.**

Fisher (1976) found that knowledge of results provided an increased incentive to achieve a future goal. Even though the participants insisted that the previous results had been outstanding, their performance increased even further after feedback on the previous performance. Immediate and exact knowledge of results therefore clearly enhances task motivation. The feedback must be given directly after the performance, so that the feedback information is directly connected in the mind with that specific performance. So there is no interference from other information or activity that may occur between the performance and the feedback. Csikszentmihalyi (2003) maintains that it is difficult for people to stay absorbed in an activity unless they get timely information about how well they are doing.

**Feedback must be linked directly to your goals and all information that you get that is not relevant to your goal progression should be filtered out to minimise distractions**

Once you have set your goals and know where you want to get to, it is the feedback of information that assures you that you are progressing towards these goals. This gives you the sense that you will reach your goals if you keep progressing towards them. So it is important that your feedback information is directly linked to your goals, so that it reinforces your motivation. Weinberg and Gould (1995) propose that during the initial stages of training or skill development, desirable responses should be reinforced frequently. You have to decide on the most appropriate and important behaviours and focus on rewarding them.

**Adjust performance to the feelings in your body so as to approach what feels like peak performance**

The cues of relaxation or tension in your body are direct feedback about the state of mind you are in. Gallwey (1979) eludes to a golfer who had not considered his swing particularly tight, but when he hummed, his humming told him differently. Here humming was used as a feedback cue that indicated a relaxed state if the humming sound was relaxed. So if the individual hums, the tone of the hum can give insight to whether his/her mental state needs adjusting.

The individual will develop a sense of what it feels like to perform optimally (like the feeling in the muscles and joints, breathing and other sensory cues). The individual in flow is adjusting the body and movements to achieve these feelings when in flow. When the body is not feeling the right sensations, the sensations that are being felt serve as cues in terms of adjustments that can be made in order to optimise flow experiences. Gallwey (1979) suggests that muscles in the throat constrict with body over-tightness, and the sound of your

voice is choked off, giving you feedback. This is good reference to the use of using your self-talk words to focus (the sound of the word when you say it out loud will give you feedback on your state of mind or focus levels).

### **Adjust your performance to assimilate your visualisation of an optimal outcome**

When a practised task is performed the performer develops a visual mental picture of what the optimal performance looks like. When in flow, the performer is continually adjusting his/her performance to look as close to this visualisation as possible.

Butt (1976) refers to self-suggestion and biofeedback as methods by which the athlete tries to self-discipline positive attitudes, constructive efforts, control of physiological arousal and maximum performance levels.

### **Perception of winning is based on progression to goals**

This is the way to measure your progress, rather than in ranking or trophies.

Cratty (1970) proposes that the self-concept is primarily based upon what a person can do with his/her body. Often winning is thought of as coming first, winning gold, or receiving some form of reward. The real reward is to achieve your own personal goals, as these are within your control and are set in accordance with what you can achieve. Cratty also regards the feeling the individual has about the performance as more important than performance level itself. To heighten an individual's self-concept, situations enabling experiences of success, even though slight must be prioritised. With this perspective, continuity of progression is ensured and the individual is not left feeling like he/she has failed when he/she is beaten (which is

inevitable at some stage). Sellars (1996) believes that success experiences may lead the individual to associate the outcome of the activity with an internal and stable ability, so that the individual tries harder to achieve higher performance levels in the future.

Weinberg and Gould (1995) recorded observable behaviours on a checklist which proved to be useful to participants as feedback on their performance levels and how these should be continually adjusted accordingly.

**Ensure a clear and open communication of information that keeps you in flow, wherever this information may come from**

How the trainer communicates with you and how you communicate with yourself in terms of verbal cues and positive self-cues are powerful determinants as to how you respond to these cues. Here it is also important to discover what works for the individual, and what the individual perceives to be clear and open. Csikszentmihalyi (2003) states that a well-established finding is that it is less effective to tell a person what they have done wrong, than to see if it could be done better another way. When you focus a comment on another individual, all sorts of defences emerge that interfere with ability and motivation to learn.

Fisher (1976) maintains that if a motivational technique is used too often, it will lose its value. So tuning into the right moment to apply the motivational technique is a crucial factor in terms of its effectiveness. If the individual is given too much feedback, then it begins to lose its sense of importance (it begins to seem as though it does not take overcoming much of a challenge and pushing to new levels in order to achieve the positive feedback). Russell (1993) concludes that if a small amount of positive feedback is provided, additional praise contributes nothing further. Tuning into the right

amount of positive feedback is an important factor in continuity of motivation and progression towards goals. Morgan (1970), reports that use of feedback is a prime factor in controlling performance progression.

## **FUNDAMENTAL 7: FOCUS**

### **Focus is regarded as the number-one feature of being in flow**

Roberts *et al.* (1986) believe that potentially nothing is more important to performing optimally than the ability to focus on the appropriate cues. Being in flow means that all your mental attention is absorbed by attention on the task. The mind is clear from the normal chaos that interferes with performance levels in daily life and when not in flow. Gallwey (1979) refers to an athlete who speaks of having no talk in his head at all when he was performing optimally.

### **Mental processes must be focused on task routines**

Hackfort and Spielberger (1989) maintain that once arousal is elevated performance has begun, and attention should be directed to process cues.

Jackson and Csikszentmihalyi (1999) state that in flow there is no room for any thoughts other than what you are doing and feeling right at the moment. Visualisation is useful in this regard in terms of mentally going through and seeing each phase of the movements, so that the more challenging aspects that form the basis of an optimal performance become the focus of the mind in terms of being absorbed in progressing through the task. Klavora and Daniel (1979) view concentration (attending) as something we are always doing. The athlete needs to learn what to attend to, when to attend to it and how to maintain that attention at the critical time.

### **Visual focal points and breathing awareness can be used to tune focus into the present task**

Relaxed breathing has already been shown to relax the tension in the body, which enables clarity of focus. Visual cues, such as the implement used in a sport or activity can be used to focus the mind on what is to follow and adjust the state of mind to deal with this effectively. Orlick (1986) states that thoughts, images, and mental patterns act as the control-mechanism that directs the body.

### **Focus becomes like a wide-angled lens when in flow, so you take in more of your environment in terms of things relevant to you for optimal performance**

Klavora and Daniel (1979) maintain that attentional demands can be described on the basis of both width and direction of focus required at any given time. When in a focused moment of flow, attention does not narrow, but opens up to absorbing all of the information relevant to enhancing your performance of the task.

### **Refocusing techniques are important, because focus levels can fluctuate and you must be able to focus at will**

There will always be potential distractions in your environment. The key is to recognise these when they arise, so that you can consciously stop them from distracting you by shifting your focus to something that is relevant to the task and that will assist your optimal performance of the task. Jackson and Csikszentmihalyi (1999) maintain that excluding all the distracting events happening around your performance is not easy, but it is an important to master if you want to experience flow in sport.

In terms of dealing with distractions that occur by arranging them into internal distractions (happening within you), which are dealt with by focusing on something outside of you (perhaps the ball, or another

playing implement). The converse applies to dealing with external distractions. Lynch and Scott (1999) suggest that internal distractions can be overcome by focusing externally and external distractions overcome by learning to focus internally.

**Plan for performances, so there is nothing distracting to analyse when immersed in the task**

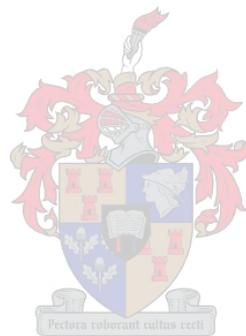
Millman (1999) quotes Abraham Lincoln who said that if he had six hours to chop down a tree, he would spend the first four hours sharpening the axe. This emphasises the importance of spending a substantial amount of time preparing mentally, so that you are able to perform optimally when the time comes to do so. The basis of this intervention is to subconsciously prepare for how you aim to perform to such an extent that there is nothing at all to think of when in the task other than the factors in the task that require your focus in order to perform optimally. Ryan (1981) agrees that in order for an athlete to achieve a fine performance, his work on the field must be backed by mental rehearsal off the field.

However, the concentration must also be rested when it is not being used, so it is of no use to consume vast amounts of mental energy thinking about the activity, leaving you burnt out and less interested when it comes to performing. Cratty (1984) alludes to players who seemed to spend the least time ruminating about the sport when not participating who were seen by their coaches as devoting the greatest amount of psychological energy while actually practising.

**Keep things simple and focus on only three or four of the most essential things relevant to optimal performance**

Jennings (1993) tells athletes that too much analysis leads to paralysis. Focus on the task can not be optimal if there are too many things to think of, so simplifying what you are trying to achieve by

narrowing things down to the essential aspects will enhance the ability to maintain focus. Weinberg and Gould (1995) advise that when initiating a programme only a few selected behaviours should be focused on.



# CHAPTER THREE

## RESEARCH ON FLOW

### INTRODUCTION

Research in the field of flow is extremely limited. Jackson and Csikszentmihalyi's (1999) book, *Flow in Sport*, inspired and formed the foundation of the present study. Outstanding features of other related studies were influential in the designing of the intervention procedure used. Various sport psychology books and journals were referred to in confirming and enhancing the information and trend of thoughts evident in the present study as a whole.

### REVIEW OF RESEARCH FINDINGS

The study by Pates, Cummings and Maynard (2002) on the effect of hypnosis on flow states in basketball three-point shooting performance is highly relevant and related to the present study. The research illustrates the potential for tuning into and refining this realm of being in flow. This enhanced performance levels of individuals by being absorbed in and enjoying the process of the activity.

Pates and his co-workers (2002) found that there were positive results in terms of using an intervention system of flow-related visualisations, applied to performing at optimal levels when these past experiences are triggered. Relaxation, imagery, hypnosis, and trigger-control procedures resulted in increases of the participants' mean basketball three-point shooting performance and their mean flow scores. The work of Pates *et al.* (2002) will be described in more detail.-

One of the fundamental features that clearly differentiates this work from previous research was the use of trigger-control techniques. Triggers are words, sounds, images or natural parts of a routine that you can do or think about in order to induce a response usually obtained during the induction phase of the hypnotic procedure. The first are natural triggers, which are usually used in a normal routine (such as holding the basketball), while the second are artificial triggers, which do not form part of a normal routine (such as a piece of music).

This technique invites athletes to relive a past experience of their optimal performance with no conscious awareness of any future realities beyond the time frame being experienced. During the regression phase of their intervention, positive emotions associated with players' ideal performance state were conditioned to a trigger that would allow access to an optimal performance experience during a future event.

It was expected that during hypnosis, the players' best performance could be conditioned to a natural trigger. It was then hypothesised that after conditioning, players using the natural trigger would experience more intense states of flow and achieve improved accuracy when performing a three-point shooting task. A natural trigger was used instead of an artificial trigger because the researchers wanted to demonstrate the effects of a trigger that requires no conscious control or distraction from the task at hand.

In the third stage, suggestions were given to help the participants regress and remember a poly-sensory experience of their best competitive performance. Specifically, they were asked to include visual, auditory, tactile, olfactory, gustatory, and memory of their best performance from an internal perspective. When a memory was accessed, a trigger was then introduced so an association was

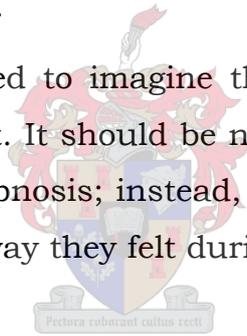
developed between the triggers and the variables responsible for the optimal performance. The trigger used was the basketball. After waking from the trance, they were asked to access their ideal performance state using the trigger.

Training was considered complete when the participants reported that emotions normally associated with their optimal performance could be experienced when they remembered the trigger (basketball).

**Intervention procedure:** The training was composed of four stages:

1. Relaxation
2. Hypnotic induction
3. Hypnotic regression
4. Trigger control.

The players were instructed to imagine the trigger (basketball) each time they attempted a shot. It should be noted that during this stage, players were not under hypnosis; instead, they were merely using the trigger conditioned to the way they felt during their ideal performance.



**Procedural reliability assessment:** The sessions were delivered in a standardised protocol (which influenced the scheduling of the present study) and included:

1. Progressive muscle relaxation
2. Mental imagery relaxation
3. Conditioning a trigger to a flow experience
4. Accessing the ideal performance state utilising the trigger
5. Completing the *Flow State Scale*
6. Checking understanding with participants.

**Results:** For each of the five participants, the hypnosis intervention led to an increase in the performance accuracy. This finding suggests that the hypnosis intervention consistently improved three-point

shooting performance. For all five participants of this past research, the hypnosis intervention led to an increase in flow scores.

The following are examples of the participants' experiences:

Participant 1

*Shooting was easy...I could not miss...I could will the ball to go where I wanted it to go, this made me feel confident and great. I had my rhythm and it was really fun. I thought of nothing...I had complete concentration.*

Participant 2

*My shot was automatic...I forgot about technique and just relied upon my increased confidence.*

Participant 3

*I just knew the shots were going to go in.*

The results of this study support the contention that flow, which is usually associated with successful athletic performance, may be accessed using hypnotic regression and trigger control techniques.

Perhaps the most important feature of hypnotic training is that once conditioning has taken place, processes important for optimal performance no longer need to be consciously controlled. This may lead to more attentional resources being available to the athlete, which may improve performance and allow flow to occur more often. This is achieved through decreasing conscious control of a motor task which enhances automatic processing and improves performance.

### **CSIKSZENTMIHALYI'S PIONEERING WORK**

In their book, *Flow in Sport*, Jackson and Csikszentmihalyi (1999) discuss the fundamental aspects of flow in depth, dealing with the

deeper reasoning and a broader understanding of each aspect. The flow experience is clarified, with reference primarily to the “challenge-skills” balance aspect. Examples are also given that highlight specific experiences of athletes when in flow and how the given fundamental applies in reality. In the present research, all these fundamentals have been condensed to the salient information that they are based on, so that the individual can create visual pictures of their own experiences of these fundamentals in order to minimise analysis when absorbed in the task. Thus, they can see how each of these fundamentals played a role in their personal understanding of optimal experience and performance and apply these states to future performance in which they strive to challenge themselves to reach new optimal levels.

The essential theme is that flow can occur in any challenging life activity, but that sport is particularly conducive to experiencing flow. This is because of the extensive and endless challenges that they provide for participants to attain new levels of skill. Contrary to most of daily life, sport can offer a state of being that is so rewarding that you do it for no other reason than to be a part of it. Once attained, flow experiences remain in the memory and provide a blueprint for returning to this optimal state. This is why the researcher formulated a system of using blueprints formed by the individual’s recollections of past optimal experiences of each aspect of being in flow.

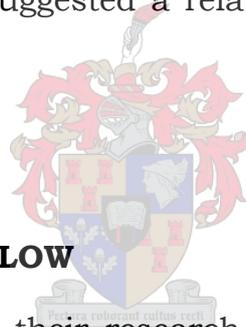
### **OTHER STUDIES ON FLOW**

A study by Jackson, Ford, Kimiecik and Marsh (1998) examined the correlation between the level of flow an athlete was in and his/her corresponding performance level. The research found that flow does occur in various settings, including recreational activities. However, there is a greater correlation for elite athletes experiencing flow during the performance of their activity. It was also found that there are individual differences in the ability of people to attain optimal

experience and that certain types of people are psychologically best equipped to attain this state. An example of such a person is one who feels more in control of his/her own actions and thus experiences greater intrinsic motivation levels. Csikszentmihalyi (1990) clarifies that it is not our actual skills, but the skills we think we have that are relevant to experiencing flow. In the discussion of the above study, it was clarified that it is the perception you have of your ability that is crucial for experiencing flow, as well as being highly interested in the activity.

### **Exploring the relationship between flow and brain activity**

Hung, Chen, Fong, Kao, Lo, Hung, Shih, Lin and Chiu (2002) explored the relationship between flow and brain activity. The findings discussed in their study suggested a relationship between relaxation and flow.



### **RECENT RESEARCH IN FLOW**

Young and Pain (2005) in their research on tennis players describe flow as a general feeling of body and mind unity to produce an optimal and memorable performance. The presence of motivation, clear goals, positive mood, focus and physical and mental preparation are said to be essential in attaining flow. The suggestion is made that a programme to guide tennis players to attain flow should optimise these factors that facilitate the onset of flow and minimise those which prevent flow. The players should be guided to re-interpret factors they perceive to disrupt flow. The study concludes that flow should not be considered an “out of reach” event, but that it can be nurtured.

Koehn, Morris and Watt (2005) assert that confidence is a key aspect in getting into a state of flow. They examined personality variables such as absorption, action control, trait sport confidence, and imagery

use, as underlying variables of dispositional flow. The results found that higher trait confidence and higher imagery use were associated with greater frequency of flow.

## **RESEARCH RELATING TO THE ROLE OF VISUALISATION IN FLOW**

Miner *et al.* (1995) refer to the “The imagination principle” which proposes that the mind does not know the difference between what is real and what it imagines. Visualisation is picturing of images in the mind’s eye. This prepares the body for optimal performance by triggering cues that guide movement patterns. Wilt and Bosen (1971) propose that your mental picture of yourself may be the strongest force within you, as people tend to become exactly what they imagine themselves to be.

Singer (1975) states that deliberate mental rehearsal of skills can aid performance. Athletes often, if not always, mentally rehearse skills, whether they realise it or not, as a form of supplementary practice, contributing to the maintenance of improvement of skilled performance.

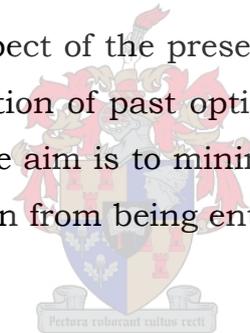
Millman (1999) believes that the mind leads the body. If you can see the movement in your mind, then the nerve pathways in the body are already practised and prepared for the physical performance. Rushall (1979) agrees that mental rehearsal is beneficial because when an action is imagined impulses are produced which travel along the nervous patterns associated with that action.

Davies (1989) proposes that in mental rehearsal a player pictures him/herself playing a match in a confident style. If the visualisation is of an optimal performance, it increases the probability of performing the task at this same optimal level. Butt (1976) suggests that mental

practice is valuable because physical effort and practice influence the pathways of association in our bodies and our minds associated with a given task. By practising applying past optimal visualised experiences to the task of the present we “set the stage” for future optimal experiences states Csikszentmihalyi (1999).

Scott and Pelliccioni (1982) believe that you are what you see yourself as. The development of an adequate, realistic self-image enables new capabilities, talents and potentially turns failure into success. This idea relates to the current investigation since you look at yourself made up of a picture of flow defining past optimal experiences in your life. This can form a tool to carve your way into experiences of optimal states in the future.

Routine is an essential aspect of the present intervention programme, as is seen in the visualisation of past optimal experiences in order to internalise the triggers. The aim is to minimise any conscious thought that would detract attention from being entirely focused on the task at hand.



Kappas (1984) maintains that everything you routinely do with your body, you have programmed into your subconscious mind. This is the portion of the mind that can function automatically. When you first learn any skill, including walking, you must make conscious decisions about each step. Then, when it becomes natural to you, you stop wasting your conscious awareness by always thinking about the action.

Roberts *et al.* (1986), state that vividness and controllability are important to motor imagery because uncontrolled vivid images do not aid blueprinting of correct movements. Through systematic practice, vivid and controlled images can be developed that can maximise the possibility of imprinting the correct movement pattern. Once

completed, imprinting helps in thinking through the task, raising self-confidence, and increasing the probability of experiencing a successful performance. The blueprint images become more vivid and controlled with the practice of seeing and bringing these experiences to the present state of mind throughout the present programme.

Orlick (1990) suggests that to become highly proficient at the constructive use of imagery, you have to use it daily, before, during and after training and in the evenings before sleeping. Effective visualisation is done through internal focus (as seen through the mind's eye) as well as an external perspective (as if you were watching it like a spectator). The visualisation done three times per week in the present programme is seen first from the inside, as though you are performing the task and then you see it from the outside and experience it as a spectator. Syer and Connolly (1984) also believe that you should visualise from the inside out and from the outside in.

Visualisations must be practised and made as vivid as possible. The closer they begin to replicate the real experience in all dimensions of sensation and emotion, the better they will transfer from the imagination to the reality of performing the task. If you imagine the task as performed exactly as in reality, with all the potential disruptions and performance pressures, then you will be prepared to perform at this same level in the real physical environment.

Kremer and Scully (1994) propose that you should try to get as clear a picture as possible of what you looked like when you were playing well. Listen in your mind to the sounds heard when you are playing well, particularly the internal dialogue you have with yourself. Miner, Shelley and Henschen (1995) suggest that the more you image a correct performance the more likely you will be to successfully complete the performance.

Gauron (1984) proposes that programming the subconscious turns your body into a servant that will do whatever you want if you know how to instruct it. One way of instructing the body is through verbal commands, telling it exactly what you want it to do. Another effective way is through the use of mental imagery, by seeing in the mind's eye exactly what you want to happen. Lynch and Huang (1998) believe that during this process, you call into play as many of your five senses as possible to help you create clear, vivid images that seem to be real. Horn (1992) maintains that mental imagery refers to all those experiences of which we are self-consciously aware and which exist for us in the absence of stimulus conditions that are known to produce their genuine sensory or perceptual counterparts.

Garfield and Bennett (1984) believe that by visualising goals we limit use of language for performance instruction. Words are useful only insofar as they aid us in creating mental images. McCluggage (1983) agrees that images should be attended to rather than words.

Orlick (1990) suggests that mental imagery enables you to deal effectively with a problem or event in your head before you confront it in reality. Lynch and Huang (1998) propose that breath-watching preparation (an awareness of deep and even breathing), followed by your visualisation and affirmation, will improve your ability to perform in a calm, efficient, effortless manner, exactly as you would optimally perform. Lynch and Huang (1998) also maintain that anatomists have shown that images have a powerful impact on every cell of the human body.

## **RESEARCH RELATING TO THE USE OF THE RELAXATION AND TRIGGER TECHNIQUE**

Weinberg and Gould (1995) suggest that a prompt is a cue that initiates a specific behaviour and that prompts can be verbal, physical or symbolic. The past research that the present author has used as a background to develop the intervention programme used in the present study makes use of hypnosis. As clarified by the reference below, a relaxation procedure can also be used effectively in attaining the same kind of automated trigger response (made use of in the present study). The information used must be meaningful and applicable to the individual whose mind is focused on specific aspects of ordering conscious thoughts in a relaxed and undisturbed state of mind.

Kappas (1984) in discussing self-hypnosis, writes that it is simply a means of focusing your mind toward a specific end without being distracted by the things around you. In this way, the relaxation technique has been applied as the intervention method for the present flow research programme. Kappas (1984) argues that we focus on the problem at hand, letting our conscious minds handle the task and our subconscious minds automatically deal with everything else. When this is achieved, he believes that the same mental conditions you will use in self-hypnosis have been tapped into. So, clearly relaxation and visualisation can be used as trigger tools to work towards the same automated result as hypnosis.

The relaxation procedure is a skill that must be practised and improved upon. Tuning into a physically relaxed state is fundamental in staying mentally relaxed when taking on challenging activities. This enables clarity of focus on the task at hand.

Fisher (1976) proposes that complete relaxation means relaxing all muscles of the body as much as possible. The relaxation process aims

towards attaining a relaxed state and initiates the mindset of focusing entirely on the task at hand, by creating a clear and undisturbed state without physical or mental distraction, so that a focal point can be consciously chosen. Fisher (1976) also maintains that progressive relaxation seeks to control emotions by controlling skeletal muscles. The belief is that there is a direct relationship between the two systems—control of one implies control of the other. Bunker, Rotella and Reilly (1985) confirm that tension and relaxation are direct opposites. They cannot be experienced at the same time because the mind and the body work in a harmony.

## **CONCLUSION**

The research discussed has been used in conjunction with the nine principles of flow (Jackson & Csikszentmihalyi, 1999), which were condensed into seven fundamentals for the present research. This combined information formed a foundation for the design and scheduling of the present intervention programme.



# CHAPTER FOUR

## RESEARCH METHODOLOGY

### INTRODUCTION

The purpose of this research was to design a programme that enhances *FLOW* and is founded on a clarified theoretical framework (PART 1), and to implement and assess the effectiveness of this programme in an experimental setting (PART 2).

Williams (2003) describes a theory as being a logical proposition about the relationship between phenomena. The present research aims to test the theory that if one is more aware of what the fundamentals of *FLOW* are and one is in tune with what it means and feels like to experience these states, one is then more likely to recreate *FLOW* experiences by incorporating these aspects in one's mental approach to challenges.

According to Williams (2003), if a theory is true, it implies that the world acts in certain measurable ways. So, if the theory on which the present study is based is true, then an intervention programme involving the levels of *FLOW* suggested in this theory should have the potential to improve the applied awareness of understanding and experiencing *FLOW*.

Williams (2003) further states that the more complex a theory is, the more sophisticated the research is likely to be. The present research theory appears to be reasonably straightforward. However, there are many aspects that underlie this basic theory, in terms of the complexity of the nature of being in *FLOW*, which is a multi-faceted state, with several interacting variables. The present research incorporates some of these complexities in terms of integrating them

in a logical manner, so that they can be clearly perceived as a whole functional system.

## **PART 1: PROGRAMME DEVELOPMENT**

A survey and analysis of related literature served to identify the major components of *FLOW*, as well as the processes and mind-tools that are conducive to enhancing the *FLOW* states of individuals while participating in physical activities.

### **Programme content**

Participants chose a preferred physical activity, in which they desired to improve their level of performance. Weekly training goals were set in order to create manageable steps that provided feedback to gauge progression towards the ultimate goals set for the end of the programme. Progression to or attainment of goals were measured weekly, and future goals adjusted according to the progress that had or had not been made.



The intervention procedure described below outlines the system that was applied by each participant to structure his/her mental approach towards the challenges of the programme.

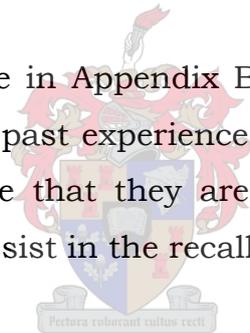
### **Intervention procedure**

The programme was applied over a seven-week period for the seven participants used in the present study. Before this testing was commenced, the programme went through a process of refining and condensing over about two years. Other participants were used in this pilot testing until the researcher felt that the programme flowed smoothly, and systematically.

At the beginning of the programme, participants set personal goals that they aimed to achieve by the end of the programme. These goals were set in accordance with provided goal setting guidelines. The goals were broken down into seven progressing steps (one for each week of the programme) and were thus used as a basis for individualised training programme designs.

The programme incorporated a mental approach of applying selected past optimal experiences based on the principles of being in flow. Natural triggers formed by seven segments of the body were used as a link to recreate mind-sets from the past optimal performances (blue-prints) and applied to creating new peak performances during the programme.

A *Flow Chart* (See example in Appendix B) was used as a visual aid with which to arrange the past experiences and link them to triggers. The blueprint ovals (notice that they are “blue”) were filled in with pictures or references to assist in the recall of the past experiences.



The “7 Fundamentals Guide” (Appendix A) provides information to be applied to the effective structuring of each of these aspects. This information shows what should be present during the experiences chosen as blue-prints in order for them to be good references of the fundamentals of flow that they each represent.

## **Relaxation and visualisation procedure**

Relaxation and visualisations were done at least three times per week at a time that suited each participant, and was carried out under the following instructions:

*With your flow chart in front of you, sit in a relaxed symmetrical position breathing in through your nose and deeply exhaling through your mouth.*

*Shift your awareness to your chart and begin at the legs segment of your body. Visualise your blueprint and take yourself back to this experience, making it as vivid as possible, applying all of your senses: seeing, feeling, hearing, smelling and tasting the experience as if it is happening in the present.*

*Capture this state of mind and now visualise yourself applying this state of mind in your present chosen activity for this programme at your goal level. As you attain clarity on this, visualise this optimal experience absorbing it into your legs as they relax and take on the role of your natural trigger for this experienced aspect of flow.*

*Work upwards through all seven of the body segments in the same manner and then finally take an outside view of yourself performing at your peak in your chosen activity with all of the triggers functioning together. Focus on your breathing again, as you return to your present environment, ready to take on the challenges that lie ahead of you in your seven-week programme.*

*You are to fill in the number of days for each week of the programme and amount of time spent doing this procedure in the space provided on your training schedule.*

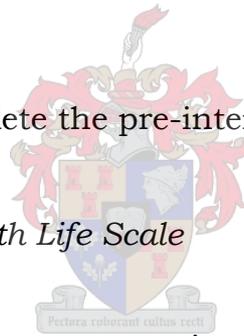
## **Scheduling of the intervention programme**

The following procedure was followed in scheduling the intervention programme:

Firstly, a sample of a challenging activity selected by the participant was carried out. For example, one participant ran a 10km time-trial during this session (she had never run as far as 10km before). Her goal for this pre-intervention challenge was to complete the distance, which she did in 81 minutes. On the basis of this, her goal for the programme became to break 65 minutes for the same distance by the end of the programme. The dividing of the final goal into small, achievable steps aimed to challenge her just beyond her pace or intensity level in the chosen physical activity throughout the programme.

The next step was to complete the pre-intervention questionnaires:

- *Flow Scale*
- *Satisfaction with Life Scale*



Then, goals for the programme were written, using the SMART system, which ensured effective goal setting techniques that were specific, measured, achievable, realistic, and timed. These were used to gauge the percentage of goals attained at the end of the programme.

A training schedule was then drawn up with regard to times and days set to train for the seven weeks that followed. At the end of the programme this was used to measure adherence to the training schedule.

More specific training programmes were then designed for the activities each participant had selected, relative to the goals that were set weekly (gradual, measurable progressions) towards the final goals.

The programme outline was then explained to participants by means of the “Scheduling of Intervention Procedure”, and in accordance with this, each participant drew up his/her individualised flow-chart. The use of the relaxation and visualisation procedure for applying the devised flow-chart, guided each participant through his/her first use of the procedure.

The seven-week individualised programmes were then carried out, and weekly measurements were made, providing feedback of actual performance levels, relative to the set goals. Goals were adjusted accordingly where they had been surpassed or not achieved for a particular week, so as to keep the participants optimally challenged during the week ahead.

Post-programme measurements of the four variables were then carried out:

- Level of flow experienced in the chosen activity at the new challenging level at the end of the programme
- Satisfaction with life at the end of the programme
- Percentage of goals attained
- Programme adherence

### **Evaluation procedure**

Ground Evaluation Theory has previously been described as the systematic working out of hypotheses and concepts during the course of research. The present research took this approach since the sequence of procedures listed above was the culmination of the preceding two years of testing and designing the intervention and how to apply it. During this development period, the hypothesis was more clearly formulated, and the concepts by which participants would learn how to understand and tap into flow were created and refined.

A meta-evaluation is seen as an evaluation of an evaluation, which is evident in the present research approach, as the system aimed at voluntarily experiencing *FLOW* was evaluated and refined during the programme development phase. The eight-step schedule above, and the procedures involved in each step were developed and refined during the two-year pre-testing phase of the present programme. Specifically, step six, referring to the system of applying the intervention principles with the use of the devised flow-chart in conjunction with the relaxation and visualisation procedure. This system was re-evaluated, until it became an effective tool with which to apply the concepts of flow in a functional and user-friendly format.

## **PART 2: EXPERIMENT WITH INTERVENTION**

### **Sample**

Patton (1980) declares that decisions about what one wants to be able to say with the data, for what purpose, and with what degree of credibility should be taken into account when defining the sample group. He also proposes that purposeful sampling increases the utility of information obtained from small samples. Williamson *et al.* (1977) maintain that purposive sampling refers to a judgemental form of sampling in which individuals are selected for their relevance to the issue being studied.

A group of seven (N=7) participants between the ages of 28 and 62 years (M=44 years) was used for testing the programme. This group consisted of five female (n=5) and two male (n=2) participants.

The seven participants were chosen on a basis of being a convenient purposive group. They were convenient, because they were either clients in a personal-training programme or their friends who live in close proximity to the location where the programme was

implemented. The group was purposive, because its members all had clear goals they wanted to achieve in the seven-week programme, which is one of the fundamental criteria for experiencing flow.

A prerequisite for selection was that participants had to have attained at least a matric level education, which ensured that they could read and understand the information in the programme. These purposive aspects of sample choice increase the validity of the findings with regard to the rest of a similar population who comply with these same criteria.

### **Intervention programme**

The theoretical rationale for designing a *FLOW* programme has already been discussed. The system of applying and testing an intervention programme can be seen as the operationalisation of the theory. Williams (2003) describes operationalisation as moving from the theoretical to the measurable which is done by developing operations with which to observe the social world to test theories.

The intervention programme for this study was tailored to each individual in terms of goals set, preferred physical activity, and visualisation blueprints. These blueprints were used to create personalised references and visual images with which to understand and re-create a frame of mind conducive to flow experiences. The “Scheduling of the Intervention Programme” was used to standardise the format of each participant’s implementation of the intervention procedure. Participants used the flow-chart to represent their own personalised and meaningful flow experiences to understand and apply the devised system of intervention.

## **Content**

The devised intervention was presented to the seven participants over a period of seven weeks of personalised, goal-focused physical training. This training incorporated a mental approach based on the refined seven fundamentals of flow in order to strive towards enhancing optimal performance levels. The physical training comprised of a variety of challenging exercise activities, which included one or a combination of: walking, running, cycling and resistance training. The total duration of a participant's training routine ranged from a minimum of 60 minutes per week (divided into three sessions), up to a maximum of six hours per week (divided into six sessions). The prioritised goals that participants set themselves were based either on measured performance improvements in their chosen task, or on physical changes such as weight loss, or body fat reduction.



## **Implementation**

The seven-week programme was completed by each participant by applying a standardised procedure. The period of seven weeks was chosen because this ties in with the discussions of the number seven and its application in the present research. In this regard, the seven progressive short-term goals for each week were an optimally challenging number of aspects that the human mind could effectively deal with and perceive. In this way, the picture of the programme and the seven steps of progression would not become overwhelming. Participants would feel that they could clearly perceive the whole picture of the programme. At the same time, participants also would not feel that it would be so easy, that they would become bored and lose interest—once again a reflection of challenge being the golden rule of enjoying flow experiences.

## **Evaluation of the programme**

Before the present seven-week testing was done, a two-year development (pre-testing) of the intervention programme was carried out. Several pilot runs were done during its evolution, to refine and condense the programme, so that it would not detract attention from the challenges of the programme. Most of the participants in these pilot programmes did not complete a full seven weeks, as focus diminished since a clear picture was difficult to maintain in terms of how the whole approach should be implemented. There was simply too much to think about, which tended to become a distraction from the task at hand. This decreased enjoyment of the activity, as well as adherence to training and therefore progression towards goals was hampered as well. The researcher worked on devising clearer ways of explaining and applying the intervention, to the point of the present programme.

Although the seven-week programmes in the testing that followed was tailored to each individual in terms of their personalised approach, chosen activity and goals, the method used to create the flow-conducive mental approach with the use of the devised flow-chart followed a standardised format.

## **Measurement tools**

The BEFORE-intervention measurement tools included the *Flow State Scale* (Jackson & Marsh, 1996) and the *Satisfaction with Life Scale* (Pavot & Diener, 1993). For the AFTER-intervention measurement, both the before-intervention tools were repeated, as well as an assessment of the achievement of individualised goals set for the programme and programme adherence during the intervention period.

## **Flow State Scale**

*The Flow State Scale* (Jackson & Marsh, 1996) was used to test the level of flow experienced by participants. Hanin (2000) reports that this scale has undergone psychometric analysis, and has an acceptable structure and reliability for testing of flow levels.

The scale is based on all of Csikszentmihalyi's nine dimensions of *FLOW*:

1. Challenge-skill balance
2. Action-awareness merging
3. Clear goals
4. Unambiguous feedback
5. Concentration on task at hand
6. Sense of control
7. Loss of self-consciousness
8. Transformation of time
9. Autotelic experience

The scale determines the level at which you are connected to the performance of a challenging skill with regard to these dimensions. There are four statements pertaining to each dimension of flow. Answers to the 36 statements are given in the form of a rating scale from 1 (strongly disagree) to 5 (strongly agree). Participants are asked to recall an optimal experience during participation in sport when they were totally absorbed and enjoying the activity. The scale is designed to be used immediately or soon after performance. By trying to measure flow, it can be lost. This is because the reflection is mistaken for reality. An improved understanding of flow and its fundamentals is what makes it more accessible to athletes or anyone performing a physical activity.

# Flow State Scale

**How did you experience the activity that you have just completed?**

**Respond to each of the following statements by placing a tick-mark in the appropriate block**

**1. I was challenged, but I believed my skills would allow me to meet the challenge.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**2. I made the correct movements without thinking about trying to do so.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**3. I knew clearly what I wanted to do.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**4. It was really clear to me that I was doing well.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**5. My attention was focused entirely on what I was doing.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**6. I felt in total control of what I was doing.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**7. I was not concerned with what others may have been thinking of me.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**8. Time seemed to alter (speed up or slow down).**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**9. I really enjoyed the experience.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**10. My abilities matched the high challenge of the situation.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**11. Things just seemed to be happening automatically.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**12. I had a strong sense of what I wanted to do.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**13. I was aware of how well I was performing.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**14. It was no effort to keep my mind on what was happening.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**15. I felt like I could control what I was doing.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**16. I was not worried about my performance during the event.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**17. The way time passed seemed to be different from normal.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**18. I loved the feeling of that performance and want to capture it again.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**19. I felt I was competent enough to meet the high demands of the situation.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**20. I performed automatically.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**21. I knew what I wanted to achieve.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**22. I had a good idea while I was performing about how well I was doing**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**23. I had total concentration.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**24. I had a feeling of total control.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**25. I was not concerned with how I was presenting myself.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**26. It felt like time stopped while I was performing.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**27. The experience left me feeling great.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**28. The challenge and my skills were at an equally high level.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**29. I did things spontaneously and automatically without having to think.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**30. My goals were clearly defined.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**31. I could tell by the way I was performing how well I was doing.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**32. I was completely focussed on the task at hand.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**33. I felt in total control of my body.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**34. I was not worried about what others may have been thinking of me.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**35. At times, it almost seemed like things were happening in slow motion.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**36. I found the experience extremely rewarding.**

*Strongly disagree*  *Disagree*  *Indifferent*  *Agree*  *Strongly agree*

**Thank You**

# Satisfaction with Life Scale

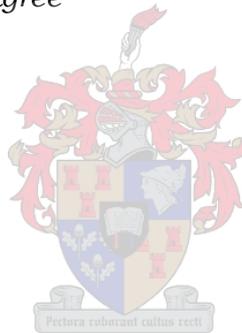
(Pavot & Diener, 1993)

**Below are five statements with which you may agree or disagree. Indicate your agreement with each item by making a tick mark in the appropriate block.**

**Please be open and honest in your response.**

## 1. In most ways my life is close to my ideal

- Strongly disagree*
- Disagree*
- Slightly disagree*
- Neither agree or disagree*
- Slightly agree*
- Agree*
- Strongly agree*



## 2. The conditions of my life are excellent

- Strongly disagree*
- Disagree*
- Slightly disagree*
- Neither agree or disagree*
- Slightly agree*
- Agree*
- Strongly agree*

**3. I am satisfied with my life**

- Strongly disagree*
- Disagree*
- Slightly disagree*
- Neither agree or disagree*
- Slightly agree*
- Agree*
- Strongly agree*

**4. So far I have gotten the important things I want in my life**

- Strongly disagree*
- Disagree*
- Slightly disagree*
- Neither agree or disagree*
- Slightly agree*
- Agree*
- Strongly agree*



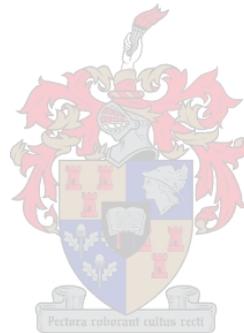
**5. If I could live my life over, I would change almost nothing**

- Strongly disagree*
- Disagree*
- Slightly disagree*
- Neither agree or disagree*
- Slightly agree*
- Agree*
- Strongly agree*

## Scoring

- 5-9** Extremely dissatisfied with life
- 10-14** Dissatisfied with life
- 15-19** Slightly dissatisfied with life
- 20** Neither satisfied nor dissatisfied with life.
- 21-25** Slightly satisfied with life
- 26-30** Very satisfied with life
- 31-35** Extremely satisfied with life

Answers to the five statements relating to various aspects related to life enjoyment are given in the form of a rating scale from 1 (*strongly disagree*) to 7 (*strongly agree*).



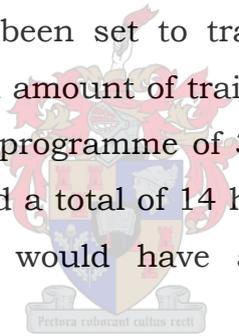
## **Further Assessments**

### **Achievement of individualised goals set for the programme.**

A participant would set a challenging goal for the programme, such as losing five kilograms of body weight in the seven week period. If they lost only three kilograms, then they would have achieved 60% of their goal. All goal achievements were measured in this way, and it was ensured before commencing the programme, that all goals set would be measurable and broken down into weekly increments.

### **Programme adherence**

This was measured over the duration of the seven weeks in accordance with the programme that had been set for each participant. Measurement was based on the number of days and amount of time that had been set to train during the seven week period relative to the actual amount of training done. If for example, a participant had a running programme of 3 hours per week for seven weeks, and he/she recorded a total of 14 hours of running during the programme, then he/she would have adhered to 66.6% of the programme.



## **Experimental design**

A before-after (pre-post) measurement experimental design for individuals was employed. The independent (experimental) variable in the present research was the flow-intervention programme including the personalised content and outcomes set for each participant. The dependent variables were the four measurements employed.

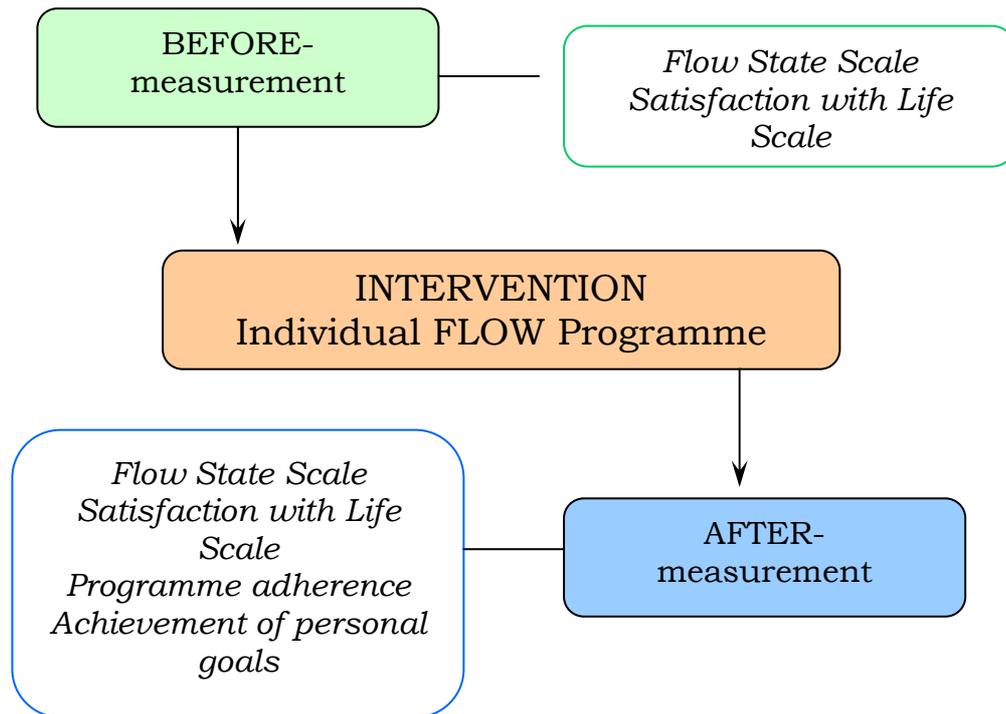


Figure 4.1. **RESEARCH DESIGN**



### **Analysis of data**

The interpretation of the data could give an indication of the effectiveness of the devised programme. Participants were tested before and after the interventions programme.

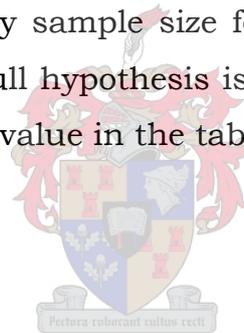
The data of seven intervention participants in terms of the four variables were analysed. However, because of the individualised nature of the programme, individual comments and responses to the programme also formed part of the information captured and discussed.

In the current investigation the Wilcoxon matched-pairs signed-ranks  $T$  test was used for testing the difference between the repeated measures of the two correlated samples. The Wilcoxon matched-pairs signed-ranks test provides a  $T$  value (Spats, 1993).

The first step, before any ranking takes place, is to find the difference,  $D$ , between each pair of scores. Next, the *absolute values* of these differences are ranked. The rank of 1 is given to the smallest difference, 2 goes to the next smallest, and so on. The third step is to give each rank the positive or negative sign of its difference. Next, all the positive ranks are added together. In a separate step, all the negative ranks are summed.  $T$  is the *smaller of the absolute values* of the two sums. For this test it is the *differences* that are ranked, and not the scores themselves.

The rationale is that, if there is no true difference between the two populations, the absolute value of the negative sum should be equal to the positive sum, with any deviations being due to sampling fluctuations (Spats, 1993: 301-304)

There are critical values by sample size for both one- and two-tailed tests (Spats, 1993). The null hypothesis is rejected when  $T$  is *equal to or smaller than* the critical value in the table.



## **CHAPTER FIVE**

# **DESIGNING THE INTERVENTION PROGRAMME**

### **INTRODUCTION**

The primary aim of the present intervention programme was to set the stage for flow experiences. The information used for the scheduling of the programme was linked with and forms the basis of the programme design. This chapter shows the relevance of the information used in this procedure, as well as why it was incorporated in this programme.

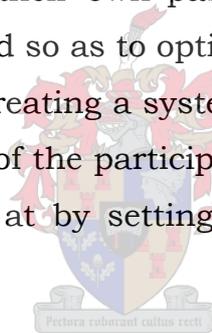
### **RATIONALE FOR CONTENT OF PROGRAMME**

Lynch and Huang (1998) maintain that you need to work out mentally with frequency and consistency. This notion is central to the present flow programme and to the idea that these optimal performance experiences are the result of careful and attentive planning of consistent performances that progress towards goals of improved performance levels. The attitude and mindset used to maintain this process also requires this frequent, consistent approach which is built into the routines that revolve around the system of reaching new performance peaks in the present intervention programme.

Orlick (1990) proposes that peak performances and personal bests often occur when mind and body combine in free-flowing experiences. This emphasises the importance of mental training in conjunction with physical aspects of sports. Participants in the present programme created order in their conscious thought in terms of their approach to achieving their goals. The fundamentals of flow were used as an outline structure for this approach. The flow-chart formed a simplified picture of seven divided segments of the body: legs, pelvis, abdomen,

chest, arms, neck and head. These were used as natural triggers to programme states of mind from past optimal experiences (blueprints) which incorporate each of the fundamental elements of being in a state of flow. These seven fundamentals, as devised for the present programme are: goals, enjoyment, harmony, control, challenge, feedback and focus.

The compilation of the present flow programme is based on enhancing awareness and understanding of the fundamentals of flow. Gallwey (1979) found it more effective to work from the inside out, trying to resolve the mental causes of error rather than correct all external symptoms. The current researcher has taken a similar approach by applying the intervention procedure in which participant recalled and internalised a network of their own past optimal experiences. These experiences were structured so as to optimise each and every aspect of experiencing flow. So, by creating a systematic approach to organising the internal (mental) state of the participant, optimal external physical performances were aimed at by setting the stage for experiences of flow.



Straub and Williams (1984) state that athletes learn from their past experiences and failures. They can then apply these lessons to training in order to improve performance. Hanin (2000) asked athletes to describe their one most joyful moment in sport, which forms a reference point to tap into past optimal experience. In the present programme participants aimed at accessing a system of optimal past experiences which were used to create a visual image of themselves performing their activity in the present programme optimally by incorporating selected aspects of relevant positive experiences.

Hanin (2000) maintains that research in sport has confirmed the dimensions of flow classified by Jackson and Csikszentmihalyi (1999) as generally accepted aspects that contribute to peak performance.

The researcher of the present study has condensed these nine into seven dimensions in order to assure that a conscious integration of the whole system is attainable within the realm of normal, challenging human processing abilities (as discussed below in the research of Glencross (1978). These seven dimensions and their defining information, as defined in the present research “Guide to structure flow-fundamentals” (Appendix A) formed the basis of what each participant used to select their optimal blueprint experiences. This information clarified how the presence of these flow-defining aspects during the past optimal experience enhanced flow levels during the given task performance.

During the present author’s own experience of flow in various physical activities, the use of nine fundamentals seemed overwhelming. After reviewing fundamental elements that Jackson and Csikszentmihalyi (1999) highlight it became clear that these could easily be condensed into seven aspects or “chunks” of information. This was achieved by combining Action-awareness merging, loss of self-consciousness and transformation of time (three of the nine fundamentals) into a single and all-encompassing category named “Harmony” in the present research.

### **THE USE OF THE NUMBER SEVEN AS A FUNDAMENTAL ELEMENT FOR STRUCTURING THE PRESENT PROGRAMME**

The research of Glencross (1978) serves as an introduction to ideas linked to the challenge of human processing abilities. This research reveals human limitations in terms of ability to process information with the environment. If confronted with too much information, there is a failure to select and/or process some of the information, with a resultant decrement in performance. The effects of such a limitation manifest themselves when the system is overloaded by being presented with or required to process too much information in a

limited period of time. Either the person fails to handle some of the information and task performance deteriorates, or he/she is unable to respond since he/she is not sure which information to select and which to ignore.

Jackson and Csikszentmihalyi (1999) refer to challenge being the golden rule of flow, this is to say that if the challenge you are faced with is too great, or too small, then flow experiences are unlikely to occur. When challenged with just the right amount of information, on the other hand all attention can be absorbed in a challenging activity, which is conducive to experiencing a state of flow. With this in mind, and with regard to the article by Miller (1965) discussed below, it will become apparent why the number seven formed an important foundation for the structuring of the present research.

There is a strong spiritual element that runs through the background of Miller's (1965) article, entitled: *The magical number 7, plus or minus two: Some limits on our capacity for processing information*. He introduces this spiritual element from the outset, when he reports that the number seven has followed him around for seven years. The author of the present "flow" study was automatically interested in the article, as he strongly relates to these energies connected with number seven and was even further surprised when he realised that this was initiated for him about seven years ago when he first began trying to juggle seven balls. Miller refers to these energies pertaining to the number seven as more than a random incident.

Miller refers to channel capacity as the point at which confusion sets in when the number of stimuli an individual is faced with is gradually increased. Miller discusses various experiments done with uni-dimensional stimuli which show similar findings and confirm the existence of a channel capacity for human observers. Miller states that the human range of capacity does not vary much from one simple

sensory function to another. In the research Miller conducts, the number seven is proven to apply well to one-dimensional judgements, but we can distinguish hundreds of faces, thousands of words etcetera. This is possibly because of the varied attributes of the stimuli (they differ from each other in many ways, unlike the simple stimuli, which only have one differentiation).

Miller expands on this, maintaining that recoding can be used to increase the number of bits by building larger chunks with more information (as seen in the breaking down of each chunk of a flow fundamental used in the present programme into seven bits of information). Miller maintains that there must be sufficient time spent learning the recoding schemes so that when the code is translated it is automatic (this is aimed at in the present programme in applying the visualising and reliving past flow experiences by incorporating all the bits of information pertaining to each one till each of the seven fundamentals is perceived as a single chunk of information). Miller states that if this does not become automatic, information from next group (or the next fundamental of flow in the present programme) will be lost while trying to remember the translation of the last group.

Miller maintains that this recoding can be very powerful in increasing the amount of information we can deal with and is used constantly in our daily activities. We rephrase something we want to remember (effective tool of language for repackaging into chunks, which is used in more visual form in the present programme, by capturing blue-prints of flow in the form of simplified pictures which are drawn into the flow-charts) in our own words then recreate this verbalization from chunks of which there are few enough of to recall everything.

In conclusion on Miller's study, limitations on human capacities are overcome by creating sequences of chunks or "linguistic recoding" can be quantified in order to provide insight into the intricacies of these

systems. This can all be tied in with the magical seven, which echoes through the vast spiritual and physical realms of our existence (seven days in the week, seven wonders of the world, seven colours of the rainbow etcetera), which could be something of a deep and profound nature, or perhaps just a mathematical coincidence. Then perhaps the fact that we exist, perceive and continually seek new challenges to take on in our lives is related mathematical coincidence.

The present researcher incorporated this capacity of seven as a foundation for an approach to perform at optimal levels in any sport or activity. So, in the Flow Chart (appendix B), the body is broken down into seven segments (using the seven colours of the rainbow) which make up seven triggers. These segments act as triggers to recreate past optimal states associated with all of the fundamental aspects that apply to being in flow. Expertise level and practice would affect mainly the amount of information that is chunked into each of these seven stimuli and the ability to apply these deeper dimensions in creating a mental approach to be triggered in a future task.

Csikszentmihalyi (1990) defines balance as neither, a balanced state from a Western civilization perspective, nor that of an Eastern perspective. Rather, of finding a global balance by incorporating the positive aspects perceived in both of these. The present author aimed to incorporate this nature of balance in creating the present flow programme. An example of this can be seen in the use of the seven body segments, closely associated to the seven spiritual charkas (which depict energy centres and how energy flows in the human body). This can be seen to embody an Eastern philosophy. In contrast, there is the scientific research (Western philosophy) approach towards discovering processing abilities regarding the functional use of the number seven in having this many segments, used as natural triggers in the programme design.

Roberts *et al.* (1986) state that athletes acquire control through using “triggers”. For some athletes, a colour serves as a trigger, but any trigger relevant to the athlete will work. In the present programme the body was broken down into seven segments, as has been discussed. These triggers would always be in the natural environment of the participants, so would not create distractions from the task at hand. Each one of these triggers was linked to a fundamental aspect of being in flow, which was recreated and relived as part of the visualisation procedure of the present programme. The aim was for all past optimal past blueprint experiences, which incorporated all the fundamentals of being in flow to be triggered and thus structure an optimal state of mind for each participant when immersed in the present programme activity.

Jackson and Csikszentmihalyi (1999) state that the better you can recall what was happening before and during a moment when you experienced flow, the easier it will be to set the stage for it to reoccur. The repetitive visualisation of blueprints during the present programme aims to capture this concept of setting the stage for flow, by going back to that same path on which flow was experienced. So, participants would get in touch with what the nature of the entrance to this path, and entrench the feeling of being on this path clearly into the psyche. The objective was to be able to clearly recognise this path, so as to access it more readily and feel more at home on it. Bunker *et al.* (1985) also believe that positive mental rehearsal is based on the premise that thinking of how you have played in the past will have an impact on how you will play in the future.

Cratty (1984) writes about athletes playing various “mind-games” with themselves involving thought and the re-structuring of situations and themselves by thinking. The visualisation procedure of the present programme was practised every second day in order to improve participant’ visual pictures and ability to recreate the experiences,

feelings and mental states connected with these visualisations. So by reliving these past optimal states, participants became more in touch and tuned into their potentials by spending time visualising themselves during moments of peak performance, with the idea that these moments become a clearer part of their perceptions of what they were capable of.

Hanin (2000) discusses a study with collegiate athletes which positively correlated flow and peak performance, operationally defined as your best-ever performance. This underlines the approach of the present programme to improving levels of flow by setting the stage for flow experiences in order to achieve new peak levels of performance. Bull *et al.* (1996) maintain that if you execute a sport skill successfully once, then you have the ability to achieve that execution every time you try. In a similar way, the present programme aimed to improve mental access to past successful task executions, to develop the ability to play with and consistently recreate the state of mind that went along with the past success.

Anderson, (2000) proposes that regardless of the model or the theory a sport psychologist is using to guide the one-on-one intake interview, understand the athlete, and form a structure for interventions, intake interviews are all about getting athletes to tell their story. Davies (1989) agrees that this means, as Cratty (1973) has pointed out, that if a coach is to be effective he must really get to know the player as an individual. In the present programme the optimal past experiences of each participant, represented by his/her seven blueprinted flow-chart pictures told a story of the athlete's optimal zone and how he/she accessed this state in the past and could most effectively recreate this state.

Weinberg and Gould (1995) believe that participants themselves also need to be aware of the factors that influence the occurrence of the

flow state and mentally and physically prepare for competition and physical activity accordingly. In accordance with this, participants in the present programme enhanced their comprehensive awareness of what it means to be in a state of flow, how it feels and what must be in place for it to occur.

Rushall, (1979) proposes that a planned, gradual introduction of competition behaviours, performance goals and simulations, and distracters should be instituted with the athletes having a high probability for success with each progressive stage of the exposure. This was incorporated in the system of setting goals for each participant in the present programme. Goals were to be realistic, broken into small achievable steps, so that there was always high probability of feedback on successful outcomes at frequent intervals.

Miner *et al.* (1995) suggest that whatever dominates thoughts is what people move towards. This perspective influenced the prioritising of setting goals and placing this aspect at the forefront of the present programme. So, goals were set right at the start of the programme in order to focus the rest of the thought structure for the programme on these goals to assure movement towards these by the participants.

Fisher (1976) believes that attitude motivation consists of establishing or changing an athlete's attitude toward success. This is achieved by applying a method, setting attainable goals, and coaching the athlete to believe he or she can reach goals that have been set. The past peak experience of an optimal goal-focused state of mind to be applied in the present programme assured that participants believed they could attain the realistic challenging goals of the present programme.

Weinberg and Gould (1995) maintain that another way to change exercise behaviour is to have participants sign a statement of intent to comply with the exercise programme. This influenced the present

author to have participants write their names on their personalised “flow-chart” used in the present intervention, thus committing themselves to the programme.

The present programme places a large emphasis on the mental approach towards achieving a physical outcome, as can be seen in designing the mental approach and setting goals for the programme before commencing with the path of physical challenges of the programme. Rushall (1979) believes that a set of behaviours needs to be followed to produce a maximum sporting performance. This involves the adaptation of a series of procedures and decision-making processes to the particular sport and individual concerned. This process of mental preparation and training must be seen as being of equal importance to the physical aspect of training. Rushall (1979) suggests that as awareness and recognition of psychological preparation and training grow, the content of training programmes should emphasise psychological training to an extent that at least matches the physiological and skill emphases.

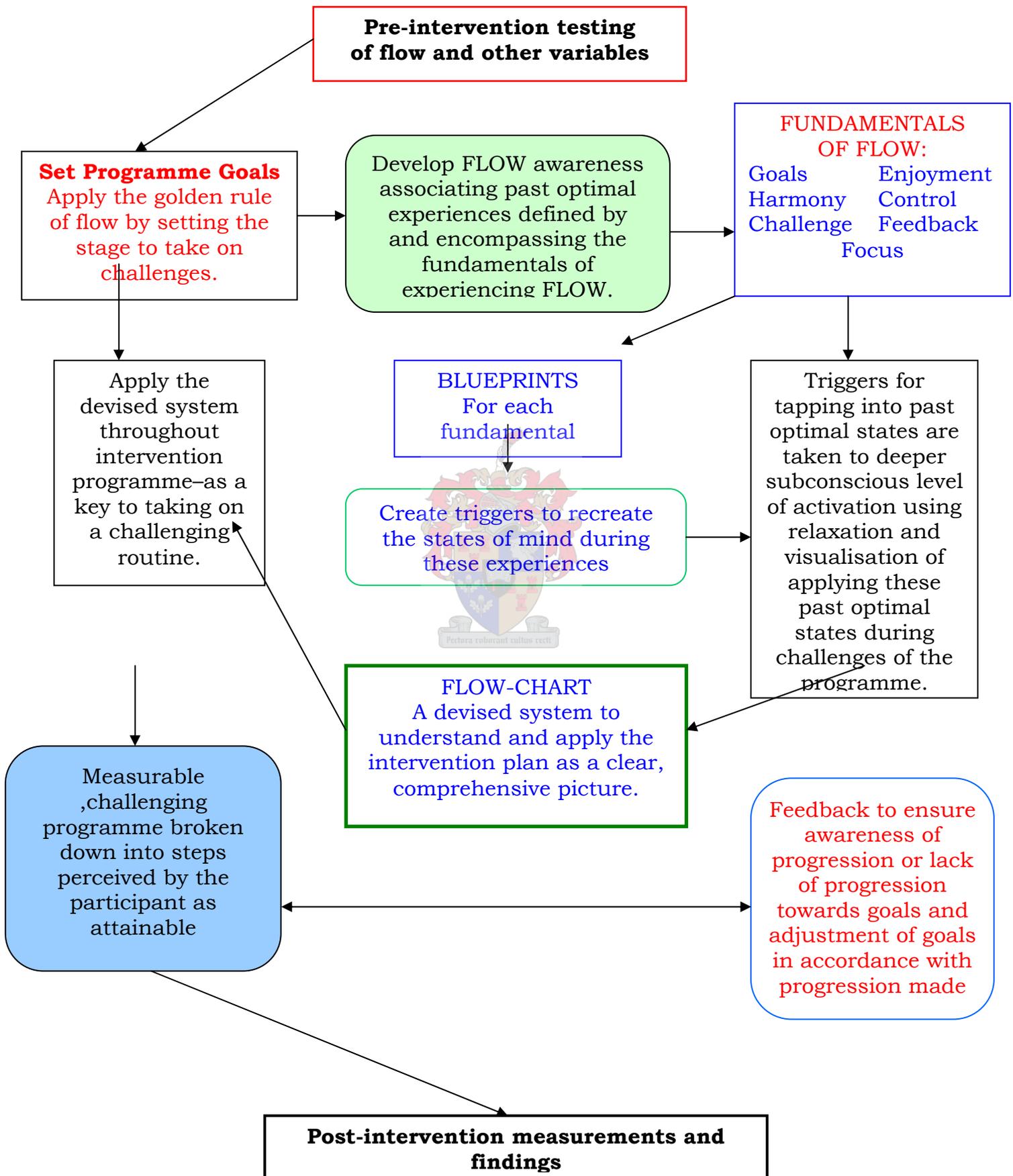
The visualisation procedure used in the present programme incorporates developing and clarifying a visual image of the whole body, made up of the seven segments which act as triggers. This alone provides potentials for developing a stronger sense of balance between mind and body and their harmonious interaction when in flow. In support of this, Klavora and Daniel (1979) propose that a simple test of kinaesthetic sensitivity is to close your eyes and create an image of your whole body. Then observe closely all the parts and note which areas are incomplete. This internally perceived mental image of the body regulates to a large extent the ways we use our body. Klavora and Daniel (1979) also suggest that this mental image of the body may reflect subtle sensory connection between the brain and other body parts. The degree of clarity of the image the mind has of the body thus serves as an indicator of overall body awareness.

Garfield and Bennett (1984) suggest that excellence is never limited to the playing field, rather that it become a way approaching life. In this way, the present programme aimed at applying participant's states of mind linked to blueprint experiences taken from any past activities (not necessarily in the same activity chosen for the programme). The blueprint could even be from a non-physical activity, as long as it represented a peak state of mind (or approach method) that represented the given fundamental aspect of flow for that participant.

Hanin (2000) proposes that recently the emphasis on the individual athlete has been gaining ground in sport psychology. With this individualised approach in mind, the present researcher used the past experiences of each participant to form the basis of their mental plan for the programme, thus applying each participants own life experiences and perceived successes as the fundamental information to structure their approach to enhancing their future experience of flow.



*Figure 5.1. A GENERAL MODEL FOR A FLOW PROGRAMME*



## **CHAPTER SIX**

# **FINDINGS OF THE RESEARCH**

### **INTRODUCTION**

The devised programme was tested on seven participants over seven weeks of personalised, goal-focused physical training. This testing was done to ascertain whether this programme was effective for improving levels of flow experienced during the physical activities in the programme and whether the flow-based approach to taking on new challenges improved the levels of satisfaction with life of the participants. These two variables were measured before and after each participant completed the present programme. The testing also measured adherence to the training schedules which were devised in accordance with individual goals, and the amount of progress made in terms of achieving these goals set for the programme (in accordance with the programme guidelines).

The following categories were used in measuring the above variables:

1. Level of flow state during the chosen activity.
2. Satisfaction with life.
3. Adherence to a set training programme
4. Percentage of programme goals attained.

### **FLOW**

There was a significant increase in flow levels after the intervention programme (See Table 6.1). Of the seven participants, five experienced an increased level of flow in their activity after completing the seven-week programme. The other two participants remained at the same level of flow. The two participants, who increased very dramatically in their level of flow, were the same ones who achieved highest and lowest in the attainment of their goals. This confirms the notion that it

is not the attaining of goals that enhances flow, but rather aspiring to work towards these goals.

**Table 6.1** FLOW LEVELS

Subject	PRE	POST	D	Rank	Signed Rank
A	139	140	1	1	1
B	167	169	2	2	2
C	95	95	0	eliminated	
D	98	98	0	eliminated	
E	120	180	60	5	5
F	84	124	40	4	4
G	172	176	4	3	3
$\Sigma$				15	15
N=5				$\Sigma(\text{pos. ranks}) = 15$	
T=0				$\Sigma(\text{neg. ranks}) = 0$	

Level of significance for a One-tailed test =  $p < 0.05$

Level of significance for a Two-tailed test =  $p < 0.10$

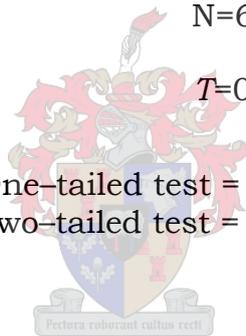
### **SATISFACTION WITH LIFE**

Six of the seven participants recorded a significant increase in satisfaction-with-life score after completing the programme (See Table 6.2). One participant remained constant in this regard. This means that in accordance with the rating scale, the average participant in the sample advanced from being *very satisfied* with life, to being *extremely satisfied* with life.

**Table 6.2** SATISFACTION WITH LIFE SCORES

Subject	PRE	POST	D	Rank	Signed Rank
A	24	27	3	2	2
B	32	32	0	eliminated	
C	28	32	4	3	3
D	17	26	9	4	4
E	34	35	1	1	1
F	24	35	11	5	5
G	23	35	12	6	6
$\Sigma$				21	21
N=6				$\Sigma(\text{pos. ranks}) = 21$	
T=0				$\Sigma(\text{neg. ranks}) = 0$	

Level of significance for a One-tailed test =  $p < 0.025$   
 Level of significance for a Two-tailed test =  $p < 0.05$



### **PROGRAMME ADHERENCE**

Much of the training was left up to the participants to complete on their own accord, which they were to keep record of and tick off the scheduled training tasks as they progressed, taking note of any progressions made. In a more extensive future study it could be interesting to compare these results to norms of adherence for those starting up a physical training programme of comparable duration and intensity without any intervention programme. This may give an indication of the role of having and perceiving experiences of flow in enhancing the desire to continue having such experiences. On average 86% of the training sessions set for all the participants were completed (See Table 6.3).

**Table 6.3** PROGRAMME ADHERENCE

Subject	PRE	POST	D	Rank	Signed Rank
A	21	20	-1	1	-1
B	21	21	0	Eliminated	
C	42	35	-7	4	-4
D	21	19	-2	2	-2
E	35	35	0	Eliminated	
F	35	22	-13	5	-5
G	35	30	-5	3	-3
$\Sigma$				15	-15
N=5				$\Sigma(\text{pos. ranks}) = 0$	
T=0				$\Sigma(\text{neg. ranks}) = -15$	

Level of significance for a One-tailed test =  $p < 0.05$

Level of significance for a Two-tailed test =  $p < 0.10$

Enjoyment is the essence of flow Jackson and Csikszentmihalyi (1999), and keeps people returning to challenging activities as an escape from the chaos and stress of daily life. So, adherence to training in this study is an indication of a positive experience that has a magnetism which keeps participants returning to the path towards their goal, and more importantly, returning to more opportunities for flow-conducive challenges.

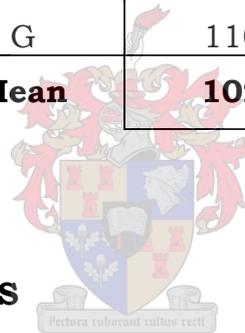
### **ACHIEVEMENT OF TRAINING GOALS**

The perspective of all the participants was that the goals that had been set would be very challenging, yet attainable. For those who had not set goals before, or who had struggled in the past in achieving progression in physical training, the goal setting was somewhat

intimidating. With an average of 102% of the participants goals achieved, it appears that the visualising of attaining these goals in conjunction with the flow-programme implementation was highly effective (See Table 6.4).

**Table 6.4** PERCENTAGE OF TRAINING GOALS ACHIEVED

Participant	%
A	100
B	100
C	86
D	106
E	146
F	65
G	110
<b>Mean</b>	<b>102</b>



### **WEEKLY VISUALISATIONS**

This was not part of the measurements done to test the effectiveness of the programme, but was used to gather insight about participant’s perspective on the devised programme and whether, or how much they would choose to make use of it as their own will. It was noted that there was no correlation between time spent using the procedure and positive test results in the four measured variables. In view of the discussion of the number seven in the present research, it was interesting to note that the average amount of time spent visualising (remembering that this was a voluntary and unspecified amount of time) was seven minutes.

**Table 6.5** WEEKLY VISUALISATIONS

<b>Participant</b>	<b>Sessions</b>
A	3 x 5 mins
B	3 x 5 mins
C	4 x 10 mins
D	6 x 10 mins
E	5 x 5 mins
F	3 x 6 mins
G	3 x 5 mins
<b>Mean</b>	<b>4 x 7 mins</b>

## **INDIVIDUAL RESULTS**

The achievements of each of the seven individual participants are discussed in the following pages.



## Participant A

Female	56 years	Ceramicist
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### Activity

Walking

### Training goals

To complete a challenging walk, to be done every 2<sup>nd</sup> day, excluding Sundays. One of these walks was a pre-measured hill-walk in less than 20 minutes, which was done prior to the programme in approximately 30 minutes. The other two walks were 20 minutes on the treadmill at a constant pace (8kmph), but increasing the incline level by one degree each week, beginning on the flat for the first week.

### Observation

This participant was left to carry on with the programme on her own accord after the initial 2-hour session of drawing up her programme. She progressed consistently without any problems. The programme became gradually more challenging, after seeming a little on the easy side in the first two weeks. She did express a desire to continue with further progression with a similar approach after she had completed the programme.

### Overview of test results

*Flow*: a one-point increase in flow level

*Satisfaction with life*: a 3-point increase

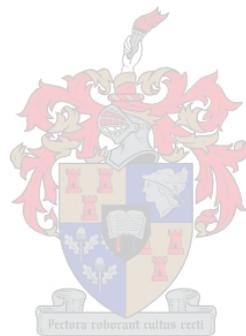
*Programme adherence*: 1 day of training missed

*Goal attainment*: 100%

Her test scores showed very slight progressions with what seemed to be a moderate, consistent approach to the training.

### **Participant's comments**

*“I found the programme extremely beneficial, and it must have subconsciously filtered through to other aspects of my life and work. I definitely achieved more using a goal-orientated system, and the measured physical increases weekly were most influential in pushing a little harder continuously. I did not lose a sense of time or feel time went faster on the treadmill, as I do in a gym class”.*



## Participant B

Male	62 years	Doctor (GP)
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### Activity

Walking

### Training goals

To complete a challenging walk, to be done every 2<sup>nd</sup> day, excluding Sundays. One of these walks was a pre-measured hill-walk in less than 20 minutes, which was done prior to the programme in approximately 30 minutes. The other two walks were 20 minutes on the treadmill at a constant pace (8kmph), but increasing the incline level by 1 degree each week, beginning on the flat for the first week.

### Observation

This participant took a scientific and dedicated approach from the start. Being relatively sedentary before commencing, there was a positive shift towards the healthy routine of regular exercising, which a doctor certainly knows and felt the benefits of. After the programme, he mentioned that he began to use a simplified version of the programme for some of his sedentary patients to get into some regular exercising, using this moderate, gradually progressing approach.

### Overview of test results

*Flow*: an increase of 1 point

*Satisfaction with life*: increase of 3 points

*Programme adherence*: 1 day of training missed

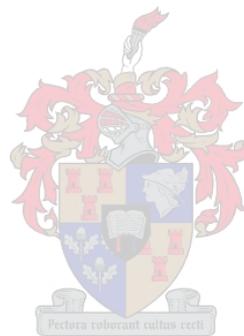
*Goal achievement*: 100% achieved

Like participant A, a moderate and perhaps conservative approach to the programme resulted in moderate shifts of mental training

perspective, but still achieving goals set and having a positive flow-related experience.

### **Participant's comments**

*“An excellent programme, which allowed you to set achievable challenges, therefore you would not become despondent about not achieving unrealistic goals. I enjoyed the 5 or so minutes of free time to indulge in my own thoughts and focus. I will definitely carry on with a further programme and an additional challenge. I find the treadmill boring compared with the outdoor walking, but still felt very good after walking on it. I have already used this concept to good advantage with a fair number of patients who have needed motivation with exercise and diet.”*



## Participant C

Male	43 years	Lawyer
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### Activity

Running

### Training goals

To complete an effective base training phase for running his first full marathon, so the programme was very much focused on consistency and putting in many hours of long, slow distance. The programme goal was to progressively build up to running 60 km per week at a comfortable pace (heart rate between 130 and 140 bpm).

### Observations

He is generally very busy with a relatively high-pressure job, and a programme like this, although most beneficial to stress levels and self-fulfilment, saw a few runs missed, mostly due to work demands. The initial stage of setting up the blueprint experiences seemed to be a powerful key to setting a state of mind for an intensive dedication towards the programme. Running consistency was remarkable, as were the sacrifices made in a very hectic schedule, often waking at ridiculously early hours to put in a run before rushing off to work. This participant also had the added challenge of having diabetes and thus having to run with a camel back and continuously be aware of and tend to balancing of blood glucose levels.

## **Overview of test results**

*Flow:* remained the same

*Satisfaction with life:* increased 4 points

*Programme adherence:* missed 7 sessions

*Goal attainment:* 86%

There may have been some despondency due to a busy schedule resulting in the programme activities often taking a back seat. He certainly was extremely satisfied to have completed the programme and made some good progress, relative to his usual battle with getting to regular fitness training. Considering environmental factors that were often beyond his control, the achievement of 86% of goals is an impressive feat.

## **Participant's comments**

*"I did find the blue-prints helpful and I did also use them to help me refocus when I was struggling during a run. I often visualised myself running in a state of flow i.e. relaxed, focused on what I was doing without being too mindful of it (if that makes sense?), allowing myself to believe that what I was doing was effortless. The programme started off easy but ended up very difficult to keep up with the schedule. I have never before run the weekly distance I had to run in the later weeks of the programme. The high challenges made it a very positive and fulfilling experience. The blueprints must have worked because I had a very strong belief that I would achieve the goal and I believe that if the marathon had been scheduled at the end of those seven weeks I would have successfully run it even without the benefit of speed training. Despite the demands I was happier during and at the end of the programme than I was before—overall a great experience".*

## Participant D

Female	40 years	Personal assistant
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### Activity

Running

### Training goals

To complete a 10km on a flat course in 65 minutes without having done any previous running training before.

### Observations

This seemed to be a very challenging goal at first and was broken down into first building up to and actually completing a 10km continuous run. Three runs were done per week, with recovery days between. Just one of the weekly runs was used as a measured time-trial to gauge progression towards the final goal. One of the other weekly runs used interval training to assist increasing fitness levels. She injured her hip during the programme, perhaps due to overworking hip flexors, combined with an alignment fault and building up too quickly, as some of the runs were found to be very strenuous.

### Overview of test results

*Flow:* remained the same

*Satisfaction with life:* dramatically increased by 9 points

*Programme adherence:* 2 days of training missed

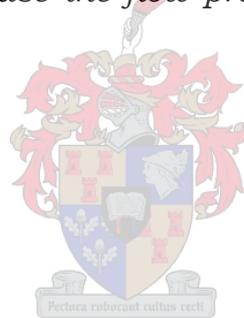
*Goal attainment:* 106%

She started resetting higher goals when she achieved her initial goal in the fourth week of the programme. Her best time at the end of the programme was 61 minutes and 35 seconds for a 10km time trial. She

had previously battled with working towards and attaining physical goals. The organised approach of the programme and taking on this new realm of running opened up a whole new realm of approaching exercise and training. She has gone on to complete studies in *Pilates* and seems headed towards potentially taking on or shifting her career towards the direction of exercise and training.

### **Participant's comments**

*“The seven-week flow programme has been a very rewarding and enriching experience, not only for setting goals and achieving them in my exercise programme, but also learning to apply the powerful tool of visualisation by connecting to positive past experiences that assist in achieving flow states. It has been mentally and physically challenging at times, but I’ll definitely use the flow programme again in my future physical training.”*



## Participant E

Female	40 years	Social worker
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### Activity

Cardiovascular and resistance gym training and following low glycemic index and weight-loss nutritional guidelines from the book: *Eating for Sustained Energy*.

### Training goals

To decrease body fat using a skin-fold calliper measurement technique by 5% in the seven-week period.

### Observations

This participant was entirely open to empowering the structure of the programme and became deeply immersed in the visual blueprint images and using them as tools for tuning into past optimal states. She also had a massive increase in level of flow experienced, which seems to be related to her state of readiness to take on a large challenge at the beginning of the programme. Anyone involved in the fitness and training industry will relate to the amount of work involved in decreasing your body fat by 5% in seven weeks, where she managed to exceed this initial goal and cut down by a total of 7%.

### Overview of testing results

*Flow*: a significant increase of 60 points

*Satisfaction with life*: a 1 point increase

*Programme adherence*: no days were missed

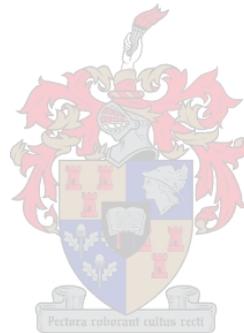
*Goal attainment*: 146%

A large increase in level of flow state and achievement overreaching her initial goals by 46% were indicative of her high levels of motivation and focus for the programme. This participant clearly became deeply

immersed in the process of visualising and living the principles of flow. She would often refer to her blueprints after training and be relating her experiences in the challenges of the programme to her blueprint experiences.

### **Participant's comments**

*“Undertaking an exercise programme that engaged me on all levels—based on past positive experiences where I achieved a goal. A flow chart mapped the steps using images-visualizing the reaching of a goal before undertaking the task. A confronting of self-doubt assisted in building confidence and strength. A sense of focus and purpose, with mental preparation and feedback guided and directed the expanding and extending.”*



## Participant F

Female

28 years

Jewellery designer  
and beauty therapist

### Activity

Cardiovascular and resistance gym training, incorporating pilates and yoga. Also following low glycemic index and weight-loss nutritional guidelines from the book: *Eating for Sustained Energy*.

### Training goals

To decrease body fat to 18% from 23.8% at the start of the programme.

### Observations

This was a growth experience that increased confidence after some challenging emotional times. This participant has battled with getting into an exercise and healthy lifestyle routine for many years. She does still battle with this, although less so since the structure and routine of the programme. She also improved on her training frequency during the programme, when keeping a record of her training and progress more than she had done in the past.

### Overview of test results

*Flow*: A large increase of 40 points

*Satisfaction with life*: A large increase of 11 points

*Programme adherence*: 13 days of a 35 day programme missed

*Goal attainment*: 65%

This is another participant who took the flow experience and reliving of blueprints to heart, as is reflected in the increase in flow levels from working on tuning into this optimal state of mind. She had often previously battled with sticking with routines, so the progression in

the programme was very satisfying, even though relatively less goal progression than other participants.

Body fat was measured at 20% at the end of the programme (a 3.8% decrease of the 5.8% set for the programme), achieving 65% of the goals set. Flow levels increased dramatically and training consistency although still erratic from time to time due to a busy schedule, were far more routine and consistent than before.

### **Participant's comments**

*“A seven-week programme is only the beginning; once immersed in the experience of flow it becomes a full life changing experience. I may not have attained my main goal, nevertheless I have attained a better understanding of myself and increased motivation in every part of my life. To achieve goals I know that the path must be enjoyable, the sensation harmonious. I need to feel in control of the situation and immerse myself in the challenge. Feedback from the training information and from feeling the progression improved my clarity of focus and sense of being in flow”.*

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## Participant G

Female

38 years

Housewife and  
visual arts performer

### Activity

Walking, cardiovascular and resistance gym training and following low glycemic index and weight-loss nutritional guidelines from the book: *Eating for Sustained Energy*.

### Training goals

To lose 5 kilograms of body weight in the seven-week period. Also to complete 5 walks each week at an enjoyable, yet challenging pace. These walks progressively built up to 60 minutes each.

### Observations

This participant had a definite shift of life energy, since at the outset she was concerned about taking on the programme and failing, fearing that she may have a negative effect on the results of the research hypothesis. The essence of the shift seemed to be in breaking into a routine of exercising and shifting away from the idea she had, that she “hated exercising”. Linking to past positive exercising experience blueprints seemed to play a part in this process.

### Overview of testing results

*Flow*: increased by 4 points

*Satisfaction with life*: increased a substantial 12 points

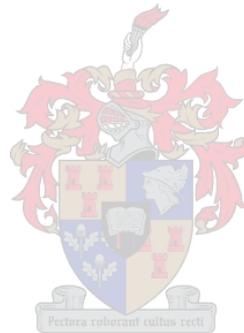
*Programme adherence*: 5 days missed

*Goal achievement*: 102%

There was a slight increase in levels of flow and a large improvement in satisfaction with life. She managed to amaze (because before commencing she feared that she would fail) the researcher and herself by losing 1 kilogram more than she had set out to.

### **Participant's comments**

*“As the weeks progressed, I was incredulous of the radical shift I made from not enjoying exercise to actively seeking training opportunities. I chose to eat more sensibly and the achievement and satisfaction were incredibly motivating as I noticed changes in my body shape and weight. Revisiting the blueprints even for a short period contributed to a feeling of happiness and achievement, which would motivate me further. The researcher also had a positive effect on my motivation levels, especially during tough phases in which I would begin to stray from the programme routines. I have enjoyed this challenging experience of a powerful mind-shift, which seems irreversible.”*



## CHAPTER SEVEN

# EVALUATION OF THE PROGRAMME, CONCLUSIONS AND RECOMMENDATIONS

The two-year period of refining and condensing this programme could be an ongoing process to improve the method of conveying the system that was applied. This could potentially convey a clearer picture of what it means and feels like to experience flow. A more evolved system could also enable more effective reference to past optimal experiences, and triggering these past optimal states to recreate such absorption and enjoyment at will, with less distracting underlying analysis.

Such refining does take time to develop, as was seen in the two-year period of developing the present programme to the point at which the researcher felt it could be implemented. At this point, it appeared that the principles of flow could be comprehensively applied with an optimal amount of information so that participants would not become distracted but rather have access to a tool to enhance understanding and experience of flow.

The present programme implementation took 90 to 120 minutes for the initial one-on-one goal setting, establishing of each participant's blue prints, explaining the programme procedure and designing the training schedule. After the pre-programme planning session, each participant would have a clear picture of the path to be followed in order to work towards the structured personal goals for the seven weeks that followed, by incorporating the devised intervention system. Participants generally set a few goals for the programme, in order to

increase the potential and broaden the spectrum for positive feedback and a feeling of making progress. In the presentation of results the researcher focused on participant's primary goals for the programme.

On a few occasions during the intervention, participants went through difficult emotional phases, which often resulted in responses that would counter the routines that were set as challenges for the programme. The responses included idle behaviour, or poor nutritional habits. Sometimes it was found that the practising of the visualisation routine had dwindled during these phases and that re-introducing or emphasising the visualisation was found to assist getting back on path. One of the present participants commented: "Revisiting the blueprints even for a short period contributed to a feeling of happiness and achievement, which would motivate me further".

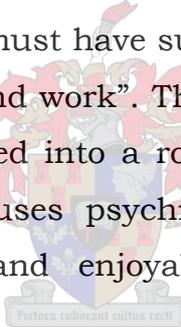
## **CONCLUSIONS**

The findings of the results suggest that the devised system (self-designed flow-programme) can be used as an effective tool for enhancing levels of flow and thus attaining flow more voluntarily during physical activities. So, as Csikszentmihalyi (1990) proposes, this state can be controlled and not just left to chance, by becoming more aware of what needs to be in place in order to experience flow.

The devised programme also had positive effects on the secondary variables which all related closely to research regarding the benefits of experiencing flow. The intervention improved levels of satisfaction with life, which is an indication of enjoyment (the essence of flow) discussed by Csikszentmihalyi (1990) when escaping the chaos and stress of daily life during flow experiences. The attainment of goals in the programme is a direct link with working towards achievable challenges, which is portrayed by Jackson and Csikszentmihalyi (1999)

as the “golden rule of flow”. Lastly, adherence to the devised physical training programmes by participants links with the magnetic return to flow-conducive challenging activities, which is discussed by Csikszentmihalyi (1990) as one of the defining characteristics of flow. In this definition, flow experiences are seen to form blue-prints in the mind of how things can be, which inspires taking on further challenges to reach deeper levels of flow.

Gauron (1984) recognises many instances outside of athletics where mental training helped to enhance performance. In this regard, the present researcher noted that participants experienced and commented on improved performance in other challenging areas of their lives outside of the physical challenges in the programme. For example, one of the participants commented: “I found the programme extremely beneficial, and it must have subconsciously filtered through to other aspects of my life and work”. This supports the idea that any activity that can be organised into a routine structure of challenges and thus absorbs and focuses psychic energy on a task that is perceived as challenging and enjoyable could be used in this programme.



## **WEAKNESSES OF THE PROGRAMME**

A shortcoming of this study was the selection and size of the sample. In reality the investigation involved seven case studies. Due to the time demands of such an intervention a sample of a larger size would have made it practically very difficult to administer.

Ideally, the use of a control group would have strengthened the quality of this investigation. Here again, the researcher was confronted with practical obstacles. A convenient sample of clients participating in personal training programme was used for this study. There were not

a sufficient number of individuals available in this programme to serve as controls for the investigation.

Future research could consider using a larger sample group, as well as a control group in order to attain valid and reliable statistics. Such a control group would be the same size as the test group and would go through physically challenging programmes of the same nature, but would not make use of the flow intervention aspect of the programme.

Another weakness of the programme is probably that one-on-one administering and explanation of the programme is needed for participants to fully comprehend all of the procedures and how they are to be applied in programme. This could, however be overcome in view of what has been discussed regarding the pre-testing development phase of the present programme. Perhaps further development could overcome the need for this explanation by further refining the system of intervention.

### **STRENGTHS OF THE PROGRAMME**

The strengths of the programme lay in the integration of a broad and comprehensive range of effective, recognised sports psychology techniques which all fall within the realm of flow principles. The active integration of these to form an individualised mind-tool, focusing on past optimal experiences, made the programme versatile for any participant to use effectively.

There are a few aspects that according to participant's comments and the present researcher's observations appeared to have been useful in terms of the effective functioning of the programme. Some of these were: using effective goal-setting techniques which significant others were made aware of and applying an organised training routine to achieving these goals with relevant, regular feedback to enhance motivation. Also useful, was practicing relaxed visualisations of having

attained a goal perceived as reachable in forming a structured mental approach to progressing towards and reaching this goal.

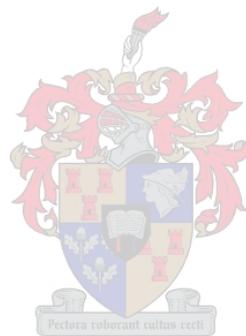
## **RECOMMENDATIONS**

Further research in the direction of the present programme could include testing with a larger sample group, to obtain statistically valid results. However, it would be a huge task to take a large sample through the present programme, considering that it took 90-120 minutes per session over a period of seven weeks to guide each participant through the current programme. A completely self-explanatory version of this programme, using a standardised format of activity type and training schedule could further validate future research findings.

Some of the secondary goals that participants set and achieved were not of a physical nature. These could also be examined in future research, as well as the general state of mind or perspective that some participants became aware of in terms of a change in their approach and attitude towards other challenging aspects in their lives. For example, one participant had a situation that he would normally perceive as stressful at work at the time he was completing the programme. He saw this as a challenge and became immersed in enjoying overcoming the opportunity for an experience of flow. So, it seemed there was some potential overflow effect, where you become aware that it is enjoyable and deeply fulfilling to get immersed in what are perceived as large challenges. Under such circumstances, it seems that this perspective seems to naturally become a more conducive approach to take on any challenges that may present themselves or be sort after in your life.

Finally, with a programme like this, flow can potentially become a way of life, if applied to any and all situations or challenges, by providing a

key to becoming more aware of and applying a flow-conducive approach to enhance the potential within each of us of to enjoy flow in our lives.



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## **Appendix A**

# **GUIDE TO STRUCTURE FLOW-FUNDAMENTALS**



# **FUNDAMENTAL ONE GOALS**

**Form a map of where you are going  
and how to get there**

## **TRIGGER LEGS**

Symbolic of carrying you towards your goals

### **Form a map to flow**

Plan the path you intend to follow and a destination

### **Goals are your motivation**

A guiding light to remind you which direction to head in

### **Positive and public**

Positively formulated and tell significant others of them



### **Goals are smart**

Specific Measured Adjustable Realistic Timed

### **Short-term and long-term goals**

Short-term goals are set weekly and long-term goals will be for a seven-week period

### **Repeatable and rewardable**

Broken into achievable steps which have planned rewards

### **Not only winning**

Performance orientated, not outcome orientated

# FUNDAMENTAL TWO

## ENJOYMENT

**Your chosen activity is  
one that you enjoy**

### TRIGGER

## PELVIS

Symbolic of joy of life-continuity

### Essence of flow

If you are not enjoying the activity, you will not experience flow

### Intrinsic motivation

Motivation must come from inner joy of participating

### Magnetic return

Flow experiences make you want to repeat the activity



### Play

Maintain an element of playfulness,  
even when taking an activity seriously

### Focus on the process

This ensures active absorption in the task

### Spontaneous occurrence

Do not try to make it happen.  
This detracts attention from the task

### Attaining goals is enjoyable

This is the driving force behind attaining goals

**FUNDAMENTAL THREE**  
**HARMONY**

**Feeling at one with the activity**

**TRIGGER**  
**ABDOMEN**

Symbolic of harmony of movement of upper and lower body

**Sure sign of flow**

When you experience this,  
you can be sure you have experienced flow

**In the now**

All attention must be on the task at the moment

**Loss of ego**

Focus on the ego also detracts attention from the task at hand



**Time perspective shift**

When in flow time seems to alter to suite  
the needs of the performer

**Effort perspective shift**

What normally seems hard can feel  
almost effortless in flow

**At one with the task**

The environment becomes an extension of self

**Escape from daily chaos**

Distractions and frustrations fade away

## **FUNDAMENTAL FOUR**

# **CONTROL**

**Feeling like nothing can go wrong**

### **TRIGGER**

## **CHEST**

Symbolic of life energy control- breathing and heartbeat

### **Conscious order**

Awareness of what you are going to think  
of and how you will think

### **Control the controllables**

Only try to deal with things that are within your control

### **Stop and replace distractions**

Become aware of distractions, shut them out and  
Replace them with a goal-focused awareness

### **Not complete control (Challenge)**

Too much control means that you  
are not challenged optimally

### **Plan responses**

Know what you are going to do in each possible situation

### **Positive self-statements**

Choose a few of these that you will use  
before and during your task

### **Relaxed breathing**

This enhances the feeling of being in control

## **FUNDAMENTAL FIVE CHALLENGE**

**Always trying to push the limits one step  
further than your present level**

### **TRIGGER ARMS**

Symbolic of reaching out for new challenges

#### **Golden rule of flow**

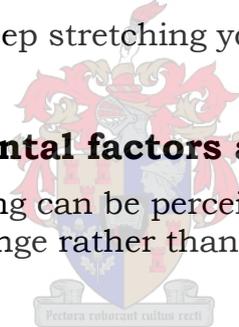
This is what it is all about—getting immersed in challenges

#### **Just beyond the present level**

Be sure to keep stretching your challenges

#### **Environmental factors as challenge**

Anything can be perceived as a  
challenge rather than barrier



#### **Personalised routines**

Find things that you relate to and work for you

#### **Increase challenge and skills perception**

As your abilities grow, so must your  
perception of your future abilities

#### **Master risks**

The boundaries are easily extendable once you are  
comfortable functioning on the edge of them

#### **Overcome inertia**

A routine becomes a spontaneous way of life which is  
important to overcome the tendency to seek rest

## **FUNDAMENTAL SIX**

# **FEEDBACK**

**The relevant information that connects  
your performance with your goals**

### **TRIGGER**

## **NECK**

Symbolic of information flow between mind and body

### **Fine tuning flow**

Keep adjusting your performance according  
to the relevant information you receive

### **Setting the stage for future performances**

Establish an association with the task  
for similar future performances

### **Link directly to goals (Filter)**

All information that is not relevant to your goal progression  
should be filtered out to minimise distractions

### **Adjust to body feel**

Continually adjust performance to what feels right

### **Adjust to optimal outcome**

Adjust to mental image an optimal outcome performance

### **Winning is progressing to goals**

Don't compare your performance  
to others' uncontrollable results

### **Clear and open communication of flow information**

No confusion of information relevant  
to peak performance

## **FUNDAMENTAL SEVEN**

# **FOCUS**

**All attention must be  
on the task at hand**

## **TRIGGER**

# **HEAD**

Symbolic of mental attention leading the body

## **Number one feature of flow**

Focus completely absorbed in the task,  
so that there is no room for distracting thoughts

## **Mind on task routines**

These keep you absorbed in the activity

## **Visualisation and breathing**

These are ways to tune your in your focus to the present task

## **Wide-angled lens**

In flow you take in more of your environment in terms of  
everything that is relevant to you for optimal performance

## **Refocusing techniques**

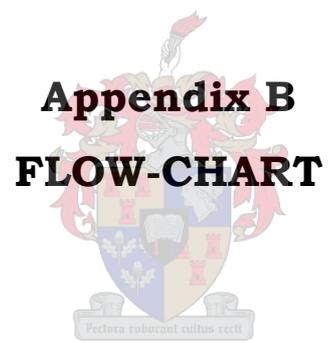
These are important, because focus levels can fluctuate,  
so you need to be able to tune in when necessary

## **Plan for performance**

This frees all attention to focus on the task at hand

## **Keep it simple**

Focus on only three or four of the most essential things



optimal performance  
and experience

# FLOW-CHART

name: .....  
activity: .....  
date: .....

