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Bridging the Sport Psychology gap in golf

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PRETORIA

Promoter

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DECLARATION

I, Theo Bezuidenhout, hereby declare that this research report is my own work and that this work has not been submitted at any other tertiary institution for any degree.

Theo Bezuidenhout

Date: 12/03/2007

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To Lourens, for teaching me but also allowing me to learn.

To my father, for being my inspiration, to my mother for being my rock and to Nadia for being my sense of humour.

OPSOMMING

Die fokus vir hierdie navorsingsverslag is op die gebruik van tegnologie in die oorbrugging van 'n gaping op die gebied van sportsielkunde. Hierdie gaping kom voor tussen die drie kontekste waarin sportsielkunde beoefen word, naamlik die individuele konsultasie kamer, die klaskamer en die sportveld.

Die kontekste is van mekaar verwyderd as gevolg van koste-implikasies, tydbeperkings en afstand uitdagings. Deur die gebruik van tegnologie in die vorm van video-opnames van atlete, kan hierdie uitdagings grootliks oorkom word. Dit sal lei tot beter dienslewering deur sportsielkundiges andersyds en meer vervulde en kundige kliënte andersyds.

'n Praktiese voorbeeld van bogenoemde is die navorsingsverslag wat gedoen is met die gholfspelers van die Tshwane Universiteit van Tegnologie se Gholfakademie (TUTGA).

Ses van die spelers is op videoband opgeneem terwyl hulle 'n rondte gholf gespeel het. Individuele onderhoude is toe met hulle gevoer oor hulle ervarings op die baan. Die onderhoud is volgens die narratiewe terapeutiese tegniek gedoen.

Laastens is daar 'n groeponderhoud gevoer met die spelers om vas te stel hoe hulle die proses ervaar het en hoe hulle die gebruik van videotegnologie beleef het in die sportsielkunde proses.

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Sleutelbegrippe

Narratiewe terapie, sportsielkunde, tegnologie, spreekkamer, klaskamer, narratiewe analise, taktiese analise, tegniese analise, bio-meganika, sielkunde.

SUMMARY

The focus for this research project was on the use of technology in bridging a perceived gap in sport psychology. This gap is present between the three main contexts in which sport psychology is practised, namely the individual consultancy, the lecture hall and the sports field.

These contexts are removed from one another due to cost implications, time constraints and distance challenges. I propose that by using technology, in the form of video-taping athletes, these challenges can be overcome. Thus leading to better service delivery by sport psychologists on the one hand and more fulfilled and informed clients on the other.

An example of this, in a practical situation, is this research project done with the golfers of the Tshwane University of Technology Golf Academy (TUTGA).

Six of these golfers were video-taped while playing a round of golf. Then they were interviewed individually, using narrative practice interviewing techniques, about their experiences on the course.

Lastly they were interviewed in a group session so as to ascertain how they experienced being video-taped on the course and how they experienced the use of video technology in the sport psychology process.

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Key Terms

Narrative practice, sport psychology, technology, consultancy, lecture hall, narrative analysis, tactical analysis, technical analysis, biomechanics, psychology.

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Graphic illustration of the possibility of technology
bridging the perceived gap in sport psychology

ABBREVIATIONS AND DESCRIPTIONS

| Abbreviation | Description |
|---------------------|---|
| FIFA | Federation of International Football Associations |
| ICC | International Cricket Council |
| IRB | International Rugby Board |
| NFL | National Football League |
| PGA | Professional Golfers' Association |
| PGASA | Professional Golfers' Association of South Africa |
| SARU | South African Rugby Union |
| SASSU | South African Student Sports Union |
| TUT | Tshwane University of Technology |
| TUTGA | Tshwane University of Technology Golf Academy |
| UP | University of Pretoria |
| USA | United States of America |
| USPGA | United States Professional Golfers' Association |
| USSR | Union of Soviet Socialist Republics |

CHAPTER 1

INTRODUCTION

1.1 CONTEXT

In the field of sport psychology there are three main contexts wherein the sport psychologist works. These contexts are the sports field, the lecture hall and the therapy or consultation room. In the past these areas were dealt with separately and not combined effectively to the advantage of athletes (Martens, 1987; Morris & Summers, 1995).

In the lecture hall athletes are taught psychological skills, while in the consultation room personal problems that the athlete is experiencing, are dealt with. The sports field and competition is the test of whether skills have been learnt and whether work done in the consultation room has been successful (Bull, 1991; Cox, 1994; Morris & Summers, 1995; Privette & Bundrick, 1997).

To assist athletes in reaching peak performance all of these areas are equally important. The challenge for sport psychology in the future will be to ensure that the sport psychologist can address all three contexts. This, however, is a problem that has not been dealt with in the past in the field and is one that will need to be answered if the field is to move forward (Gardner, 2001; Zaichkowsky, 2006).

For further insight into this challenge it is necessary to explain how these contexts have been dealt with in the past and how they have never been interlinked (Bull, 1991; Cox, 1994; Morris & Summers, 1995).

1.1.1 Lecture hall

Traditionally this was the context of choice for sport psychologists. The reason is simple. It was the most time and cost effective way for a young subject field to reach the

most athletes. At its inception sport psychology was not as accepted as it is today in elite sport, and consultants often had limited time with teams to do all they could (Morris & Summers, 1995).

In this approach the sport psychologist would introduce generic subject themes, such as goal setting and motivation, and then teach these skills. Although successful in introducing sport psychological skills to athletes, this was ineffective in meeting individual athletes' needs within groups (Thompson, Vernacchia & Moore, 1998).

The discourse of the sport psychologist as expert entrenched itself in the presentation of group or team sessions. A discourse existed within sport psychology that one could present a laid-out presentation to athletes that centred on generic themes in sport psychology. This discourse was also focused on institutionalised settings, positivistic in nature and was elitist in its beliefs (Ryba, 2005).

This was often done only a few weeks or even days before major matches and tournaments and there was little scope for athlete inputs and discussions (Ryba, 2005).

This is an issue that I believe has done sport psychology much harm due to the perceived ineffectiveness of sport psychological interventions. This was not necessarily due to the poor quality of the intervention but rather the time constraints involved (Martens, 1987).

In the last decade, especially in South Africa, the dominant discourse of a sport psychologist as expert, and the lecture hall approach as most effective, has changed with the introduction of individualised sport psychological consultations (Johnson, 2006; Martens, 1987; Morris & Summers, 1995; Potgieter, 1997).

1.1.2 Consultation room

To address the imbalances of the lecture room approach, sport psychologists began consulting with athletes one-to-one. This nullified some of the problems of consulting

exclusively with groups of players or teams (Johnson, 2006).

This approach has gained acceptance from both the sporting and psychology establishment. Due to the fact that it was closer to the more traditional model of doing therapy. The proof of this lies therein that most sport psychologists consult like this today (Johnson, 2006; Thompson et al, 1998).

It is, however, important to note that therapy is only one type of intervention that can be done in the consultation room. Other sport psychological skills such as goalsetting, imagery and focus can also be dealt with in individual consultations within the context of the consultation room.

This approach has been entrenched as the main milieu of applying sport psychology but it has had its advantages. It has firstly been successful in moving the field away from the ready-made designs of the classroom.

It has also allowed for more input from athletes as to how they perceive their performances, and it has given them a voice as to the psychological skills they need to be successful or more successful (Johnson, 2006; Morris & Summers, 1995).

There is, however, a third context that needs to be addressed if the field is to improve. As Martens (1979) puts it: “trading our smocks (laboratory jackets) for jocks”, or moving our attention from the laboratory or consultancy to the sports field (Johnson, 2006; Ryba, 2005; Zaichkowsky, 2006).

1.1.3 The sports field

Up to now the relationship between athlete and sport psychologist would have been a very well-defined one. The athlete would have consulted the psychologist at his or her practice. Then he or she would have competed in an event or competition and would then have given feedback. The psychologist would then have made suggestions based on the assumption that what the athlete had said was inclusive of the whole performance

context (Bull, 1991; Cox, 1994; Potgieter, 1997).

The flaw in this approach is that the psychologist had no confirmation of the athlete's experience. A possible solution is regular observation of the athlete in training and match or competition situations. As seen earlier, Martens (1987) proposed increased field studies and increased field observations almost two decades ago (Cerin, Szabo & Williams, 2001; Martens, 1987; Ryba, 2005).

However noble the intention of spending more time with athletes is, challenges do arise. Firstly, the practicality of watching matches and practice sessions daily, is time consuming and not financially viable for most sport psychologists. This is also true for most sporting federations (Johnson, 2006).

Secondly, the consistent presence of a sport psychologist is not the norm for sport psychological consultations. In a revised approach the sport psychologist needs full access to the athletes and to training sessions, something that is often frowned upon by sports coaches (Morris & Summers, 1995).

A possible answer to this is the use of technology, specifically video technology, to bring together the contexts of the sports field, lecture hall and consulting room (Johnson, 2006; Straub, 2006).

By increased use of technology these contexts can be interlinked productively without exorbitant cost in time and financial resources. This in turn should increase the quality of information for the sport psychologists and consultations for athletes. I would like to propose this as a possible solution to linking the lecture room, consultancy and the sports field.

The following sections focus on the application of technology in the sporting context to link the different contexts in sport psychology. By doing this the question of how to effectively link the three sport psychology contexts to the advantage of the athlete will be answered.

A schematic representation of how technology can be included to close the proposed gap in sport psychology is presented in Appendix F.

1.2 RESEARCH QUESTION

The research question is:

How did golfers experience the use of technology (video) for sport psychology training in golf?

1.3 GOAL

1.3.1 General Goal

The goal of this research project was:

To understand how golfers experienced the use of technology (video) for sport psychology training. There are also the following specific goals.

To do a literature review.

To describe the research methodology.

To conduct the research project.

To write a research report.

1.3.2 Structure

This research project will have six further chapters beyond the first, which will contain the following:

Chapter 2 will contain a literature review. This will be a summary of previous works in the area of technology in sport, as well as the use of technology in sport psychology.

The research methodology will be dealt with in the 3rd chapter. This part of the project focuses on the contexts of the research. This section also includes information on all the role players in this research as well as the academic position from which I will conduct this research.

Chapter 4 contains the way in which the study was conducted and what the findings were. This process entails the video-taping of golfers, interviewing them and giving narrative-based analyses.

Chapter 5 consists of recommendations on the research in relation to how golfers experienced and narrated the study, and from this recommendations can be made on how to construct future narrative research on this topic.

Lastly Chapter 6 contains the conclusion.

CHAPTER 2

LITERATURE REVIEW

The question for this research project is: How do golfers experience the use of technology (video) for sport psychology training in golf? To effectively answer this question the study needs to have viability and also needs to prove that no existing research has been duplicated. This can only be done by doing a thorough literature review on the fields involved.

This literature review needs to focus on three areas if it is to prove that the current topic of research is worth pursuing. These three areas are the three included in the research question namely; technology, psychology and sport psychology.

However, to link these fields meaningfully in the literature review, one must show how technology has influenced the development of these fields. Also showing how technology links all of these fields together.

Defined in dictionary terms technology is said to be: “all the means designed by a social group to provide for material comforts” (Loland, 2003). As can be seen this definition does not relate to sport and is too broad for the current focus on sport. Loland (2003) goes one step further though and relates technology as meaning: “human made means to reach human made interests and goals”. He also uses the same premise when he defines technologies in sport as meaning: “human made means to reach human interests and goals in or related to sport” (Loland, 2003).

Thus the technological impact on sport, psychology and sport psychology will be discussed and it will be made clear how technology can further be used in sport psychology to improve services (Johnson, 2006; Ryba, 2005; Zaichkowsky; 2006).

Firstly the impact of technology on sport will be discussed in the form of the use of technology in coaching. Specifically in technical, tactical and biomechanical coaching

and analyses. The use of technology in umpiring and officiating will also be discussed. This will be done to illustrate the high level of technological development in many spheres of modern sport.

2.1 TECHNOLOGY IN COACHING

2.1.1 Technical analysis

Man has, since the early ages, been interested in movement and also movement as it relates to athletic endeavours. As early as 5000 B.C. the Egyptians had artists paint humans in movement on the walls of the tombs of the Pharaohs. Other ancient cultures like those of the Greeks and the Chinese also painted humans in athletic movements (Cooper, 1982).

Depiction and analysis of movement did not stop there, however. The Greek philosopher and mathematician, Aristotle, is credited with the first analyses of movements such as walking and running. This is considered to be the first rough form of technical analysis recorded (Cooper, 1982).

Other great minds in the past have also had a profound effect on the analyses done on sporting movements. Da Vinci, Galileo Galilei and Sir Isaac Newton to name a few, have all had an effect on the laws and knowledge we use today to analyse movement and specifically human movement as it relates to sport. The laws and theories created by these scientists were based mainly on observing human movement (Cooper, 1982).

In the 1800s as well as in most of the 1900s early sports coaches also relied heavily on visual feedback for the correction of movement mistakes by their athletes. This was due in part to the belief that by observing skills one could discern good technique from bad. This rationale was also forced on these coaches due to one factor; the absence of technology that could assist them with analysis.

This changed with the advent of the still camera where photos could be taken of athletes

while they were performing the skill required. Although rudimentary, this opened the portal for future analyses using technology (Cooper, 1982).

Coaches could now “freeze” the athlete in time and could give feedback on certain athletically meaningful positions the athlete was in at the time the photo was taken. This was a small step in the direction of technological analysis in sport and the next step would allow for even more intense scrutiny of technical aspects.

This technological breakthrough came in the form of the motion camera. Once again, although the technology was not earth shattering by modern standards, motion cameras could now give coaches and athletes the opportunity to view performances again. This could then be used to give feedback on their performances.

The biomechanist Eadweard Muybridge was one of the first to use cinematographic serial pictures to study the movements of humans as well as animals (Cooper, 1982).

Together with the advent of film came the existence of the cinema as the first form of mass entertainment. The impact that this had on sport and the technical knowledge of sport cannot be underestimated.

News events were shown for the first time at cinemas in the Union of South Africa. Included in these news broadcasts were sporting events. This meant that a whole generation of coaches and budding athletes could see world-renowned athletes performing their skills. Although this did not have a direct technological impact on sport, it became the starting point for coaches to look at increasing the information they could extract from these events by using technology (Cooper, 1982).

As technology progressed, so too did the technology used in cinemas. This included action that could be slowed down to give better understanding of movements. Thus one did not have to rely on what could be seen by the naked eye anymore but one could study the skill at a pace more suited to analysis and evaluation as to the correct technique.

This status quo was maintained until the advent of television in the late 1930s. It was then also used to cover major sporting events such as the Summer Olympics. As early as the Berlin Games of 1936, the first television broadcasts of the games became a reality (http://www.acmi.net.au/AIC/TV_HIST_FACTS.html).

As coverage of sport increased so too did the quality of broadcasts. This meant increased commentary and new methods of increasing information to viewers (<http://www.supersport.co.za>).

This continued throughout the Seventies and Eighties and as television caught onto the increased use of technology so too did athletes and coaches. Coaches soon started using slow-motion replays to show athletes mistakes in their techniques and these observations led to improved techniques as well as apparel used.

One well-known coach that used this form of feedback was the legendary track coach, Bill Bowerman, from the University of Oregon in the USA. Bowerman spent much of his time analysing the techniques his athletes used and thereby he soon realised that these athletes lacked technologically advanced footwear (<http://www.running.syr.edu.column/19991227.html>).

As a result he founded Nike Footwear and continued to use video to show his athletes the technical mistakes they were making. He also used this concept to design new footwear and so one of the giants in the footwear industry was born (<http://www.libweb.uoregon.edu/speccoll/archives/bower.html>).

In the Nineties the quality of the tools that were used in technical analysis has led to systems such as Dartfish video analysis being used extensively. Dartfish is a computer software programme that allows coaches and athletes the opportunity to do technical analyses of video-taped athletic skills. The Dartfish system is extensively used for video analysis in the National Football League (NFL), or American Football as it is more commonly known. Here new players use it hours on end to analyse themselves and possible opponents (<http://www.dartfish.com>; <http://www.nfl.com>).

By combining this intense study of technique with corrective feedback, coaches can ensure that faults can be rectified sooner and more effectively (Straub, 2006).

In golf, the focus of this study, a coach can video-tape a player on the practice range, then show the golfer the footage immediately and analyse his or her strong and weak points by using this technique (<http://www.logicalgolf.com>).

Technological analysis does not only relate to technique but can also be applied to tactics.

2.1.2 Tactical analysis

As technology has become a more accepted form of technical analysis in sport, so too has it become a tactical analysis tool (Woodward, 2005).

In technical individual sports such as swimming or golf, using video technology to assist athletes in their technique has a limited scope of application. The reason for this is that by swimming in a specific technical style or by swinging a golf club differently, one arguably cannot influence the performance of your opponent but only your own performance (Griffiths, 1997).

However, in team sports and direct competition sports such as rugby, cricket and boxing, by studying your opponent and his or her tactics, one can gain an unfair advantage. The following section will focus on the use of technology as a tactical tool and how it is used by athletes, coaches and spectators alike to increase their knowledge and awareness of the games in which they are involved.

1. Tactical analyses by athletes

In years gone by, analysing the tactical aspects of a game and using this to beat other teams was the sole domain of the coach. The reason for this was that often athletes only took part in sport part-time and did not have the time to analyse their opponents. Often

the coach would then do the analysis for the team and then relate the knowledge, gained from this analysis, at practice on the training ground (Griffiths, 1997).

Another reason was the sort of technology available in the Seventies and the Eighties. Early video and camera equipment was cumbersome to use and move and the technology was not readily available for the use of all athletes on a rugby or cricket team (Griffiths, 1997; Woodward, 2005).

In the new era of professional sport these challenges have ceased to be stumbling blocks in the way of increased tactical analysis and awareness. This is due to professional athletes having more time available to do analyses on the tactical aspects of their games as well as that of their opponents (Woodward, 2005).

An example of this is the Springbok rugby union lock-forward, Victor Matfield. He is known to spend many hours watching footage of line-outs of opposing teams. Due to the fact that he is the number one line-out jumper for the Springboks, Matfield increases his tactical awareness of other teams' line-outs, by the use of technology.

Secondly, technology has also evolved at such a rate that video equipment and other technological tools can be brought into the competitive arena and tactical analysis does not only have to be done in a studio.

Athletes can now be video-taped where they perform their skills and feedback can be given using a video camera and a portable laptop computer. This has also allowed athletes to be able to do more specific training by using technology to increase tactical awareness and acuity (<http://www.dartfish.com>).

An example of this is a cricketer bowling in the nets to a specific type of batsman and being video-taped while he does this. This can then be used to show the bowler where he may be making mistakes in his tactical approaches in bowling to right and left-handed batsmen.

As can be seen the use of technology by athletes has increased their tactical knowledge. This trend has also become more popular amongst coaches from many sporting codes.

2. Tactical analysis by coaches

Previously coaches only used technology as a tool for technical analysis. However, with television and the increased coverage of sport it soon became apparent that technology could be used in games and then the footage could be used to give teams the unfair advantage when preparing for important games.

One of the first instances where a coach used this type of tactical video analysis was in the Olympic Ice Hockey competition in 1980 in Lake Placid (<http://www.proicehockey.about.com/cs/history>).

The coach of the United States of America (USA) at that time, Herb Brooks, chose a very inexperienced team that was given little chance of even progressing beyond the group stages of the competition. However, coach Brooks used extensive film footage of all the opponents they would be facing at the Games, specifically the Soviets, to gain the tactical edge over them. This also included psychological evaluations of his own players (<http://www.proicehockey.about.com/cs/history>).

Through extensive tactical analysis, the USA won an unexpected gold medal and many of the team members and staff attributed this win to the methodical analysis done by their coach (<http://www.proicehockey.about.com/cs/history>).

Since 1980 video technology has replaced film and tactical analysis has also become an easier proposition for coaches. This is due to the introduction of computer programmes that are designed to help coaches analyse games by using various tools to show athletes their correct moves as well as tactical mistakes they may have made (<http://www.dartfish.com>; <http://www.prozone.com>).

Sir Clive Woodward, coach of the 2003 Rugby Union World Cup winning team, used a

computer system called ProZone in the lead up to the tournament. Specifically to enlighten players and himself as to patterns the opposition would be using and how he could counter any moves and strengths from the opposition with planned moves by his team (Woodward, 2005).

This form of tactical analysis involves the whole team and this is a much used method of technological dissemination. This form of analysis can also be used by the coach to address specific tactical needs of individual players. An example of this is the work that Woodward and his match-winning fly-half Jonny Wilkinson did prior to the 2003 World Cup (Wilkinson, 2004; Woodward, 2005)

This focused on Woodward and Wilkinson reviewing video-tapes on opposing fly-halves who they may have had to face during the competition. This was then used to analyse the strengths, weaknesses and tendencies in their games. This allowed them to formulate the game plans Wilkinson would have used against each specific opponent (Wilkinson, 2004; Woodward, 2005).

Woodward also took this one step further and furnished each player with a personal laptop computer. This computer included game analysis software and video footage of each player's possible direct opponent in the tournament. This was done so that each player could, with the help of the coaching staff and the video footage, prepare himself fully for the tactical aspects needed in each game (Woodward, 2005).

As can be seen, modern athletes and coaches go to extreme lengths to analyse their own and their opponents' tactics. This phenomenon has also spread to the approach that supporters follow when interacting with the tactics used in their favourite sports.

3. Tactical analysis for spectators

In this case one only needs to think back to the last time you watched a television broadcast of any large sporting event for it to be clear that tactical analysis is a large part of the modern spectacle of sport.

At the start of any big match there is the build-up to the match which often starts in a studio where experts are gathered to analyse previous meetings between the teams involved (<http://www.supersport.co.za>).

These experts use all manner of technological tools to show the strengths and weaknesses of the two teams and this part of the broadcast focuses on the expected outcome of the match. By using statistics and information viewers are better able to grasp the perceived importance of the match.

Once the pre-game analysis has been done the focus is then switched from the broadcasting studio to the stadium or field itself. Here the viewer is greeted by commentators and analysts who range from continuity presenters to ex-players who are there to give their expert inputs during the match.

These commentators also use technology to their advantage in that they have immense pools of data available on each player involved. This ranges from personal information and current form to physical attributes such as height and weight. This is all given to make the experience of the viewers more interactive and to increase their knowledge of the players (<http://www.supersport.co.za>).

Once the action has begun the information part of the broadcast does not dissipate. This information is also for the supporters at the game, as many stadiums now have electronic scoreboards that relay much useful information to the spectators and many now have instant replays that one would have on television screens at home.

Technology has been used extensively to increase technical and tactical awareness of coaches, athletes and spectators. Lately more attention has been focused on athletic movement itself and how technology can help improve not only technique but also the quality of these movements.

2.2 BIOMECHANICAL ANALYSIS

To understand biomechanics and the way it has impacted on elite sport it is necessary to define biomechanics and to show the areas in which it is used in sport. Firstly, Biomechanics has its origin in mechanics which is the study of forces and motion (Luttgens & Hamilton, 1997).

A meaningful definition of the scope and differences between mechanics and biomechanics is: “When the study of mechanics is limited to living structures, especially the human body, it is called biomechanics. Biomechanics is an interdisciplinary science based on many of the fundamental disciplines found in the physical and life sciences” (Luttgens & Hamilton, 1997).

With sport being at the forefront of human interests, biomechanics and biomechanical analyses have become more widely used in modern-day sport. The reason for this is that it has allowed coaches and athletes the opportunity to take analysis of the sporting technique a step further (Eslami, Begon, Faraphour & Allard, 2007).

This has been done by allowing intense scrutiny of the technical aspects that cause specific sports movements and make them more successful than other similar movements by opponents.

An example of this type of analysis of motion and forces in sport is the study of swimming techniques by coaches and swimmers to derive the best way of moving through water. This is done by changing technical aspects that have been video-taped and analysed and adjusting the swimmer’s technique accordingly (Cooper, 1982).

Together with technical analysis, coaches also use biomechanics for fault analysis.

2.2.1 Fault analysis

Where technical analysis by coaches and athletes is done with the naked eye, using

normal video-taping technology, biomechanical fault analysis is more technologically advanced.

Athletes are filmed by high-speed cameras that can be used to show super slow-motion footage of the athlete performing the skills. Motion sensors can also be attached to the athletes and these sensors show digitised images on computer that can give information on such aspects as the degrees of bend in limbs performing the actions. While performing the required skill, forces exerted on the body or the implement, as in golf, can also be seen (Eslami et al, 2007).

By being able to measure the skill, while the athlete is performing it, the biomechanist can now start to identify faults in the technical aspects.

Where this process differs from technical coaching and prevention of injury is that the coach and the biomechanist work together on a much higher level of analysis to identify faults that are preventing the athlete from being more successful.

An example in golf is the varying degrees present in the golf swing throughout the body. If the degrees present in coordinated bodily movements is too great or small it puts the whole swing out of rhythm. Something that is catastrophic for the successful performance of the skill (Hay, 1978).

Thus, by being able to analyse the skill on a much more detailed level, the coach can make corrections that may not have been seen with the naked eye while using a normal video camera.

Another form of fault correction is that of correcting illegal actions.

A sport such as cricket and specifically bowling has a proviso that the elbow of a bowler may not be bent and flexed more than a certain degree when delivering a ball. Lately the International Cricket Council (ICC) has started using the technology available in biomechanics to have bowlers tested who seem to have illegal bowling actions

(<http://www.icc.com>).

Cameras are then used to video-tape the bowler's action and the movements are then analysed in slow-motion. Johan Botha, the Protea cricket player, was biomechanically analysed after complaints were lodged about his bowling action being illegal (<http://www.cricket-online.com>).

He has since been coached and assessed again to deem if he has made any improvements to his illegal action. He can only be given the green light to play international cricket again after completing another biomechanical analysis.

Biomechanical analysis does not only relate to technical analysis but also has other uses in the sporting context, such as injury prevention.

2.2.2 Injury prevention

Due to the variety of sports that are being played on all levels, injuries and the study thereof have become very important. The reason for this is not only to ensure the wellbeing of the athletes and their continued participation but also to ensure the success of teams by preventing injuries and ensuring that all players are available for selection (Peterson & Renstrom, 1995).

One need only look at the current injury crisis in Springbok rugby to realise that injury prevention has become paramount to international sporting success.

It is in this area that biomechanics, through the use of technology, has become imperative. Specifically in improving the analysis of possible injuries and helping to prevent them (Leardini, Belvedere, Astolfi, Fantozzi, Viceconti, Taddei, Benedetti & Catani, 2006).

An example from biomechanics, where the use of technology is married to analysis and then correction, is in the most simple of sporting movements namely that of running

(Eslami et al, 2007; Wrbaskic & Dowling, 2007).

The process entails video-taping the stride pattern as well as the impact of the runner's feet on the surface. This information is then measured and calculated as to the forces and directions that are imparted on the feet and on the other parts of the legs involved in the running motion (Wrbaskic & Dowling, 2007).

By calculating the impact on the runner's feet and legs, biomechanists can make predictions as to the risk of injury to certain parts of the feet and legs. By looking at whether runners pronate (turn their feet in when running) or supinate (turning their feet out when running) they can be prescribed certain shoes or orthotics (supportive inner soles) that can help prevent problems in future (Eslami et al, 2007).

Other sports in which biomechanical analyses are also used for injury prevention is in bowling in cricket, pitching in baseball and swinging a club in golf (Cooper, 1982).

Thus one can see the impact that biomechanics, assisted by technology, has had on sport in the last 20 years.

2.3 TECHNOLOGY IN UMPIRING

In the last decade technology has also been used in assisting umpires and match officials. These improvements include better scoring methods and techniques, improved education of umpires and officials involved in sporting contests as well as assisting umpires with on-field decisions (Griffiths, 1998; Nevill, Balmer & Williams, 2002).

2.3.1 Technology and scoring

As the use of technology in umpiring has increased, so too has its use in scoring. In the past rudimentary scoring methods were used to calculate scores for important matches and games eg. cricket.

Cricket scoring at games used to be done with simple manual scoreboards that were made up of numbered boards placed on a larger scoreboard. Although simple to use these boards were not always accurate and this form of scoring was also open to manipulation (Marks, 1989).

Due to the importance of sport in society and the effect that results have on everyday life, it has become imperative that issues in scoring be made redundant. This could be done by accurate and reliable scoring methods.

A form of this improved scoring, using technology, is the advent of the electronic scoreboard in games such as cricket, rugby union and baseball. The scoreboard is no longer the manual gadget that is reliant on human inputs (Marks, 1989).

Modern scoreboards are a wealth of information and by using more than one scoring method umpires and officials are better able to handle crises in scoring and are better able to avoid controversy due to bad scoring.

An example of controversial scoring, due to the lack of technology, can be found in the 1972 basketball finals at the Summer Olympiad in Munich, Germany. The grudge match between arch rivals the USA and the Union of Soviet Socialist Republics (USSR) was one of the most controversial in history.

The USA had scored what they thought had been the last point at the end of the game. However, by using television replays, match officials intervened and declared that the points would not be valid as the match clock had already run down before the ball had dropped through the basket. Overtime ensued and the USSR won the gold medal. This was due to the use of technology.

Technology has not only started playing a much larger role in scoring athletic contests, it is also being used to improve the level of officiating.

2.3.2 Educating umpires

As has become the norm in modern sport, technology is not only being used to analyse the performances of athletes, it is also being used to scrutinise umpires. Specifically their performances during matches and how they interpreted rules and laws in the heat of competition (Nevill, Balmer & Williams, 2002).

An example of this analysis is the umpiring panel which the South African Rugby Union (SARU) uses to analyse the performances of its match officials. This is done in the form of a post-match video analysis by a panel of senior umpires (<http://www.saru.co.za>; Nevill et al, 2002).

Many factors are looked at including the way the referee interpreted the laws and how he applied them, how he handled the players and captains and how successful he was at regulating the game. These performances are then used to select referees for the important matches in the Currie Cup as well as for possible nominations to the International Rugby Board's (IRB) test panel (<http://www.irb.com>).

In a sport such as cricket, technology is also used to educate umpires on intricate applications of the laws. A constant problem in cricket is the interpretation of leg-before-wicket appeals by umpires. To negate this problem, umpires on the ICC test panel are continually scrutinised as to their decisions and how they applied their knowledge of the laws of the game (<http://www.icc.com>).

Cricket was also one of the sports at the forefront of the following movement in applying technology to the officiating of sport.

2.3.3 Assisting on-field officials

As television became a more popular medium to bring sport to the masses in the Seventies and the Eighties, so too did the depth of analysis that could be performed

while the game was in progress.

This did not stay with athletes though and other parties involved in elite sport also became targets of this increased analysis. This included the decisions of coaches and their use of tactics and certain players, but this also exposed match officials to increased question marks over their performances (Nevill et al, 2002).

An example of the pressure under which match officials were placed due to television replays became apparent in the Federation of International Football Associations (FIFA) World Cup in Mexico in 1986.

In the semi-final match between England and Argentina Diego Maradona, the Argentine striker, scored one of the most controversial goals in the history of soccer. It is now known as the: “Hand of God” goal and proved how match officials could be scrutinised and vilified for any mistake they may have made on the field.

In a closely fought match Maradona scored the deciding goal by appearing to leap above the England goalkeeper, Peter Shilton, and heading the ball over him and into the net. Television replays would paint a very different picture though (http://en.wikipedia.org/wiki/Hand_of_God_goal).

From slow-motion replays one could see that Maradona had in fact used his hand to lift the ball over Shilton and in this way unfairly influenced play. The referee awarded the goal to Maradona and Argentina, and they subsequently won not only the semi-final but also the World Cup (http://en.wikipedia.org/wiki/Hand_of_God_goal).

This was one instance of many where more and more athletes, administrators and sporting enthusiasts called for technological help for match officials to get important decisions right.

The NFL was one of the first sports to introduce the use of television replays as a method of helping on-field officials to make the correct calls by conferring with

officials who have access to television equipment (<http://www.nfl.com>).

During this time other sports also started to experiment with technology as a tool to improve the quality of decisions in their sports. One such a sport is cricket and South Africa has been involved directly in this revolution since its inception into cricket in 1992 (Griffiths, 1998).

The Kingsmead stadium in Durban was the scene of the first ever third umpire referral in cricket. The outcome was that Sachin Tendulkar of India was adjudged to have been run out by Jonty Rhodes of South Africa (Griffiths, 1998).

It is clear from the above examples that technology has had a profound effect on sport in various spheres. The same cannot be said of its effect on psychology and sport psychology.

2.4 TECHNOLOGY IN PSYCHOLOGY

Although psychology is one of the younger human sciences, it has been loath to accept the influence that technology has had on it and can have on it in future (Louw, Van Ede & Louw, 1998; Schlenker, 1974).

This can partly be blamed on the movement by psychology to align itself with empirical science instead of the human sciences. This has led to psychologists focusing on making their research applicable to the scientific method of study, instead of orientating it toward the needs of clients and the practitioners of psychology itself (Durrheim, 1997; Louw et al., 1998; Sadock & Sadock, 2003; Schlenker, 1974).

One need only look at experiments done by the behaviourist movement to see the disregard for the experiences of subjects involved in the research. This is at the cost of ensuring scientific rigour and the correct scientific procedures while focusing on the environmental impacts on humans and animals (Durrheim, 1997; Gergen, 1994; Louw et al, 1998; Weingarten, 1998).

This led to an immense distrust of psychology as a field of study, as well as in the procedures that this academic science employed to derive meaningful research from participants. Some modern theorists even feel that attempting to reassert the traditional ideals (of psychology) is not only inadequate but in certain respects injurious to the culture (Gergen, 1994; Schlenker, 1974).

By having used technology more productively, instead of focusing only on the rigour of science, I believe psychology could have made immense strides as a subject that values the experiences of its clients (Durrheim, 1997; Morgan, 2000; Schlenker, 1974; White, 1995).

In this regard it is interesting to note that with the postmodern turn in research as well as the increase in qualitative research, technology has also started to play an increasing role as a research tool and observation method in psychology (Gergen, 1994; Louw et al, 1998; Morgan, 1999).

2.4.1 Observation using technology

A cornerstone of psychology is the observation of humans as they either interact with a therapist, within their natural environments, or by participating in research (Louw et al, 1998).

Most of the major paradigms in psychology have been built on the basic principle of observation. Whether this was Freud and psycho-analysis, Skinner and behaviourism or even the most recent postmodern movements such as narrative practice. The need to make accurate observations of meaningful behaviour has been a goal of psychological research since the origin of the movement (Louw et al, 1998; Sadock & Sadock, 2003).

It is then, however, surprising that psychology would be lax to accept methods that could actually assist the therapists in making better observations more regularly to the advantage of the client and the science itself.

At the start psychology had been focused on making observations in laboratory settings that only relied on the observations of the researcher or psychologist and was then subjectively interpreted by the person doing the research (Louw et al, 1998).

This changed somewhat, though, with the movement away from the laboratory and into the consultancy room. Here technology became useful in that voice recordings were used for the first time to create voice recordings of therapy sessions. This was done for two reasons (Sadock & Sadock, 2003).

Firstly, to ensure the ethical safety of psychologists by having recordings of therapy sessions. Secondly, therapists also had records from which to make their process notes and were able to refer back to those tapes when therapy needed to be revised. This is still a method that is used to this day by some psychoanalysts to enrich their inputs in the therapeutic process (Sadock & Sadock, 2003).

As technology moved from voice recording to video recording, psychology did not necessarily keep up with this change. The argument being that video recordings would cause unnatural behaviour from study participants and therapy clients.

To some extent this argument could be understood as in the period between 1960 and 1980 most households were not regularly exposed to this type of technology. Only recently technology has started to become an accepted method to analyse clients in their sessions. Clients have also become more comfortable with technology and the technological tools that are used to video-tape sessions.

This has led to the therapist being able to introduce the video camera as an observation tool, something that is not freely done by all therapists of all schools of thought.

One of the few schools of thought to have incorporated video-taping into its process is that of narrative practice. Michael White, one of the founders of narrative practice, has most sessions video-taped to be able to review sessions when he needs to (White, 2002; White, 1995).

This is seen as a method to ensure that no important information is missed and this helps the therapist to not have to be overly worried to get all the information of the session in his notes as he has the backup for any information that could have therapeutic significance.

2.4.2 Technology in training

As with the traditional method of doing therapy, technology has not entered the fray of education and training till recently.

The reason for this is that the training of psychologists was based on a traditional model of observation and learning from established therapists. This would start with the student having to learn much theory, having a good grounding in the basic psychological schools of thought, different ways of doing therapy as well as a thorough knowledge of the afflictions of the mind that they may encounter in practice (Sadock & Sadock, 2003).

After having done this in undergraduate years, the student would then gradually be exposed more and more to the practical field of therapy. In a student's honours year this may entail starting to do field work and also psychometric testing. This part of psychology is generally regarded as the starting point of true therapy (Gregory, 2000).

This is because it relates to therapy by being one of the areas of psychology that is most used and secondly, because it gives the student exposure in a therapy-like environment without the students having to perform full therapy.

The advantage in this is that the protocols for most psychometric tests are well-established and the student only needs to follow the pre-set steps in conducting and scoring the test to get meaningful results. Little or no interpretation is needed. Technology does also play a part in psychometrics in that many of the tests are computer tests and scoring is done by using computers and computer software (Miller, Ogilvie & Adams, 2000).

After having done this type of training in honours the student may then, in his or her first year of masters, be exposed to full therapy. In the past this would entail the student observing a qualified therapist or lecturer performing therapy.

The students would then be able to make notes on the ways in which therapy was conducted and could then ask the lecturer why and how he or she had performed therapy. This type of exposure was, however, limited to the students in the same class who acted as clients and the odd opportunity that clients would allow students to sit in on therapy sessions.

Although more useful from an experiential point of view, this did not put the students in the position of doing therapy on their own. It did not allow for students to see themselves performing therapy either and thus a chance was missed to let students learn from their own mistakes and not only from the example of others.

With the introduction of technology in the field of psychology, this has changed somewhat. In our first year of masters training we were continually filmed while doing role-playing amongst ourselves. This entailed doing mock therapy sessions with classmates on chosen topics (Human, 2004).

These video-taped sessions would then be used as material for viewing and discussions in class sessions. In this way students could then learn from the lecturer, the other students in the class and from themselves on how they had performed the therapy (Human, 2004).

By incorporating technology into training, a whole new world has opened up for students as they learn what they should and should not do in therapy sessions. Not only from a person who has years of experience, but rather from their own experiences.

As can be seen from this section the influence of technology has been limited in psychology. This is also true for some of its sub-disciplines such as sport psychology.

2.5 TECHNOLOGY IN SPORT PSYCHOLOGY

Sport psychology has also started to include technology in its services and this has led to the improvement of services presented by sport psychology consultants all over the world (Miller, Ogilvie & Adams, 2000; Singer, 1992).

One of the first areas where technology has been used has been to improve the quality of group presentations.

2.5.1 Technology in presentations

As the quality of audio-visual equipment has improved over the last 20 years it has become a method of improving the delivery of sport psychological services. A specific way of doing this was in making theoretical and group presentations better and more attractive to all users of sport psychological services (Anderson, Miles, Robinson & Mahoney, 2004).

This included using music and programmes, such as Microsoft PowerPoint, to make presentations more entertaining and to the point. This also allowed the dissemination of information to occur quicker as presentations could now be made shorter and more relevant (Gergen, 1994).

Not only could presentations be made more relevant but they could also ensure that clients could get clear pictures of the techniques they were being taught.

By using hi-fi technology, skills such as progressive relaxation could be used with music and in this way clients could get a clearer picture of how improved relaxation could impact on performance. Whereas in the past athletes would have had to listen to theoretical presentations and only then were able to try the skills at home (Bull, 1991; Cox, 1994; Potgieter, 1997).

As can be seen from the above literature review the use of technology in sport has

become extensive and far reaching. This influences not only the players and their performances, but also other areas and stakeholders in sport. As discussed these include technique analysis, tactical analysis, influence on the work of match officials and also how games are scored and timed. This influence of technology on sport has had and will have an immense impact on the sporting landscape.

In comparison technology has had a limited impact on the world of psychology and this is an issue that is going to have to be addressed, especially in sport psychology. This is needed if the field is to stay relevant and useful to practitioners and clients alike (Gergen, 1994; Miller, Ogilvie & Adams, 2000; Schinke, Hancock, Dubuc & Dorsch, 2006; Simons & Andersen, 1995; Singer, 1992; Zaichkowsky, 2006).

Many other related fields in sport such as physiotherapy, biomechanics, visual acuity and biokinetics have all endorsed movements towards the use of technology. All these fields have incorporated this into their field of expertise and training, often to the improvement of the field itself. An example of this is the work that Dr Sherrylle Calder, the world renowned vision specialist, has done within the visual acuity field (Kervin, 2006).

If psychology and specifically sport psychology is to keep up with these fields, technology will have to start playing an increasing role in how training is done, how observations are made and how information is related to clients (Morris, 1995; Neff, 1990; Zaichkowsky, 2006).

In the following section I propose a method of how this can be done by incorporating technology into a sport psychological research study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 CONTEXT

The context in which research is done plays an important role in the way the research is performed as well as the result of the research. In this research study the context can be divided into an academic as well as organisational context.

3.1.1 Academic Context

This is the University of Pretoria (UP) Department of Psychology. The department has an MA counselling psychology programme of which I am currently completing my third year, with sport psychology as my field of interest.

3.1.2 Organisational Context

1. The Tshwane University of Technology (TUT)

The Tshwane University of Technology (TUT) is the organisational context for this study and specifically the Department of Sciences. This includes the Tshwane University of Technology Golf Academy (http://www.tut.ac.za/sup_files/in_perspective/tutindex.html).

2. Tshwane University of Technology Golf Academy (TUTGA)

The TUTGA has been in existence for six years. The academy presents two four-year BTech Degree courses. They include BTech Officiating and Coaching and BTech Sports Management. The academy has as its mission: “To educate the future entrepreneurs in the world of golf” and the students of the academy make up the participants of the research project.

3.2 PARTICIPANTS

3.2.1 Golfers of the TUTGA

The participants in this study are six students of the TUTGA. The students' ages range between 19 and 24 years and include six white males. All subjects compete regularly in amateur tournaments and they all fall in the top eight of skill levels in golf.

3.2.2 Researcher

1. Studying experience

Firstly, I completed a degree in Human Movement Studies at the University of Pretoria (UP) in 2001. After that I completed an honours degree in psychology in 2002 at the University of South Africa (UNISA), with sport psychology being one of my main subjects.

I have spent the last two years completing the academic requirements of my MA degree. This also included a required internship which I completed in 2005 at Stabilis Rehabilitation and Treatment Centre in Pretoria. Throughout my first six years of study I was also heavily involved in coaching, club management, team management, administration and mental coaching.

2. Experience in the use of technology

Throughout my time as coach with the UP Hockey Club as well as coach of UP Junior Cricket Club I was interested in the use of video technology as a coaching aid. After having been introduced to narrative practice in my first year of my MA degree, I could see how one could link technology, narrative practice and sport in a sport psychological research project. My supervisor, Dr Lourens Human, introduced the idea of using narrative practice, technology and sport psychology and he has also had an effect on my approach to the research (Leahy & Harrigan, 2006).

3.2.3 Supervisor

The supervisor for this study will be Dr Lourens Human of the UP Psychology Department. Dr Human has two MA degrees as well as a doctoral degree in sport psychology. Specifically in linking narrative practice with sport psychology.

3.2.4 Other

1. Mrs. Sandra Truter

Mrs. Truter is one of two proofreaders of *Wheels* motoring annual, a well-known South African motoring publication. Mrs. Truter has been proofreading *Wheels* for the last 25 years and has a wealth of experience in proofreading. Her confirmation of proofreading this research thesis is included as Appendix E.

2. Willem Kloppers

Mr. Kloppers is the founder and director of the TUTGA. To this end he gave permission for the current research to be performed with the students of the TUTGA and his signed consent form is included as Appendix C.

3.3 POSITION

The research will be done from a qualitative, narrative practice position. Narrative practice is a relatively new movement in psychology that derives its origins from systemic psychology as well as constructivist theory. While the qualitative research method has only recently started to gain some acceptance from the scientific community (Labuschagne, 2003; Malterud, 2001; Munroe-Chandler, 2005; Roberts, 2000).

Together with this movement towards postmodernism, there has also been an increased call for qualitative sport psychological research in many of the traditional areas of research in sport psychology. These areas include self-confidence, anxiety, motivation

and retirement from competitive sport (Crust & Nesti, 2006; Hanton, Mellalieu & Hall, 2004; Hassandra, Goudas & Chroni, 2003; Kotze & Kotze, 1997; Lavalley & Robinson, 2007; Morgan, 2000; Zaichkowsky, 2006).

Narrative practice was originally developed by the Australian social worker Michael White and the New Zealander David Epston, a psychologist. Narrative practice has been based on much research and therapeutic work by both White and Epston. It is defined to be “a respectful non-blaming approach to counselling and community work, which centres people as experts in their own lives” (Howard, 1989; Morgan, 2000).

Two principles of narrative practice are applicable to this study. They are “maintaining a stance of curiosity and always asking questions to which you genuinely do not know the answers to” (Morgan, 2000).

Thus the narrative position is a useful one in this study due to the fact that it centres the golfers involved in this study as the experts on their needs. The narrative practice and postmodern approach to consultation is also gaining relevance in the field of sport psychology (Ryba, 2005).

This can be seen in the study of Leahy and Harrigan (2006) on the implementation of a programme for the facilitation of positive body image in elite young women athletes. The generally positive outcome leads the authors to suggest that narrative practice can be a useful method of doing sport psychology therapy (Kotze & Kotze, 1997; Leahy & Harrigan, 2006; Morgan 2000).

3.3.1 Experience

Narrative practice has the premise that it allows clients the opportunity of making sense of their own experiences. Thus instead of a therapist interpreting or misinterpreting the client, experiences become the common ground for the client to explain and the therapist to understand (Gergen, 1994; Howard, 1989; Kotze & Kotze, 1997; Leahy & Harrigan, 2006; Morgan, 1999; Weingarten, 1998).

The client and therapist share in a sense-making activity to arrive at a better outcome for the client. Epston (1998) feels that one's knowledge of the world can only be gathered through our experience of it. "Our experience of the world is all we have, and that is all that we can know".

Thus, simply put, people are not objective passive passengers when it comes to their experiences. Rather they experience events, make subjective sense of them, place them in convenient parts of the narrative of their lives and then carry on (Doan, 1998; Epston, 1998; Gergen, 1994; Ryba, 2005; Weingarten, 1998).

Recently even the quantitative sport psychology literature has started to incorporate the concepts of emotions and experience in studies with male tae-kwon-do practitioners (Cerin et al, 2001).

3.3.2 Experience and narrative

As human beings we often try to organise events in our lives and the narratives we have of these events in attempting to reach equilibrium or balance. "In order to give meaning to our experiences, we must organise it, frame it or give pattern to it" (Epston 1998). By taking sporting experiences and ordering them and then narrating them, athletes learn to make sense of the successes and failures in the course of their careers (Leahy & Harrigan, 2006).

By using video footage the golfers have an external reference to compare their experiences to. Thus, it is not only what the athlete can re-member but he or she now also has footage of performances (Straub, 2006; <http://www.dulwichcentre.com.au>).

Now the golfer can use the increased self-awareness that has been gained from the video recording to identify areas where he or she believes they can improve. Thus, by allowing the golfers the opportunity to narrate their viewed experiences, they become the experts on where they want to focus their energy to improve psychologically (Duval & Wicklund, 1972; Epston & White, 1992; Freedman & Combs, 2002; Roessler &

Eilan, 2003; White, 2000).

However, the narrating of these experiences does not happen in isolation. It is informed by the person's history and his or her past experiences.

3.3.3 Experience, narrative and history

Due to the nature of sport, all athletes have stories and experiences from various forms of competition they have been involved in. In my opinion there are three reasons why athletes narrate their experiences. They are:

Firstly, it allows athletes to make sense of past successes and failures on the sports field. A good example of this is the golfers of the TUTGA who often narrate changes they make in their golf swings as transitional stages in their careers. Tiger Woods, the world's number one golfer, has also recently undergone a well-publicised two-year cycle of swing changes.

Secondly, by narrating experiences and placing them in the pattern of a career, athletes can draw on their own historical experiences. Specifically when facing similar situations and experiences. An example of this in the sporting world is in the case of injuries.

Ex-Springbok Joost van der Westhuizen had to undergo four knee operations throughout his career. By using his experience of the rehabilitation process, he could draw on coping mechanisms he had used in the past to get him through the present injury. This is referred to as a unique outcome in narrative practice and the focus of this technique is to allow the athlete to re-member a time when injury or other problems did not have such an effect on his or her life (Leahy & Harrigan, 2006).

Lastly, by creating a historiography of their careers, athletes can gain hope from past successes and by focusing on these events they can hope to return to success again in the future.

Ian Botham, the ex-England international cricketer and captain used this form of narrating when he maintained that in cricket: “form is temporary and class is permanent” (Botham, 1994).

Once an athlete has experienced events on the field, narrated them and placed them in the history of their careers, there is still one factor that plays a role, namely culture (Leahy & Harrigan, 2006).

3.3.4 Experience, narrative and culture

If experience, narrating and history are the cameras through which athletes view their sporting lives then culture is the lens that focuses these experiences in certain ways (Gergen, 1994; Kotze & Kotze, 1997; Leahy & Harrigan, 2006).

An example of this from the world of golf is the differences and similarities between Tiger Woods and Phil Mickelson. They are the number one and number two in the world of golf and both have won the Masters, one of the four most important tournaments in professional golf. These tournaments, which are called the Majors, consist of the United States Open, the United States Masters, The PGA Championship as well as the British Open (Faldo, 2004).

Woods, however, was the first African American golfer to win this prize. This at a club that had only recently before his victory allowed minority groups to join the Augusta National Club. Thus one can imagine what Woods’s victory has meant for minority golfers in the USA and this is also something Woods has acknowledged as being very important to him.

It is clear then how two people, who share the same experience, can have totally different perspectives and narratives on similar events due to cultural differences (Doan, 1998).

3.4 DATA

The gathering of data is the next step in the process of this research and the procedure of gathering research information will be discussed in this section.

3.4.1 Phase 1: Exposure to being video-taped

1a. Recording

Recording entails video-taping the golfers for nine holes of golf. The video-taping will focus on shots around the green as well as putting. This will be used as the secondary data for the study.

1b. Showing

The golfers are then shown the full video recording of their play around the greens and their putting. This is done without cues from the researcher or drawing attention to any of the material. The athletes are allowed to focus on what they think is important and not what the researcher feels they need to focus on (Kerr, 1999).

1c. Interviewing

After watching the video recording of their rounds the golfers are then interviewed once individually using the narrative practice method of therapy. This conversation will also be video-taped as secondary data.

3.4.2 Phase 2: Observation

2a. Group reflection

The golfers now form a reflecting group and another session will be done with them. These sessions entail that all the golfers discuss their experiences of being video-taped

on the course. These video-taped sessions will form the primary data for analyses and transcriptions (Emerson & Frosh, 2004).

2b. Transcribing

The process of transcribing will involve the primary data in the form of the video-taped group reflection session video. This will mean listening to and watching the group interview so as to identify recurring themes, metaphors and concepts that they may find useful and interesting in the process of being video-taped on the course.

The transcribed sections of the text will then be analysed using narrative analysis.

3.4.3 Phase 3: Evaluation

3a. Analysing

Once the primary text has been transcribed, the main themes and metaphors used in the chosen texts need to be identified. To do this, a technique called narrative analysis will be used. This entails the process of identifying what is being said in the text, who is saying it and how what they are saying is informed by their culture and history (Emerson & Frosh, 2004).

3.5 QUALITY

As with any academic endeavour it is important to have quality controls in place so as to ensure that the research is of an acceptable level.

A much used technique of quality control is the use of proofreaders to ensure that the thesis is of a high grammatical standard. I have also employed the same technique for this study.

However, to ensure the applicability and validity of the research I believe one should go

further to ensure the application value of the research. To accomplish this I will describe three further quality controls I have included.

3.5.1 Dr Lourens Human

The most important quality control is the influence Dr Human has had on this research project. This is due to the fact that he is the only person known to me to have combined the topics of sport psychology and narrative practice in a doctoral study. This means that I have been able to draw on his experiences and knowledge (Human, 2004).

3.5.2 Technology

I specifically chose video technology as the method of capturing data due to the fact that the students of the TUTGA are used to being video-taped regularly. This has also become a method of quality control for this research in that, by capturing performances and interviews on video, I can constantly refer back to the material.

3.5.3 Narrative analysis

Narrative analysis is a structured way of evaluating spoken text, such as that of a video interview, and then identifying certain important themes in what the participants are saying. The value of narrative analysis, as with video technology, is that it moves the research away from biased and subjective observations by the researcher (Emerson & Frosh, 2004).

Another form of quality that needs to be controlled in a research project is the question of ethics. This will now be discussed further.

3.6 ETHICS

It is the wish of all researchers to ensure that their research is both applicable and useful in their area of expertise. However, this cannot be done without paying attention to

ethical issues in the research (Andersen, Van Raalte & Brewer, 2001).

Firstly, ethics entail consent from the participants, the institution which serves as the organisational context as well as the ethical committee of the Faculty of Humanities of UP. Secondly, it also means ensuring confidentiality for the participants. The following section will be divided into consent and confidentiality.

3.6.1 Consent

1. Consent from the students

Consent needs to be gained from the participants so as to ensure that they know what it is they are going to be part of. The topic and goal of the research will be discussed with the participants. This will be done in a meeting where the research proposal, the research design and the research process will be discussed.

The concepts of voluntary participation and withdrawal are also to be discussed and that they will not be coerced or harmed in any foreseeable way (White, 1997).

2. Consent from TUTGA

Written consent for doing the research with the students of the TUTGA was gained from Mr. Willem Kloppers, the director of the academy. This consent includes the use of the TUTGA offices and facilities as well as any other assistance needed (Appendix C).

3. Ethics Committee of the Faculty of Humanities UP

Consent for this research project has been obtained from the Ethics Committee of the Faculty of Humanities of UP. This was done by presenting an initial research proposal for the research. This was approved on 26 September, 2006 and the letter of approval has been included as Appendix B.

Once consent has been obtained from all interested parties it is necessary to ensure the confidentiality of the research participants.

3.6.2 Confidentiality

1. Anonymity

Anonymity will be ensured by not using the subjects' real names in the research or in the dissemination of results.

2. Dissemination of results

Participants will have the opportunity to view the results of the research. It is also important to inform participants that their results will not be made public without their written consent and that it will not be shared with any other participants, students or staff members of the TUTGA.

Narrative practice uses the medium of writing letters to clients as a form of feedback and reflection. Feedback will be given in the results section of the research but video feedback sessions will also be done for selected participants. This will be done to keep the feedback and dissemination of results similar for the sake of the research. This is to use technology to improve the normal way that narrative practice feedback would have been done.

3. Format of results

Participants need to be made aware of the fact that results and the research thesis will be placed in the UP Hans Merensky Library as a reference work. These results will also be included in a research article that could be published in an academic journal.

4. Storage

The results of this research will not be destroyed as it forms the initial research work for a possible doctoral study. Data will be stored at the offices of the The Associates Consulting Firm in Faerie Glen in Pretoria, and all efforts will be made to ensure safety and security of the data. Upon further use of the data, participants will be asked for written consent to use the data in further research.

3.7 RELEVANCE

The research project has both local and national relevance. Local in the form of the impact it will have on the students of the TUTGA as well as the national impact it could have on the golfing landscape in South Africa.

3.7.1 TUTGA

The current study is relevant to the TUTGA for the reason that no form of sport psychological research has been done on these students. This research is then an important step in determining the sport psychological needs of the students and the impact that future studies can have on performance.

This study does not just aim to be locally relevant, but also nationally relevant.

3.7.2 National relevance

On a national level South Africa has a very strong golfing culture. This can be seen in four areas.

Firstly, the sport of golf is making an impact on the socio-economic landscape of the country. This has occurred through the establishment of golf estates throughout South Africa. As a result more and more young people who live in these estates are taking up the game of golf instead of the more traditional sports such as rugby, cricket and soccer.

Thus South Africa is producing a crop of talented young golfers who need to be nurtured and taught the finer (psychological) aspects of the game (Blanchard, 2004; Chopra, 2003; Kurensky, 2004).

Not only is the game developing in the affluent suburbs, but it is also gaining popularity amongst previously disadvantaged communities. In this regard bodies such as the South African Golf Development Board (SAGDB), a non-profit organisation, has as its mission to make the game of golf more appealing to the youth (<http://www.sagolfboard.org>).

Lastly, many South African golfers are currently competing in the three main international professional golf tours. These are the United States Professional Golfers Association Tour (USPGA), the European Tour as well as the Asian Tour (<http://www.pga.com>; <http://europeantour.com>; <http://www.asiantour.com>).

Thus except for future players who can gain from increased sport psychological research, there are already a host of players who can benefit from research projects such as this.

Up to this stage of the research project the main focus has been on how the research will be done and the procedures involved in it. The following chapter will focus on the data captured in the group interview section and this will serve as the results section of this research.

CHAPTER 4

RESULTS

The main body of data for this study is made up by the information gathered from a group interview session with six of the golfers of the TUTGA. This discussion was video-taped and it focused on the golfers' experiences of being video-taped during a round of golf for sport psychological purposes.

The interview was in the form of a semi-structured interview in that I raised some issues that were brought up by the golfers in their individual interviews before the group interview. These themes included pre-shot routine, confidence, visualisation, arousal, body language and “the zone” (Ferraro, 1999; Vazou, Ntoumanis & Duda, 2005).

The interview lasted 50 minutes and these were themes they felt could be addressed using the method of video-taping as a sport psychological tool.

In trying to answer the research question of how do golfers experience the use of technology (video) for sport psychology training in golf? It will be necessary to show, by using themes and metaphors from the text, that the students found the technique useful and that they believe that the techniques should be used with other similar groups.

The results section will also focus on how these golfers use the awareness they gained from seeing themselves on video to make sense of their experiences. But not only how they make sense of their video-taped experiences but also how they fit the events on the course into the narrative of their careers.

The following section will take the form of each golfer's narrative being analysed according to the following method. This includes an introduction and explanation of what I believe the narrative of the individual golfer is. This will then be explained according to historical and cultural markers that the golfer uses to substantiate the

claims I make about the theme. Lastly I will give a reflection on what I gained from the text as a researcher and what I believe the value of the various themes may be.

This process does not focus on finding the ultimate truth within the text but rather to explore what I believe the theme may be that is being employed by the golfer and how this can possibly be used therapeutically. Specifically by using the historical and cultural themes given by the golfers themselves and in this way avoiding reading into the text or super-imposing my ideas on the narrative.

4.1 GOLFER ONE

DN is the first golfer to voice his opinion and he is also the oldest participant in the group session. He is a SASSU team member of the 2006 team and was a fourth-year student at the TUTGA at the time of the interview.

On replying to the question of the impact of the presence of the camera on the course, for sport psychology purposes, DN focuses on new avenues this can open up. This led to the first narrative being named: **From general pictures to new dimensions.**

- 1 **R:** First of all good afternoon, goeie middag, thank you all for being here and being part of the research. I know it's taken, I know it's taken up a bit of your time, but it is much appreciated from my side. I think what I'd like to do is chat about your impressions of the video-taping sessions we did. D as ons begin by jou. If everybody can give me general impressions of what it was like to be video-taped on the course and in the individual interview.
- 2 **DN:** Ek Hoe dit vir my gevoel het, dit is iets wat ons nie aan gewoon is nie, ek dink dit kan 'n totale nuwe dimensie inbring in ons coaching sessie, om jouself te sien. 'n Ou het 'n gevoel van hoe jy jouself sien op die baan, jouself te sien, jy't hierdie general picture van jouself op die baan, maar om jouself op kamera te sien is dit iets heeltemal anders en jy kan soveel leer daarby.

DN starts with how being video-taped on the course made him feel. He specifically focuses on how this may have made him feel uncomfortable at first when he says that it is something that he and the group may not be used to.

He then uses a metaphor of technology in the form of the camera being able to bring a whole new dimension into coaching sessions by being able to see himself.

This is an interesting viewpoint as this comes from one of the junior coaches at the TUTGA, in that DN is currently doing his apprenticeship in coaching under a PGA South Africa professional golf coach.

This may mean that DN thinks that by using technology with the golfers for psychological purposes it could put coaching “light years” ahead of other coaching methods.

He then once again uses the concept of feeling, when he states that one has an idea of how you see yourself on the course. This link between feeling and seeing is also an important metaphor in golf in that sight and touch are the two most important senses a golfer can use. It is thus interesting that he links the two most important senses together to explain how important he thinks seeing himself on camera is.

Next DN uses a metaphor of having a general picture of himself on the course. He draws this metaphor of having a picture from the world of film and cinema. He uses this cinematic metaphor to explain how it is to see himself on the course. Thus it may mean that it is like a movie playing out in front of him and that what he expected to see may not be the plot that one eventually sees.

DN employs history in a very specific way in this part of the text. He juxtaposes the past of how he has experienced himself on the course, with the future of how, seeing himself on the course, can change his perceptions of his game. Thus he looks back on the history of the general concepts, or in this case maybe misconceptions, he may have had of his game and relates this to possible changes in future.

DN then uses culture to further explain his view of psychological video analysis being something different. Firstly, he compares the way that coaching has been done in the past, using the traditional methods, and feels that technology can open up a whole new dimension in coaching and in this way change the dominant culture of how coaching is done at present.

Secondly he also uses culture on a personal level in that he challenges his own discourse of himself playing golf. This relates to the fact that he has a dominant discourse of how he believes he acts on the course and now this is challenged by seeing himself on video. He thus challenges the cultural and personal beliefs that he holds about the game and his own game and this may lead him to a different viewpoint of himself and his golf.

- 1 **R:** As, as kom ons sê jy het 'n belangrike putt in 'n toernooi, en jy het 'n putt in 'n gewone oefenrondte by Silver Lakes. Is dit belangrik om dieselfde pre-shot routine te doen?
- 2 **DN:** Ja dis presies wat ek ook al ondervind het. Uhm, ek het op die video ook gesien dit baie vinnig was met my pre-shot routine. Ons het 'n vinnige oefenrondte gaan speel. Dit was nie baie ernstig nie. Ek sal graag meer tyd wil vat. In 'n toernooi sal ek meer tyd vat, ek sal dit baie rustiger vat. Ek onthou ek het vir jou gesê in die sessie ek het my putts afgejaag. Uhm, my alignment afgejaag, al daai goeters. So definitief 'n ou sien dit so vinnig raak op kamera en as iemand nie vir jou sê nie dan gaan jy dit nooit optel nie as jy dit nie sien op kamera nie.
- 3 **R:** So, dis 'n, dis 'n handige ding om soortvan jou pre-shot routine mee te bestudeer ook en te sien wat jy doen en hoe jy dit doen?
- 4 **DN:** Ja definitief.

In the next part of the text the golfers focused on their pre-shot routines as this was one of the areas I felt that many of them had focused on in the individual sessions.

On the question of if the golfers felt that it was necessary to do pre-shot routines similarly in practice and competition, DN focused on the time that he uses when putting. Specifically how he uses time in practice rounds as opposed to competitive tournament rounds. This is why I named this narrative: **Taking your time.**

DN uses history to compare his current situation with the times in the past where he knew he may not have been consistent with his pre-shot routines. Thus once again he employs history as a reflection for himself.

This gives me the idea that DN is a deeply reflective person and that he uses history and experience as something that he has learnt from. It would also be interesting to hear how he thinks, watching himself on camera will help prevent him from making the same mistakes in future.

DN also uses justification in this part of the text in that he says when I taped him that it was only a quick practice round and that he did not pay particular attention to the execution of proper routines and techniques.

This could be his way of trying to explain why he did not play particularly well on the day. He also feels that when he plays meaningless rounds, such as these, he tends to be too quick with his routines, instead of focusing on doing them as he would in a tournament round. He also offers the excuse that he has noticed this and that he knows that he will take his time when he is put under pressure.

This goes against the popular saying in sport that: “you practise like you play”. This means that by taking practice seriously and paying attention to finer detail in one’s technique and in one’s routines, one prepares oneself better for when you will be put under competitive pressure.

This links DN’s narrative with culture and specifically sporting culture in that he trespasses on one of the “golden rules” of competing and coaching. I believe that he is aware of this and offers the rationalisation and justification that he does.

He also uses another method and that is the use of the camera. Specifically that the camera has made him aware of how he is too quick with his routines and how he rushes through them. In this way he can work on it in the future and make sure that this will not happen again.

One can thus see how he employs the technology of the camera to explain that he was ignorant of his mistake and that by using technology he is enlightened to the mistake and will try and rectify it in future.

DN’s narrative has had an impact of hope on me. A hope that new and young coaches will welcome the use of technology as a sport psychological tool. This he states explicitly in more than one instance in that he feels that he and other golfers can learn from the use of technology and that it is a helpful tool for being able to see himself

perform.

He also implies the importance of the camera in that he uses examples from his past where he may not have been aware of how he had appeared but that the camera had opened up new dimensions and avenues for his own game and that of his students whom he coaches.

DN has a very positive outlook on the use of technology and what role it can play in future and this has been clear in his use of narrative, metaphors, history and golfing culture to explain its relevance.

4.2 GOLFER TWO

DP is the next respondent. He is a second-year student of the TUTGA and is also a provincial under-23 player for his province.

- 1 **R:** First of all good afternoon, goeie middag, thank you all for being here and being part of the research. I know it's taken, I know it's taken up a bit of your time, but it is much appreciated from my side. I think what I'd like to do is chat about your impressions of the video-taping sessions we did. D as ons begin by jou. If everybody can give me general impressions of what it was like to be video-taped on the course and in the individual interview.

- 2 **DP:** Ja, something different Umh (.) often you forget about what you did in your earlier holes and now you see after the round (uhm) how different (pause) Uhhh (.) how can I say thoughts and the way you acted around the greens, after shots in the earlier parts of the round so I think it is very helpful and I enjoyed it.

The first part of DP's narrative is a description of how he experienced being video-taped on the course. I would name this part of his narrative as: **Something different but something helpful.**

This is due to the fact that in the first line DP refers to how he experienced being video-taped as being something different. He then goes on to explain why he says this in some detail and then at the end of the narrative he alludes to the fact that he found it (being video-taped) helpful.

Thus he wants the reader, or in this case the researcher, to understand that this is not

something in his normal frame of reference on a golf course. But instead of thinking that he might not be in favour of this new technique on the course, he clarifies it by saying that he thinks it is helpful and that he even enjoyed it.

This could mean that DP sees the use of technology as a method of overcoming the time gap between playing a round of golf and remembering what happened.

He may also be alluding to the fact that the camera can help to fill in gaps in what he can remember on the course and that this is a way to overcome temporal challenges when consulting a sport psychologist. In this case he may feel that seeing himself on video helps to remind him of what happened and in this way no important information has been lost.

A second concept of narrative that DP employs to make his point of seeing the use of technology as useful, is culture. This is stated in an absent but implicit way of referring to his behaviour on the course. I wonder whether DP is not trying to imply that not only can the camera be used to help with the sport psychology part of golf, but it could also be an exposition of his behaviour and that this was socially and culturally acceptable to himself and the golfers around him.

Another aspect of sporting culture that DP uses is the fact that enjoyment makes up part of the game, although the use of technology is often seen as a professional sporting technique. DP may be implying that even though it is a serious analysis and something designed to help him play better, it is still enjoyable and fun. This may be part of DP's dominant discourse of golf, the fact that it needs to be enjoyable for it to have value.

The next part of DP's narrative focused on the use of sport psychological techniques on the course and to my surprise he linked this to the use of technology. The message of this narrative to me was: **Seeing is believing.**

1 **R:** Julle, jul ouens het almal redelike kennis van al, van die sportsielkunde en ons het al redelik lank daaroor gepraat oor die sportsielkunde (uhm) het, is daar van die tegnieke wat, wat julle kan gebruik? Is daar tegnieke wat julle voel handig te pas kom in 'n rondte gholf? DP if you want to start maybe? Things like visualisation, self-talk (uhm)

breathing on the course (uhm) do these things even come into your head when you are on the course.

- 2 DP: Ja, I think visualisation plays a big role. I mean visualising the shot, seeing what you have to actually achieve and what you must do helps a lot and your confidence, in the way you play and as a player. You pick it up on the camera which is nice after the thing to see you know how long did you take, did you actually have a look what you were going to do before your shot. So that definitely helps visualisation.

The reason I used the seeing is believing theme is that DP focuses on visualisation as a useful sport psychological tool, and specifically a tool that depends completely on vision. Whether this be an imaginary vision of seeing oneself perform a sporting skill or if one can really see with your sense of vision.

DP feels that the use of visualisation together with seeing what he did during the round with the help of the camera, ex post facto, was something that he liked and I would imagine something that he would want to do more often.

After the round he uses time and history of his narrative to show that the use of technology can be valuable, not only to see himself perform, but also to be used in conjunction with existing sport psychological techniques. Specifically to help improve sport psychology service delivery in future.

He also focuses on the use of time while he is playing. This is in the form of him noticing while watching the video of his round, how long he took over certain shots and how he then executed them.

DP's use of culture in this narrative is more focused on the culture of sport psychology and how it is used and the dominant discourses that exist within the sport psychology field. This is evident in the fact that DP focuses on one of the most used sport psychological techniques, namely visualisation. He tempers this use of a traditional sport psychology technique by suggesting that this can be used in conjunction with technology.

This may be a way in which DP suggests that there may be room for new techniques, such as the use of technology in modern applied sport psychology.

A metaphor that DP employs within this narrative is that of having a look. To me this entails taking one's time and being careful about the decisions you make as they may have consequences on a personal level and on the course.

By using the technique of visualization, together with being able to see oneself after the round, I wonder whether DP is not trying to illustrate that by being able to see the consequences of his actions on the course through video, he can start to identify where he should or could have been more careful on the course.

Next DP focuses on arousal and the impact that viewing a round of golf has on how he perceives arousal. This part of the narrative will be referred to as: **Judging: Calm versus Hype.**

- 1 **R:** Do you think if I was to go and tape you over four rounds and compared the rounds with one another, would that be something useful we could.....use so that one could watch yourself and say this is the first round I played, this is the last, how did it change?
- 2 **DP:** Ja, I think that it will help because I mean you can also judge it by your performance level. If you see a difference you can say there, ok, where I stayed calm I played well, and there where I got hyped up I actually played badly or vice versa.

The golfers involved in the research were only video-taped for one round and I wanted to find out if they thought that by being video-taped for more than one round they could become aware of more.

DP confirmed this and he immediately explained how he used judgement based on video footage to see whether he had performed well or not.

I wonder whether this may not refer to him now having an external judge, and not only himself, to show him how successful he was or wasn't. As well as whether technology could be a new and useful method of judging behaviour and success of sport psychological techniques in the heat of competition.

Golf is also a game where a score does not always fairly reflect very good or very bad play. One can shoot a very good score without playing particularly well and the same

applies to a bad round. It is interesting that DP almost sees the camera as an extra non-biased judge of performance.

DP specifically uses the culture of golf as a gentleman's game by comparing staying calm or getting hyped up. In the golfing culture golfers who become overly emotional and hyped up are often frowned upon and looked at as posers. Whereas golfers who stay calm and are in control of their emotions are admired, especially if they are professional players.

He also describes how he played well when he stayed calm and badly when he got overly hyped up. At the end of the sentence, as an afterthought, he also adds the reverse. It would be interesting to discuss the dominant discourse of DP's golf of staying calm versus getting hyped up and how he sees the use of arousal and the use of technology to help in this matter.

DP uses the metaphor of judging performance and this is a metaphor that he lends from the judiciary. The focus of the judiciary is to make fair and clear decisions about matters of law. In a court case it is imperative that a judge not be biased or more sympathetic towards one party.

In employing this metaphor I wonder whether DP is not trying to say that the camera is a fair judge of arousal levels, even more so than what a scorecard can reflect or he himself can be, due to the fact that he is emotionally involved in the game.

Lastly, when asking his final opinion about how he found the use of technology on the golf course, he described it as a: **Step-up.**

1 **R:** DP your impression?

2 DP: Seeing yourself on camera, I think, helps a helluva lot. A real step-up could you say in technology, in how you can approach the game. As they say, we watch the pro's every weekend play these tournaments. How they walk around their putts, walk around the greens (uh) walk to their ball, visualise their shot. So seeing yourself do it and how

you can improve it, and that, helps a tremendous load.

DP overtly describes the process of being video-taped as very helpful and this is his third positive reference towards the whole process. It is also clear that DP sees the process as a tool that can help in his game and the analysis thereof, and not just a flash in the pan experiment. Something that he does not touch on is whether he believes that the use of technology is an imperative tool or if it is just there as an aid. This could be a worthwhile question in follow-up studies.

DP employs history in this narrative to describe how the golfers watch the professional golfers on television each weekend. He implies that watching and observing those that are better than himself as part of becoming a professional golfer. He also takes this one step further by saying that, after having studied the professionals' moves, it is important to have the opportunity of seeing oneself doing the same things.

DP also uses the dominant culture within the TUTGA to improve his own game and he believes that by using technology more, the step-up can be made from amateur golf to professional golf.

DP also uses the metaphor of stepping-up. This is often used in sport where a player or individual finds himself or herself on a certain level of competition. Then by training or by improved performances, they are said to step-up from their previous level to a higher standard of performance.

This is an architectural metaphor and this could refer to how one builds a career as a professional golfer. Firstly, the fact that you have to observe professionals, in this case golfers, or in the architectural world by observing qualified architects, and in so doing learning by seeing. Then secondly, once you have observed how a "master" does things, you can start to build your own career. I also wonder whether his use of this metaphor implies that with technology one can take the step-up to the next level sooner.

It could also mean that the use of technology is needed if he is to build a successful career and if he is to make the step-up to the next level. It is interesting to note that the

metaphor of the step-up only refers to going up and not coming down. It could be useful to get DP's feelings about how he envisages himself eventually coming down from the step-up he is making or what would happen if he was forced to take a step-down.

Reading and analysing DP's narratives leaves me with very little doubt that he saw the process of being video-taped, watching the video and being interviewed as positive. The reason for this is that in more than one narrative he refers to the process in a positive light and this includes referring to it as being fun, helpful and giving him confidence.

Thus, his narrative has been positive and has given me a belief in this research. It has also left me with a sense of DP having a thin story about his golf and how he is going to make the step-up from being an amateur golfer to becoming a professional golfer.

His narrative has also left me with the feeling that young golfers are more positive towards sport psychological interventions when tools are used that they are familiar with. This interests me in seeing how one can link technology to further studies and analyses of the psychological performance of golfers.

4.3 GOLFER THREE

The next participant is KG. He was the captain of the South African Student Sport Union (SASSU) Golf Tournament squad at the TUTGA for 2006. He is also one of the leading students at the TUTGA.

On the question of what his impressions were when using technology, KG implicitly focused on the theme often used in professional golf of: **Drive for show and putt for dough**. Meaning that putting is what earns you money and the other shots are only there to show off your skills:

- 1 KG: Ja-nee dit help 'n ou nogal baie. Ek (uhm) (pause) ek het (uhm) veral met my pre-shot routine het ek gesien hy is nie heeltemal presies dieselfde elke keer as ek geputt het nie. Jy't my met die putting getape, so daar het ek gesien pressure putts het ek half nie my pre-shot routine gedoen nie en ekt' daai putts gemis en ekt' nooit geweet hoekom nie. As 'n ou by jou routine kan bly, bietjie jou pre-shot routine afgewyk en dit het dalk 'n verskil gemaak.

KG employs history by referring back to the putts during his round and by comparing them using the replay of his rounds. He focuses on the fact that his pre-shot routines are not similar each time and that historically this may be the reason why he had missed pressure putts in the past. Thus he compares times in the past, at tournaments and important rounds, where he had missed putts.

With this new information at his disposal, which he has gained with the use of technology, he can see that his pre-shot routines are not consistent.

This means that when he had missed pressure putts in the past it was something that bothered him and the use of technology, coupled to the reference back in history of missed putts, may in future allow him to improve this part of his game.

Together with the use of history to analyse his reason for missing important putts, KG also implicitly uses culture and specifically golf culture in a covert way.

The reason I say this is that in golf, and specifically as one improves, the one thing that distinguishes good players from great players is their ability to withstand and handle pressure. In the amateur golfing circles much emphasis has been placed on being able to handle pressure. This may be a good indication of how golfers can, in future, be successful in the professional ranks.

Another focus of amateur golfers is the quality of their short game, meaning their ability to play around the greens. Thus pitch shots, chip shots and putts. This is another factor that distinguishes amateurs from professional players, the perception and often the reality that professional players' short game is better.

One can see that KG's inability to consistently handle pressure putts well, is something that he has contemplated in the past, maybe without much success. Thus KG has become aware of the culture that one needs to be able to handle pressure and putt well if you are to be successful.

He also now has a technique, in the form of the camera, that allows him to see that his inability to convert pressure putts may not be a technical flaw but rather one of not being consistent with his routines.

The use of routines is also a method of culture that KG uses to explain his problems with pressure putts. In modern golf routines have become very important. Whether this is in the form of pre-competition routines, practice routines or pre-shot routines.

The reason for this is that by having specific routines many golfers feel that they can handle pressure situations better by having routines that are familiar to them. This could assist in making pressure situations more tolerable by having a consistent approach to them.

KG uses this new culture of routines to explain that by not having a consistent approach to this in the past, he may have struggled with other areas of his game. By being able to see himself on the video-tape and using his experience and the culture of pre-shot routines, KG is able to identify a perceived problem in his approach, and this may assist his performances in future.

In the next part of the interview I specifically wanted to know if the golfers thought that they would get used to the camera being used as a sport psychological technique and not just as a technical tool.

KG focused on it as part of the preparation of becoming a professional golfer in the future and I named this narrative: **The importance of pressure.**

- 1 **R:** Nou dat jy dit noem van afgeneem. Julle is almal vertrou om op die range afgeneem te word terwyl julle oefen. Dis nie meer 'n nuwe ding nie vir julle nie, (uhm). Dink julle as 'n mens julle meer afneem op die baan en, en meer die tipe van ding doen, will it become the same. Will it become second nature? The camera is there, it is watching me?
- 2 **KG:** Ja ons almal berei tog mos voor om pro's te word eendag, so as jy bietjie half onder druk kan kry van vroeër begin af kan kry in jou gholf loopbaan sal dit beter wees want nou kom jy ewe skielik, kom jy daar en daar is tien duisend mense wat vir jou kyk. Jy gaan nie weet wat om te doen nie maar nou as jy ons op die kamera sit is dit soos 'n klein US Opentjie of watookal (laughter from the group).

Although the use of history is less obvious in this part of KG's narrative he does use it to explain that he has been spending time in the past, and has been thinking about becoming a professional golfer.

KG also generalises in this text that he feels that all the golfers in this group want to become professional golfers. This may also be drawing on the past and past conversations between the golfers as it may have been said that they want to become professional players but that this may have changed in the interim. I also know that at least one of the golfers is contemplating becoming a professional coach and not a paid golfer.

KG also goes further in his use of time in that he believes that the sooner one can get put under pressure, the sooner you can get used to the kind of pressure that professional golfers face at tournaments such as the United States Open Championship. This is one of the most important tournaments in professional golf and also one that is known as the Majors.

Although this is not necessarily use of history, it explains that by using technology earlier in the golfer's career, KG believes that they can be better prepared for what lies ahead.

The use of culture in this text is specifically a golfing one as well as a South African one. Firstly as far as the golf culture is concerned, the use of the US Open is significant in that it is a very significant tournament in the world of golf. It is also a very prestigious tournament and one that is the dream of most professional golfers to win, together with the Masters at Augusta.

KG feels that by using technology one can start preparing oneself early on in your career for exposure to situations like that when one is older. This may place you in a better position to handle the pressure of large crowds and the pressure that goes with winning such a big tournament.

The US Open also has a significant place in South African golf in that three players from South Africa have won the tournament. These are Gary Player, Ernie Els and Retief Goosen. It was also the first Major for Els and Goosen and they have both won the tournament twice.

Thus young golfers such as KG have grown up watching Els and Goosen win this tournament and this could only have added to the importance of this tournament for young golfers from South Africa.

Not only does the importance of the US Open relate to history and culture but it is also a metaphor that KG uses to labour his point. By using the US open as a metaphor for why it is important to use the camera when training and preparing for tournaments, KG tries to illustrate not only the importance of preparing in a professional way but also that the use of technology is a more advanced way to prepare. This can give one the advantage of being prepared in a different way for big tournaments.

This metaphor also alludes to the fact that many people watch Major golf championships and that it is broadcast throughout the world. This means that cameras and technology are part and parcel of these tournaments.

KG uses the metaphor of the US Open, together with technology, to illustrate that if one is used to the camera on the course when you are preparing for tournaments you will be prepared for the camera on the real stage of Major championships. This should not bother you as much and may improve your chances of handling the pressure and also your chances of a better performance.

On the final question of how he experienced the use of technology as a sport psychological tool he employs the use of what he believes distinguishes good players from great players. This is why I have named this part of his narrative: **A leg to stand on.**

1 KG: Ja-nee definitief. Dit kan 'n ou net baat. Dit is een van jou belangrikste bene in gholf as dit nie die belangrikste ene is nie, want fisies (uhm) al die pro's het omtrent

dieselfde swing. Hulle slaan die bal omtrent ewe goed maar hierso (points to head) dis wat die goeie ouens van die allright ouens skei, dink ek. Dus, 'n ou kan net beter word, jy kan nie verswak nie.

- 2 **R:** 'n Waardevolle tegniek om te gebruik, die kamera?
- 3 **KG:** (Uhm) Ja jis definitief hoor. Definitief, tegnieke veral, en te kyk hoe jy dinge doen op die baan. Hoe jy dit eintlik moet doen om te kyk hoe doen die pro's dit en dan bietjie by hulle ook paar goedjies steel, dit in jou game inbring.

KG starts off in this text by confirming the previous texts and his belief that sport psychology is beneficial to the golfer. He embroiders on this and states that he believes that psychology is not only a leg of successful golf performance but that it may be the most important one.

He bases his statement on the fact that he feels that all professional golfers are very much on the same level as far as skills and swing are concerned. He does, however, feel that the person who is psychologically stronger, performs better. This is also part of the modern golf culture in that there is much more emphasis on psychology and mental toughness, not only in professional golf but in golf in general.

The use of culture in golf focuses on the belief that champions, such as Jack Nicklaus and Tiger Woods, are not technically that much better than other golfers of their era but that they are better in the mental or psychological stakes where it matters most.

Apart from this cultural emphasis KG also uses the metaphor of a successful golfing career being built on legs. I wonder, in this instance, whether he implies that physical preparation and technical proficiency are legs that a professional golfer needs, together with mental toughness or psychology, to succeed? He also goes one step further and then says that psychology may be the most important leg.

The metaphor that KG uses is an anatomical one. I wonder whether this may mean that as legs are the foundation of balance and the only way of keeping the body upright, that KG is implying that technique, physical preparation and psychological awareness are the cornerstones of a professional golfing career.

The impact that KG's narrative has had on me is that I believe that he welcomes the use

of technology and that together with sport psychology he thinks this may be helpful to improve his game.

I also get the distinct impression that the importance of using sport psychology and sport psychological techniques is not lost on KG and that he is willing to implement these techniques into his own game. Not only this but also that he has the belief that these techniques will make him a better golfer.

4.4 GOLFER FOUR

Next it was the chance of JD. JD was a third-year student at the TUTGA and was also in the top ten of the rankings in the TUTGA. As with the other participants the first question focused on how he experienced being video-taped. JD focused on the importance of technology, thus the theme for this narrative is: **The necessity of technology.**

1 **R: JD**

2 JD: Ja ek dink die (uhh) tegnologie maak deesdae groot verskil (uhm) en ‘n ou moet dit gebruik veral vir gholp (pause) baie tegnies (uhm) dink die video-analise jy kan sien jou body language dophou, hoe jy dit moet elke keer dieselfde wees, so ek dink dis baie belangrik.

JD starts by saying that according to his thinking technology makes a big difference these days. He does not specify whether he means in sport or in life in general but he states that one must use it especially in golf. From this I deduce that he means that, in general, technology makes a big difference in our day-to-day living and then specifies it by making it applicable to golf.

JD uses the Afrikaans word “deesdae” which means these days, to illustrate his point about technology making a big difference in our lives at present. I wonder whether he is trying to compare days gone by where technology did not play such an important role in the situation we are facing at the moment where technology is prevelant in our lives. This is an interesting way of comparing history with the present.

He then also alludes to a growing culture in golf, and specifically competitive golf on all levels that one “has” to use technology. I wonder whether JD feels that by not using technology and not getting the best advice about technology he might be left behind.

I would also wonder how he feels about this and if it is something that he welcomes. By using the words “have to” it could imply that he has no choice in the matter of being an accomplice to the use of technology.

Next he highlights the fact that if one uses video technology you can see you own body language. He feels that this is important because he states that this must be similar each time. This could be due to the fact that he feels that by behaving in the same way each time on the course one increases one’s chances of consistency and thus creating consistent performance.

This is also consistent with new literature in sport psychology that focuses on how athletes use and perceive body language (Greenless, Bradley, Holder & Adams, 2007).

The next part of the conversation in which JD was involved focused on confidence. Upon first inspection this part of the text did not seem to have any value for the present research. Upon closer scrutiny though I noticed that JD specifically used confidence as a way of drawing technology into the narrative of what one does when losing confidence. This is why I named this: **Enhance the good, block the bad.**

- 1 **R:** J sal jy sê jy lyk anders op die kamera as jy confident is teenoor wanneer jy nie confident is nie?

- 2 **JD:** Ek dink weer eens waar as jy confidence verloor dan moet jy dalk (uhm), kyk jy moet altyd jou foute raaksien en probeer om nie weer daai selfde foute te maak nie, maar dan moet jy na die (uhm) goeie dinge gaan kyk op die kamera of wat ookal en gaan kyk dit weer. Gaan kyk wat jy reg gedoen het. Kyk waar jy op jou beste was. Ek’s seker Tiger (Woods) kyk die video’s van waar hy Majors en goed gewen het. Hy kyk dit oor en oor, dalk voor die Majors wat hy speel. So ek dink dis belangrik want dan kry jy weer confidence in jouself. Al sukkel jy, gaan oefen maar hard. Die game is maar moeilike game. Tegnies en moelik.

JD starts with a cultural aspect of sport in that coaches, and even sport psychologists, encourage the athletes they work with to learn from their mistakes. This could be part of the modern culture in sport that one needs to constantly analyse oneself and one’s

performances to ensure that you are not repeating mistakes and that you are constantly improving. As the saying in sport goes: “You are only as good as your last game”.

I believe that in doing this JD wants to show that he has learnt from coaches that when you lose confidence you need to go and look at yourself and your performances critically and analyse where things may be going wrong.

He does not leave the topic of confidence there, though, but goes one step further and I believe in this part of the text he starts to give his own individual opinion. He states that he believes that one must go and look not only at the bad performances or mistakes that you may be making but that you also need to go and look at the things that you did well in the past. He also feels that technology is a way of achieving this.

To further strengthen his opinion, he uses the metaphor of how Tiger Woods uses technology to build confidence before major tournaments. Although JD has no way of knowing whether Woods does this consistently, his “educated guess” does give JD’s opinion more validity.

The reason for this is that he is obviously speaking about the best golfer in the world and this may be one of the reasons why Woods is perceived to be so good at what he does. JD is also an avid and successful amateur golfer as well as a student of the TUTGA, which gives his opinion more validity than someone who does not play the game or play it well.

So by employing his opinion on how one should use technology, not only for analysing mistakes, but also for positive analysis, JD is creating a very good argument. Not only for his own viewpoint but also for the increased use of technology as an analysis tool of the psychological aspects of golf.

In the last part of this narrative JD also gives hope for regaining confidence in that he states that golf is a difficult game and that even when one is struggling you still need to work hard at your game. In doing so I believe that JD is employing culture in both golf

and in sport in general.

In modern elite sport the metaphor or culture of hard work paying off is one that has almost become a cliché. The reason for this I believe is that when partaking in elite sport, successes are often few and far between. By convincing themselves and believing that by working hard they will regain form, athletes ensure their continued participation in the sport as well as a reason to stay motivated.

This is even more applicable in golf where success margins are very low even for the best golfers in the world such as Tiger Woods, Phil Mickelson and Jim Furyk. In employing this metaphor, that one needs to work hard at the game of golf, JD is sketching the picture for both fellow competitors and outsiders that success is not just a case of participating.

This also links to confidence in that he is implicitly stating that by continuing to practise and to prepare well, even in the face of adversity, one can get oneself out of a slump with confidence.

I get the impression that JD is also using personal history in this part of the narrative. He may be speaking of himself when he says that golf is a difficult game and that one must continue to practise hard even when things are not going well. It may be that he has employed this approach in the past and that he has worked through a problem with confidence in this manner and that it may have been successful for him in the past.

Thus, it may be a way for him to impart advice to fellow participants, as well as myself, on how to deal with low confidence or athletes who have low confidence levels. Specifically encouraging them to continue to prepare and practise hard even when things are not going well.

He is also presenting a balanced approach to the problem of losing confidence in that he is proposing both physical and psychological solutions. Physical, in the form of continued hard work on the technological aspects of golf, but also on the psychological

side by being video-taped and watching himself perform and then learning from this.

Lastly, upon asking for JD's last impression of the value of the use of technology in golf, he made the following comment:

- 1 JD: Kyk hoe meer jy jouself sien hoe beter (pause) dan sien jy Ons kyk almal gholf op die TV (pause) en ek dink die pro's kyk ook oor en oor hulle goeie rondtes en hulle foute en goed. Ek dink ons moet meer daarvan doen. Onself afneem en kyk wat daar aangaan.

JD uses references to seeing or viewing five times in this short passage and for this reason I refer to it as: **Looking but also seeing.**

JD starts with the statement that the more you see yourself, the better the results could be. By this I take it to mean that he feels that the more you see yourself on video the better. The reason for this may be that by looking at what he is doing on the course more constantly one gets a clearer and more consistent picture of how one is performing mentally on the course.

He also alludes to culture and to a certain extent a stereotype that he holds of this group, himself and me, that we all watch golf on TV. Thus he tries to create a common ground between everyone in the group as well as the researcher. He takes the common denominator concept further in that he states that the professionals do the same as what we do, in that they also watch themselves on TV.

By doing this in the text I believe that JD is creating the impression that the way we use technology and the way the professionals use technology is not very far removed from one another. The only difference in his mind being that they watch TV to see themselves perform while we may just be watching for entertainment or because we enjoy the sport.

I believe that he may be creating hope for himself and the others in that he is implying that the gap between themselves and the professionals is not that big, but that one of the distinguishing factors may be their use of technology.

This in turn allows for analysis over time and that a comparison can now be made between performances throughout a career of an athlete and in this case specifically that of JD himself. This is the implicit use of history and also where he states that the professionals watch their good performances over and over.

The reason I say this is that he believes that the professionals use past positive performances to their advantage to give themselves reminders of what they looked like when they performed well. These reminders may also act as catalysts to give struggling athletes the confidence boost to re-member how it felt when they performed well or were on the crest of a confidence wave.

He also mediates his outlook on the use of technology to focus on the positive, with a statement that the professionals watch their good performances over and over but then he also adds in a footnote that they probably also use it for detecting mistakes as well.

He finishes this text with the statement that he believes that they, and by this I presume he means the participants in this study, and other amateur golfers should watch themselves more often. He qualifies this and explains his view further by saying that he means they should video-tape themselves more often and should look at what is going on more often.

Throughout JD's narrative I got the distinct impression that he is willing to use technology as a tool to study himself and that he embraces the use of technology as the way forward.

He also left me with the feeling that he would like to do more of this type of analysis so as to compare his own performances over time so that he could see if he was improving, in much the same way as he had been doing with technology and the technical side of his game over the last three years at the TUTGA.

4.5 GOLFER FIVE

The following athlete involved in this interview is NK. He is a second-year student at the TUTGA and was also a SASSU representative and top-ten player in the TUTGA.

NK starts by highlighting the fact that in modern golf, technology is used but that this is only done for the technical side of the game. Thus, I have named this part of the text:

Technology for technique or technology for psychology?

1 **R: N**

2 NK: Ja ek dink (uhh) die eerste twee gate het jy gejol het en die kamera was daar het jy bietjie iets anders gevoel maar daarna het jy gewoon geraak daaraan. Jy moet focus op wat jy doen. Ek dink dit is belangrik dat die kamera inkom aan die sielkunde kant want mens gebruik dit altyd vir die tegniese deel (pause) jy weet tegnies, hoe die swing in sync moet wees, maar jy werk nooit aan die body posture en pre-shot routine en hoe jy jouself gedra op die baan nie (uhh). Met die kamera is jy hom daar inbring kan jy presies sien elke beweging wat nie iets te doen het met gholf nie en wat jy uitstraal en ek dink dis great dat die kamera saam met sielkunde gebruik word.

NK starts the text with referring to the first two holes. This is something that many golfers, that I have been in contact with, do. They use previous rounds and shots to give examples of situations that they have successfully faced in the past. NK uses history in the form of the first two holes to refer to the fact that being video-taped on the course was something novel. Something that he has not experienced in the history of his golfing career.

He does, however, use his previous experience of technology on the driving range as a way of convincing himself that technology on the course is not such a big distraction. In this way he uses his previous experience to adapt to a new situation that is similar to what he had faced before, but with distinct differences.

Thus by employing history and experience of technology as a technical tool, he does not feel that it took him a long time to get used to technology as a psychological tool either.

Next NK makes a referral to culture with the statement that one needs to focus on one's game. This, I believe, goes with a cultural belief amongst these golfers that if you are a

good golfer you must be able to withstand distractions and not lose your focus due to unforeseen or irritating circumstances. NK continues with the use of culture to illustrate his point by stating that he thinks one needs to use technology on the psychological side.

He uses the metaphor of how one uses technology and the camera, on the technical side of golf, to ensure that the mechanics of your swing is in “sync”. Thus he feels that technology allows you to see how parts of one’s swing make up the greater whole of what a synchronised swing is.

Taking this metaphor of synchronisation further I wonder whether, by using this metaphor, he may be alluding to the fact that the use of technology can synchronise two imperative aspects of golf. These are technique and psychological approach.

Thus bringing a balance to the use of technology, in the game of golf, instead of having an unbalanced approach which favours the use of technology only for the technical side of the game. He further strengthens this message through looking at the culture of the use of technology and specifically the camera in modern golf.

NK feels that the camera has in the past been used to focus on the swing and on swing mechanics and how the swing works. After having used this example he moves on to the possible use of the camera on the psychological side of the game.

This he addresses by saying that one never looks at the video footage that you have of yourself from a psychological perspective. He feels that the use of the camera is so important in that it allows you the opportunity to see yourself on the course doing things that have nothing to do with how you swing the golf club. It has a lot to do with how you perform and how you handle the psychological aspects of a round of golf.

To this extent he uses the metaphor of all the things that you “radiate” on the course. This metaphor immediately reminds me of the sun or other forms of light that radiate energy and heat. By employing this metaphor I wonder whether NK is not trying to imply that although one cannot always see what you radiate, it is still very visible on the

camera.

It is also said that one's attitude radiates from inside and I wonder whether this metaphor is meant to imply that by NK seeing himself on the camera, it allows him to see what his attitude was really like on the course.

He further focuses on how the camera can assist in seeing exactly, in detail, how a player behaves on the course and how he does the things that have nothing to do with golf per sé. Thus NK keeps with the theme that technology is not used in golf for psychological purposes and that it is something different that can be used and should be used.

On the question of whether by using the camera on the course more often, the athletes would get more used to it, NK had the following answer:

- 1 **R:** Nou dat jy dit noem van afgeneem. Julle is almal vertrouwd om op die range afgeneem te word terwyl julle oefen. Dis nie meer 'n nuwe ding nie vir julle nie (uhm) (.) Dink julle as 'n mens julle meer afneem op die baan en, en meer die tipe van ding doen, will it become the same. Will it become second nature? The camera is there, it is watching me?
- 2 **NK:** Ok, kyk jy's mos nou besig met jou game, jy moet nou nie dink aan wat neem jy nou af nie, die sessie kom mos later wat jy na die video kan kyk, so op die baan moet jy op focus wat jy nou moet doen.

I named this part of NK's narrative: **Game now, session later**. The reason for this is the fact that NK gives a distinction in time between when one is on the course and when one is being analysed. This he does first of all by employing time and specifically history to separate the acts of playing a round of golf from being analysed using video footage of his round.

He separates these times into now and later. Referring to the fact that at present he is busy on the course and focused on his game. He gives me the distinct impression that he does not want anything to disturb him or to disrupt his focus on the game and that he wants to stay in the present when playing.

This links well with a sport psychological academic and cultural concept which is

known as the here and now principle. This well-known concept refers to the desire for an athlete to be focused on his or her performance and the present execution thereof and not to engage in thinking too far ahead or to get ahead of themselves. This is referred to as process thinking.

Here the athlete is focused on the process of performing the skills necessary to be successful. He or she is not focusing on the outcome of a possible successful performance. Thus he is not focusing on the medal or prize money he may win but only on executing the skill to the desired level.

As soon as an athlete starts to focus on the external rewards he or she may receive by winning or performing well, the performance decreases due to the fact that their attention is divided between the present and the future. This is called outcome thinking in that the athlete is focusing on the outcome they may receive.

It is clear from this part of the text that NK was very focused on paying attention to what he was doing on the course. Or as he puts it: “Focusing on his game.” He also states that he did not think it was a good idea to wonder about what I was video-taping. He feels that he had to separate what was taking place on the course from the analysis that would come later.

I believe that this part of the narrative gives proof of the value of technology on the golf course. By NK knowing that he did not have to analyse any aspect of his game on the course while he was playing, it allowed him to focus on the here and now of his round.

He could afford to pay total attention to his round due to the fact that he knew I was video-taping him and that he could watch himself perform at a later stage. A luxury that amateur golfers do not normally have and this could be seen by some of the responses of the other athletes in the research. Thus, the fact that he was being video-taped opened up space for NK to concentrate on the job at hand and that he did not have to spend time while on the course, trying to analyse psychological aspects that, at best, would be difficult for him to even identify.

The use of the video also allowed him room to separate the emotion and concentration in a round from analysing why he performed like he did. I believe that by allowing the golfer the opportunity to see himself or herself at a later stage, technology created a better and more objective view for the golfers of themselves.

They do not only have to rely on subjective feelings of success and failure based on what they may be feeling on the course but have an external reference of what they actually looked like on the course. Something that may help athletes get a better view and understanding of their own behaviour and performances.

In this narrative NK compares how technology is used on the technical side of golf as opposed to its relatively limited use on the psychological side of the game. What caught me by surprise was his positive approach to how the technology could be used on the course.

Instead of him feeling that it intrudes on his performance he gives me the impression that he welcomes it as a tool that allows him to focus on the task at hand instead of evaluating himself constantly on the course. He takes the responsibility of having to concentrate on performing his task on the course, which is to play well, instead of focusing his attention on how he may be evaluated later through the use of the camera.

As with the other athletes I believe that NK welcomes the presence of the camera and that he would like to see it used in different spheres of the game, specifically the psychological side.

4.6 GOLFER SIX

The last student in the part of the narrative is RT. He is a third-year student and was the second-most successful student during the year 2006.

On the first question put to the athletes of how they experienced being video-taped, RT alluded to a difference between himself and the other students in that he was taped

during a tournament round and not a practice round.

Although not stated overtly this also alluded to the fact that he pointed out the similarities and differences between himself and the other athletes. For this reason I called RT's first narrative: **Similar but different**.

1 **R:** Just your general impression?

2 RT: I thought it was a good idea (uhm) I was fortunate enough to be taped in, in a tournament situation (uhm). I saw you know the things we're working on in our psychology sessions. If, if I was doing that correctly, if I was improving. Ja it showed me a lot you know. Like DN was saying you have this impression of yourself, you know, but when you see yourself on camera it changes the perspective of yourself. If your body language, your pre-shot routines are the same, whatever.

RT starts much in the same way as the other athletes in that he also found the process of being video-taped on the course to be useful. He does focus on another aspect worth mentioning in that he feels that he was fortunate to have been video-taped in a competition situation.

This came in the form of me video-taping him for nine holes of his third round of the 2006 Polokwane Open Amateur Tournament held at Polokwane (Pietersburg) Golf Club. This was a tournament where RT performed well and was placed inside the top ten for the tournament.

It is interesting that RT used this train of thought in that he valued the use of the camera during a tournament round more than he may have during a practice round, as with the other athletes. I wonder whether this may not be to draw my attention to the fact that he believes the video-taping does not only have value for practice rounds but also needs to be applied to the competition context.

This links well with the opening part of this research project in which it is speculated that technology is a way of bridging the gap between individual consultancy, classroom and the sports field. Here is evidence that an athlete does value this type of input and this may be a valuable area of study for future research.

Throughout the last year-and-a-half I have been working with RT to improve the psychological aspects of his game. This has included psychological skills training techniques such as visualisation, goal setting and other sport psychological themes. In the next part of the text he focuses on things we had been working on before the tournament.

Although this work was done before the tournament and may have some bearing on the results and validity of this research, I still believe this to be important in the context of how these athletes approach the use of technology.

The other athletes involved in this study have approached the theme of sport psychology from a technical point of view and have used many technical terms to make sense of the involvement of the camera in improving their psychological approach to golf.

RT focuses not on the technical aspects of what he has seen but on the psychological aspects that he knows are important to be successful. Thus he is looking at the same kind of footage but from a different perspective, maybe with a greater awareness of important psychological aspects such as body language.

This perspective is not focused on technical aspects but rather on how psychological actions affect performance. Something that this research aims to bring to prominence.

RT doesn't just focus on being able to study the psychological aspects we had been working on but also whether he did them correctly and even if he was improving. This focus is also important for the current research in that this technique could then not only be used for identifying the use of psychological skills but also whether the athletes being studied believed they were improving.

Lastly in this narrative RT focuses on how the camera and the video-taping showed him a lot and he also uses the previous opinion of DN (Golfer One) when he says that the camera gives one another perspective and view of oneself on the course.

On the next question on what impact body language had on the performance of golfers and how important something like body language was, RT had the following to say:

- 1 RT: I've often found like you've walked around with us a few times and whatever and when you get into a situation where you, you don't actually quite know what's, what's happening, like you have a tricky putt whatever, you often said to me if I made, made a mistake you know you could see it coming because my body language portrayed that I was unsure and am a lot of the times. You know if, if you portray a positive body image that you're gonna make the putt or you gonna hit a good shot I think it works out most of the time. You sort of trick your body. I found that you go into a situation and jis, you think, I don't know what the hell I'm doing here you just say to yourself, ok, I might not know what the hell I'm doing but he doesn't know I don't know what the hell I'm doing so I'm just gonna show him that I look like I know what I'm doing.
- 2 **R:** Is perception often reality in situations like that. Kind of if people perceive you to be well prepared they think, hey, this guy is well prepared?
- 3 RT: Ja, I think so.

RT focuses very much in this narrative on body language and how it is used on the course and how, by manipulating it, one can be seen as more confident and in charge. For this reason I named this part of the text: **Putting one over your body.**

In my mind RT starts with an important aspect in that he reminds me of times where I have walked with him on the course in the past. I wonder whether it shows that RT does not perceive me walking on the course with him as par for the course for sport psychological services. He goes further and recalls times where I had sessions with him after I watched him play on the course, and that I explained how I had had the impression, from his body language, that he may have performed a shot well or poorly (Greenless, Bradley, Holder & Thelwell, 2005).

This had made an impression on RT in that he gives the impression that he paid much more attention to his body language on the course than he may have done previously. He has also focused on portraying a positive body image, something that he feels is not only important for his own confidence but also to give his opponents the impression of him being confident.

He feels that sometimes he may not have an idea of how he is going to play a shot but he focuses on keeping his composure in situations like these by not giving away his

uncertainty by negative body language. This may be something that he has gained from using the footage of himself on the course during the tournament. The fact that he has studied his body language and has thought how this may impact on his own performance and the impression that others have of him.

He may also have learnt from this that he can trick his own perceptions and his body by focusing on a positive frame of mind and positive body language. These are things that he has picked up from watching the video and this has surely helped him pick up on cues that he portrays and how this could make him calmer and more successful in future.

From the above it is easy to see the positive perception that RT has of being video-taped and of the use of technology in the sport psychology process. He may have valued a different part of the use of technology in that he felt that being video-taped in a tournament round was more advantageous than just being video-taped in a practice round. But the fact that he found value in this process is perfectly clear.

CHAPTER 5

RECOMMENDATIONS

5.1 RECOMMENDATIONS

Although making recommendations and generalising the research is not the premise of a qualitative, narrative research project it is important to indicate the limitations and strengths of the research. Not only for the critiquing of the current research project but also to indicate where future researchers can avoid similar limitations and improve on this study (Hanton, Mellalieu & Hall, 2004; Labuschagne, 2003; Lavallee & Robinson, 2007).

5.1.1 Limitations

1. Small sample of students

The first limitation present in this study is that of a small sample of subjects. This is due to the fact that the study was done from a qualitative research position, and therefore there is no intent to generalise the findings. Although the intent of generalisation was not present at the beginning of the research it is still a factor that should be acknowledged in print.

This also curtails the possibility of generalising findings to other populations. Even though the intent was once again not one of making general conclusions about population groups, it is acknowledged as a possible shortcoming.

2. Limited taping of each student

Each of the students in the study was video-taped over nine holes and on and around greens. This limited the amount of time that the students had to view themselves and their actions but the shortened video-taping was due to:

The length of an average round of golf being four to five hours. If the students were to be video-taped for four hours they would then have to watch four hours of video footage of themselves on the course. As can be imagined, this could get tedious and could influence the students negatively towards the time constraints this type of involvement would place on them.

If all the actions of the golfers were also to be video-taped, the time and cost implication for me as researcher would have been too great and the time implication would not allow time for working with the students. In my capacity as mental coach this would also not leave time to complete the research. The added cost implication also means that much more money would then have to be spent on extra video equipment to compensate for the immense amount of data.

3. Only one group session

By doing only one group session the current study was limited somewhat. This is due to limited time in the students' programme that could be devoted to the study. Initiating a group session that could take into account the programme of nine people including the researcher is a logistical problem, one that could only be solved by creating one general time for all the involved parties to get together.

It could be interesting to see in future related research what impact multiple group sessions could have on the research findings and if any other or more themes can be uncovered as to the use of technology in sport psychological interventions.

5.1.2 Strengths

I believe that the current research project does have the following advantages and strengths that make it both applicable and valid.

1. Combining new fields

This project has linked together two fields in psychology that have not often been linked in the past namely narrative practice and psychology. It has also done this in a novel way by using technology as the central method of data gathering and analysis.

By combining an often used method with an accepted psychological movement in sport this research creates a new way of looking at narrative practice in sport. This creates a new way of using technology in sport psychology while placing the experience of athletes in the centre of the therapeutic process.

2. Technological validation of data

It is often said that the camera does not lie. This implies that the footage one sees on video, taken of a person while they are performing a skill or playing a round of golf in this case, is nothing more or less than what actually happened. By video-taping golfers while they are playing a round, they show more of their true performance and characteristics while playing.

It makes it easier to analyse the performance and the actions of the golfers on the course because the actions and behaviour are authentic and not acted out or glossed over by thin descriptions in a consultation room. It is also removed from the real events on the course.

One can also watch the footage repeatedly to look for clues and reasons for good and poor performances. The footage can also be used to enlighten golfers as to their behaviour and how they can correct certain mistakes they may be making.

3. Limited research

As can be seen from the literature review the search for studies that combined narrative practice, sport psychology and golf were fruitless. The closest to this was the linking of

sport psychology and narrative practice. By combining these three fields the research exhibits another strength. This being that the research opens up new areas of interest for both sport psychology and narrative practice, as well as for the sport of golf, as this is more research on the mental aspects of golf that can be used in future studies.

CHAPTER 6

CONCLUSION

As can be seen at the beginning of this research process, the focus has been on answering the question on how golfers experience the use of technology for sport psychological purposes. The process has entailed a literature review that illustrates the improvements in various areas of sport due to the increased use of technology. These areas include technical and tactical expertise, umpiring and scoring as well as biomechanical analysis of movements.

What the literature review also brought to light was the lack of research when combining the fields of technology, sport psychology and narrative practice. For this reason I believe that the research has validity as well as future possibilities. But for research to be meaningful it needs to answer the question its researcher set out to answer in the beginning of the process.

When starting the research I hypothesised that golfers would experience the use of technology on the golf course differently, when applied to sport psychological aspects, as opposed to the technical aspects of golf.

In chapter 4, within the results and by using narrative analysis methods it is clearly illustrated that the students of the TUTGA experienced this process as useful, meaningful and even fun. Not one of the athletes had one negative remark about the use of technology on the course. In fact most of the athletes would like to see this type of technological sport psychological observation being done again in future and this came to the fore very strongly, not only in the data, but also in comments made to me after the research was conducted.

So in answering the question of how these athletes experienced the use of technology, the short answer would be a positive one overall. Any researcher would be happy that his participants answered this question as they did and he would follow an approach of

“quit while you are ahead”. However, by having chosen narrative practice and narrative analysis as the academic vehicles for this research thesis, I embarked on a process that would not only limit itself to the ordinary but rather to a process that would look for the absent but implicit (Morgan, 2000; White, 1995).

Thus the things that were not overtly stated but were underlying in the text, the things I did not always notice but that were in the text all along.

Many researchers would say that by narratively drawing themes from the text, such as “From general pictures to new dimensions” one is not doing scientific research and that you are doing “airy-fairy qualitative research” that has no place in the scientifically rigorous world of modern psychology and sport psychology specifically. These critics would also say that by interviewing six athletes and analysing their stories of being video-taped on a golf course, does not deserve to be rewarded with an M degree.

I disagree with this view, but as with any scientific research it is not sufficient to state that you disagree, one also needs to state why you disagree and to provide scientific proof of the feasibility of your research. Seeing as my perception is that qualitative research is just as much a part of the scientific and academic world as quantitative research is, I am also of the opinion that this research thesis deserves to stand along any quantitative research. I would also like to provide the following conclusions as to why I think this research thesis is both scientific and successful.

Within the texts of the different athletes, various themes came to the fore as narratives or metaphors that these athletes employed to embroider on my questions of how they experienced being video-taped on the course. These themes were not plucked from the imaginings of an M student trying to pass his degree. Rather these themes were drawn from the research text by a method such as narrative analysis and the experience of a supervisor who has not only stood within the academic world but also stood within private practice in psychology as well as sport psychology.

If one was to judge these methods on scientific vigour and validity one could not but

acknowledge that both researched methods of analysis as well as experienced researchers are some of the most important pillars of not only psychology but also of science in general. Looking at narrative analysis to identify themes within texts, it is both an academically accepted method as well as a well-researched and published one (Emerson & Frosh, 2004). Thus it qualifies not only as scientific but also as academic although it resides within the realm of qualitative research.

Flowing from this narrative analysis then allows one the space to identify themes within the text and to look at factors within these texts. These being history and culture and how these helped the athletes to construct not only the stories that they relayed to me but also the reality that they have constructed for themselves about their golf. This can then be done without hesitancy as narrative analysis is both academic and scientific in nature.

By having studied each athlete's individual themes and highlighted specific texts within the group interview, which I felt had relevance to the research question, I embarked on a process of not only unearthing the narratives and themes of the individual athletes but also the group's narrative and the theme that emerged from the texts added together.

This theme became clear only after much reading of the individual texts and consultation with Dr Human. As with any research one would like the research to have relevance, answer the research question and open new possibilities for researchers to follow. Being honest, after having analysed the texts of all the athletes and having answered the research question I was at a loss. I could only say that I had answered the research question but my research thesis did not necessarily have relevance and I felt that it had not opened new avenues of possible research. This turning point came in a conversation with Dr Human in which he questioned me as to what I thought the general theme of all the athletes involved in the research was.

I must admit being at a loss. I had studied each individual text of the six athletes in detail and much like the person who stands too close to the wall to see the whole picture, I was struggling to see the common thread between the athletes and what the

text was trying to show me. After much prodding and poking it at last became clear that the last part of the puzzle of this research thesis lay in a description that Dr Human named **Technicians playing techniques**.

The reason for this is that when one studies the narratives of these athletes they struggle to elaborate on many of the narratives chosen by using metaphors that are not golf related. DN, the first golfer, is the only one to use a metaphor that is really lent from an area outside of golf when he speaks of “from general pictures to new dimensions”. Another golfer that uses something similar, but in a much more condensed way, is golfer six, RT. He uses the metaphor of a pre-shot routine being similar to a safety blanket but he does not embroider on this.

When looking at this from a narrative point of view one could use narrative theories of constructing reality and one could argue that these athletes have very thin stories or narratives of their identities as golfers. The reason for this is that they cannot draw upon metaphors from different worlds or experiences to describe to me, as researcher, what it is they are experiencing while they are being video-taped out on the course. This leads to them not being able to describe emotions or feelings that they felt, but rather they focus on the technical aspects that they saw on the video, instead of the sport psychological aspects.

This leads to the last part of the research that is needed for this research thesis to be academically and scientifically valid work namely that it opens areas for further research.

It is my opinion that if any future research is done in this regard, the focus of such research must be on creating thick stories for golfers and other athletes to draw from. The reason for this, I believe, is that the life of any elite athlete, and this includes elite amateurs such as these golfers, is a very limited one. Specifically so for these golfers in that the focus for them is on creating a technique that is as close to perfection as it can get. The problem with this is that by only focusing on the technical aspects of their sport these athletes are missing the very reason for their preparation, namely their

performance on the course in competition situations.

I would postulate that if similar research is done with professional golfers their focus would be similar to that of amateur golfers of concentrating heavily on the technical side of their game. I do, however, also believe that another area that they would be focused on is the competitive aspects that are necessary for professional success.

If one is to build on the current research it might be worthwhile to focus sport psychological work with other athletes by building on their narratives of golf that has nothing to do with the technical side of golf, thus ensuring that they build a “golfing personality” or “golfing narrative” that is closer to being “**golfers playing golf**” or “**athletes playing sport**” than “**technicians playing techniques.**”

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Appendix A



Informed consent form for MA Counselling Psychology research thesis conducted by Theo Bezuidenhout (ID No. 7806265026081)

1. Contact Details of Researcher:

Postal Address: P.O. Box 70344, The Willows, 0041, Pretoria

Residential Address: 29 Kareepark Flats, 60 Watentsingel Avenue, Wapadrand, 0050.

Contact Numbers: (w) 012-8070501, (c) 082 457 3507.

Email address: theobezuidenhout@yahoo.com, theo@associate.co.za

2. Title:

Bridging the Sport Psychology gap in golf.

3. Purpose of the research:

To determine, if by video-taping golfers while they are playing a round of golf, and then doing individual and group narrative interviews with them, they gain a better understanding of their behaviour on the course.

Together with this, it is also the purpose of the study to determine if by using technology, the perceived gap between the contexts in which sport psychology is presented can be minimised.

4. Procedure:

Subjects will be video-taped during a round of golf and then video on the specific round will be shown to each subject individually. After this a narrative interview will be conducted with the subjects to determine their views on themselves, while playing, and their views on the use of technology on the course.

Once all the subjects have been individually interviewed, group interviews will be conducted to determine how the group felt about being video-taped on the course and if they believe this could be a useful form of psychological analysis for further studies.

5. Risks:

Except for the normal risks inherent in participating in a round of golf, no other risks will be included in the research methodology that could physically or psychologically harm subjects.

6. Benefits:

Subjects would benefit from the research in that they could gain better insight into their behaviour on the golf course. This will be done in the presence of an intern sport psychologist and a reflecting group that can allow the subject to more clearly understand their psychological make-up as golfers.

7. Participant rights:

Participation is completely voluntary and subjects may withdraw from participation in the study at any time and without negative consequences. Subjects also have full access to any material used during the research and can access these at any time they wish. They may also take any material pertaining to them if they terminate participation.

8. Confidentiality:

All information gathered during the research is treated as confidential. The anonymity of subjects is also assured by the fact that real names will not be used in drafts of the research. As mentioned previously data will also be destroyed should the subject withdraw.

Dr. Lourens Human as well as Theo Bezuidenhout will be the two main researchers who will be dealing with the data. If the thesis is accepted a scientific article will also be written to be published in a scientific journal.

9. Right of access to the researcher:

Subjects will have full accessibility to the researcher and all contact numbers will be presented to subjects once they decide to partake in the research. Subjects will also be



able to contact Dr. L.H. Human, the thesis leader, should there be any unforeseen problems during the research.

This document was signed on this the _____ day of _____ at _____.

Research participant

Witness

Researcher



Appendix B



| Golfer | Message | Use of History | Use of Culture | Metaphor | Impact on Recipient |
|-----------|--|--|---|---|--|
| One DN | 1.1 New dimensions & general pictures. | General picture of years of experiencing himself on the golf course. | <p>It is not part of golfing culture to see yourself on camera.</p> <p>He is focused on his own subjective awareness and camera helps to see himself more objectively.</p> <p>It is not golfing culture for normal golfer to see himself on the course while playing.</p> | <p>DN uses the metaphor of a general picture which is a cinematic metaphor.</p> <p>Interesting to note that the focus of this study was technology in the form of a camera and he uses a cinematic metaphor for this.</p> | Makes me understand that seeing yourself on camera is not an option for amateur golfers. |
| | 1.2 Taking your time. | He knows that in the past he has not always done pre-shot routine the same every time. | In sporting culture it is sometimes fine to take practice lightly, but important to be serious and pay attention to detail at tournaments. | <p>Speed: He uses words like quickly.</p> <p>Makes seven references to doing things quickly or chasing through things.</p> | |
| Two DP | 2.1 Something different but something helpful. | | He uses culture to judge whether he acted in a socially acceptable way on the course. | | <p>He leaves me with the idea that he experiences this as something different.</p> <p>Also gives me the impression that he sees it as helpful and enjoyable.</p> |



| | | | | | |
|--|------------------------------------|---|--|--|--|
| | <p>2.2 Seeing is believing.</p> | <p>He likes to see how he played after the round.</p> <p>He also likes to see how he used his time over the ball.</p> | <p>Uses technique of visualisation which is entrenched in Sport Psychology culture as technique to link technology to.</p> | <p>Uses metaphor of having a look.</p> <p>Fits in with visualisation and the use of that with technology to see how he acts differently.</p> | <p>Lets me feel that he has basic sport psychological knowledge and that visualisation can be linked with technology to give better service to athletes.</p> |
| | <p>2.3 Judging: Calm vs. Hype.</p> | <p>Uses history to compare times in the past where he was calm as opposed to times he was “hyped up”.</p> | <p>Alludes to the golfing culture of when you are calm you play better.</p> <p>Also implied culture of golf that it is a gentleman’s game and that one stays calm on the course and one does not become overly hyped up.</p> | | <p>Gives me the impression that he values the culture of golf and that if you want to perform well in golf you need to be able to stay calm.</p> |
| | <p>2.4 Step-up</p> | <p>Uses history to state that he watches television to see professional golfers compete every weekend.</p> | <p>Uses the culture of the TUTGA of improving golfers to the next level to illustrate point of using technology to step up to another level in his own golf.</p> | <p>Step-up metaphor. Thus changing levels from lower to higher level, thus moving from the bottom to the top.</p> | |



| | | | | | |
|-------------|-------------------------------------|---|---|--|--|
| Three KG | 3.1 Drive for show, putt for dough. | He uses putting problems he has faced in the past and compares this to how he wants to perform his pre-putting routine more consistently in future. | KG implies there is a culture of one being a good golfer if you can make pressure putt. Also alludes to a belief and culture in golf that pre-shot routine allows more consistent performance. | | Gives me the impression that repetition is necessary if one is to succeed with pressure putts also under tournament conditions. As well as that technology can be used to analyse things such as pre-shot routines. |
| | 3.2 The importance of pressure. | Has spent time in the past to prepare himself on becoming a professional golfer in the future. | Uses the US Open as a culturally important tournament in golf and in South African golf due to the fact that three South Africans have won this tournament and that it is one of the four most important tournaments in golf called the Majors. | Uses the metaphor that being in front of the camera is comparable to a small US Open and that it helps him to get used to what playing in a major tournament will be like. | Gives the impression that he has started to play the concept of becoming a professional golfer and that he is searching for ways of simulating what the pressure will be like in one of these tournaments. |

Appendix C

