The Impact of a Mental Skills Training Program for Enhanced Performance on a Varsity Intercollegiate Volleyball Team: A Case Study Program Evaluation of an Educational Intervention

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ABSTRACT

The purpose of this case study was to answer 5 primary questions in order to determine the impact (efficacy, efficiency, and value) of the educational intervention known as the mental skills training program (MSTP) as implemented with a NCAA Division I volleyball team. The primary evaluation questions are (1) Was individual and/or team performance enhanced during the season? (2) How did the intervention of the MSTP impact individual and team mental toughness? (3) How did the intervention of the MSTP impact team communication and team chemistry? (4) How did the coaches and student-athletes view the investment of time and effort (value/worth)? (5) Was the program delivered effectively and efficiently?

The core mental skills that comprise the MSTP are goal setting, visualization, feelazation, energy management, and effective thinking which when integrated encourage mental toughness. The program evaluation contains an instructional design (ID) that incorporated a flexible curriculum to meet the weekly needs of the team. A modified Gerlach and Ely (1980) ID model is utilized to direct the design process and also as a prescriptive evaluation guide.

The evaluation utilized quantitative instruments including surveys, questionnaires, and assessments of the effectiveness and efficiency of delivery by the mental skills trainer. Qualitative data includes interviews and field notes consisting of observations, member checks, and peer debriefing.

The results of the data indicate individual performance and mental toughness were enhanced; team performance and mental toughness may have been improved. Team chemistry was enhanced while team communication was not. The program was considered valuable and worthwhile and was delivered effectively and efficiently. The decision components of the program yielded an 84.69% positive program evaluation rating.

In discussion of these results, team communication may be improved with a greater emphasis on teambuilding early in the program. Gains in mental toughness exceeded expectations, and a foothold has been established for future research in this area. Regarding team performance, expanding categories in survey instruments may yield a more positive evaluation. Finally, program evaluation may provide a viable research vehicle for applied sport psychology to demonstrate the efficacy of mental skills training for performance enhancement.

DEDICATION

This dissertation is dedicated to “US,” that wonderful archetypal energy created when I joined with Joan, my wife. We are on similar paths in academia so we have shared the trials and frustrations of doctoral research. More importantly we share the joys of new and deeper learning in the area that interests us most – human potential. Joan, I thank you for your love and support; for your patience and your guidance; but most of all for merging with me to create “US.” I could not have made this portion of our journey without you. Now, I am so looking forward to “What’s next?”

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Next, I want to thank my committee members: Dr. Tom Sherman, Dr. Sue Magliaro, Dr. Cecile Cachaper, and Dr. Gary Bennett. Tom, you may never know how much you impacted my life not only as a student, but also as a teacher. Your ability to practice what you teach continues to inspire me. I truly appreciate your counsel and your integrity. Sue, you gave me structure for something I was doing only intuitively – instructional and curriculum design. As you got your exercise chasing my over-eclectic methods “all over campus,” it was your consistent nudging for me to do research on my strengths (mental skills training) that put me on the current path. I am forever grateful.

Cecile, beyond being a mixed methods research whiz, you are an excellent teacher. Your patience and explanatory style guided me through quantitative research, which, as you all know, is not one of my favorite endeavors. Your willingness to help me was at times beyond the call of duty. Thank you. Gary, I cannot thank you enough for the opportunity to work with you and with the volleyball team. You took a chance and I hope I showed that the trust you placed in me was well founded. I greatly appreciate your treating me as a colleague, and my hope is that this document and the experience will help you help more of the teams at VT.

To the team: Greg, you also took a chance in letting me work with your team. I appreciate the way you, April, and Lindsay accepted me as part of the staff. The seed is planted just keep nourishing it. Working with a team again was fulfilling and exciting. To the “girls” of the team, you “guys” are the best! I hope you had as much fun learning as I did working with you. As a group, you were sometimes a challenge; as individuals, you were all open, caring, and giving. I sincerely hope some of what you learned will help to make you more successful in your future in volleyball, and especially in your life.

Also, I want to thank Dr. Larry Weber. Synchronicity again played a part in the teacher appearing when the student was ready. When I decided to conduct a program evaluation, I didn’t know what I didn’t know. Thanks to you, I now know enough to present a credible and, I hope, useful study. Thanks also to Dr. Penny Burge. Your enthusiasm for qualitative methods was infectious.

I want to thank the administration at JCHS, especially my Program Directors – Mike, Mike, and now Judy – for encouraging me in this endeavor. Had I not had your support and the flexibility to schedule “going to Tech”, there’s no way I could have accomplished this.

I would be remiss without thanking my parents, Bobby and Franny. You engendered in me a curiosity to learn, and a desire to apply that learning to something useful. Dad, I only wish you were around to see me wear my funny new hat.

Finally, thank you God, Joan, Bob, and ‘US’.

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LEGEND FOR COMMON ABBREVIATIONS

AC1, AC2 – Assistant coach designations

EDS – Education Session Evaluation (Assessment)

HC – Head coach

ID – Instructional Design

IMP – Mental Skills Impact (Survey)

KU – Knowledge and Usage (Surveys)

MST – Mental Skills Trainer (author/evaluation researcher – not *any* mental skills trainer)

MSTP – Mental Skills Training Program (mental skills training program utilized in intervention)

MTQ – Mental Toughness Questionnaire (Survey)

SE/S-A – Season's End / Student-Athletes (Survey)

SE/C – Season's End / Coaches (Survey)

SP – University sport psychologist

WMMSTP – Winner's Mentality Mental Skills Training Program

CHAPTER I INTRODUCTION

"If mental skills training is so great, why doesn't everyone do it?" This question has troubled me since I was introduced to formal mental skills training in 1990. At that time there was a confluence of revolutionary changes occurring in my life and in my belief systems. I was in my 14th year as head athletic trainer of the New York Jets Professional Football Team, and through a series of seemingly unconnected events I was beginning to incorporate the fluid principles of mind-body medicine into the rigid Western allopathic model embraced by sports medicine. For more than 20 years I had treated the body like an orthopedic machine, repairing parts as they were injured or broke down, (Reese & Burruss, 1985; Reese, Burruss, & Patten, 1990, 1994; Reese, Burruss, Patten, & Conway, 1995; Reese, Conway, & Hershman, 1996) and believing that if Western medicine couldn't determine a cause of pain then it must be imagined and, therefore, not real. While I believed that some players exhibited mental toughness when it came to handling injuries and pain, I regarded it as an innate trait that you either possessed or not.

Into my regular treatment and rehabilitation regimes, I began to earnestly incorporate mental techniques for pain management and to accelerate healing (Reese, 1996). The successes of these ventures in turn caused players with performance issues to seek my assistance. My realization that there was a lot I did not know about mental training initiated my entrée into the realm of sport psychology education. Over the next five years I observed in athletes I worked with that mental skills training could result in a tremendous improvement in performance, and anecdotally I had more than a handful of New York Jets players who agreed. Upon leaving the Jets in 1996 and becoming a full

time performance enhancement coach I found, however, only a few athletes and still fewer teams who were interested in employing these services.

So, the question remains, “If mental skills training is so great, why doesn’t everyone do it?” While this question is much too broad for the research required of a doctoral dissertation, it did act as a catalyst for my current research. Because of it, I sought to study the impact of a mental skills program on the performance of a team. As part of this inquiry, I also wanted to know if integrating certain core mental skills could enhance mental toughness. After much deliberation and consultation, I determined a case study program evaluation of an educational intervention of a mental skills training program was the best method for this research.

Purpose of Study

The purpose of this study was to conduct a case study program evaluation of an educational intervention of a mental skills training program (MSTP) and its impact on performance as it is implemented with a National Collegiate Athletic Association (NCAA) Division I volleyball team for the 2004 season. The MSTP consists of six core mental skills: goal setting, visualization, feelazation (emotive imagery plus), energy management, effective thinking, and mental toughness. Use of these mental skills individually has been shown to enhance sports performance (e.g., Bunker, Williams, & Zinsser, 1993; Burton, 1993; Cumming & Ste-Marie, 2002; Keller, 1999; Martin, Moritz, & Hall, 1999; Meyers, Whelan, & Murphy, 1996; Ming, 1993), as has combining them in various mental skills packages (e.g., Fenker & Lambiotte, 1987; Kendall, Hrycaiko, Martin, & Kendall, 1990; Lerner, Ostrow, Yura, & Etzel, 1996; Patrick & Hrycaiko, 1998; Terry & Mayer, 1998). Studying the impact of a combination of the six mental

skills included in the MSTP has not been attempted in prior sport psychology studies. One reason, perhaps, is because there are too many variables involved for standard quantitative methodology. The real-life practicality of an applied sport psychology mental skills training intervention for performance enhancement, however, requires the instruction and facilitation of a multitude of constructs to accomplish its goal. One method of addressing this issue is by performing a case study program evaluation of an educational intervention involving the MSTP. In this particular case study, the impact of the educational intervention on the performance of an NCAA Division I intercollegiate varsity volleyball team was examined. The distillation of the six mental skills and their usage is described in the Review of the Literature. The MSTP consists of a flexible instructional design and mental skills training curriculum and takes the form of an educational intervention that was added to the regular training routine of the volleyball team by the researcher, who acted as the mental skills trainer (MST) for the team for the duration of the 2004 volleyball season.

This research, therefore, takes the form of a case study program evaluation of the above-mentioned educational intervention to determine the effectiveness, worth, and efficiency of the program. It should be noted that while evaluation is a form of research, there are distinctions between research and evaluation. One of the main distinctions is in their *purpose*. You might say that research and evaluation are seeking different ends. Fitzpatrick, Sanders, and Worthen (2004) describe it as follows:

> The primary purpose of research is to add to knowledge in a field, to contribute to the growth of theory. While the results of an evaluation study may contribute to knowledge development (Mark, Henry, & Julnes, 1999), that is a secondary

> concern of evaluation. Evaluation's primary purpose is to help those who hold a stake in whatever is being evaluated (stakeholders), often consisting of many groups, make a judgment or decision. (p. 6)

Accepting there are differences between research and evaluation (there are more discussed in the Review of the Literature), research questions now become *evaluation research questions* and the researcher now becomes the *evaluation researcher.* The evaluation research questions for this study are segregated into a primary category, which is of foremost importance to the major stakeholders; and secondary categories, which are of interest to the evaluation researcher and minor stakeholders but are significantly less important to the major stakeholders:

Primary Evaluation Research Questions:

1. Was individual and/or team performance enhanced during the season?
2. How did the intervention of the MSTP impact individual and team mental toughness?
3. How did the intervention of the MSTP impact team communication and team chemistry?
4. How did the coaches and student-athletes view the investment of time and effort (value/worth)?
5. Was the program delivered effectively and efficiently?

Secondary Evaluation Research Questions:

1. In what ways can the MSTP be modified or improved to better service stakeholders at the collegiate level?

2. For those student-athletes who enhanced individual performance, which mental skills were utilized or integrated to achieve this improvement?
3. For those student-athletes who enhanced individual mental toughness, which mental skills were utilized or integrated to achieve this improvement?
4. Were student-athletes able to transfer mental skills to other areas of their lives beyond volleyball (i.e., academics, relationships, etc.)?
5. To what extent have athletic department administrators and other team coaches become interested in incorporating mental skills training as an educational intervention with their teams?

Significance of the Study

This study is significant because of the positive impact it can have not only on the primary stakeholders for whom the intervention is being conducted, but also because of the potential impact on a group of secondary stakeholders.

Primary Stakeholders

The primary stakeholders in this evaluation are the student-athlete members of the volleyball team, the coaches, the university sport psychologist (SP), and myself (the MST and evaluation researcher). Secondary stakeholders include the other university athletic teams, the athletic department, the sport psychology community, and the national community at large.

Student-athletes as stakeholders. For the volleyball athletes, the stake is obvious: if the MSTP is effective, the performance of the individuals and the team will be enhanced. Enhanced performance for the student-athletes can increase self-confidence, self-esteem, and self-efficacy (Bandura, 1977a; Burnett, 1994; Miller, 1993), earn them a

berth in the NCAA Volleyball Tournament (the primary end-result team goal for the Fall 2004 season) and perhaps win them individual accolades and honors such as “All Star,” “All Tournament,” “All Conference,” or even “All American.”

Coaches as stakeholders. For the coaches the benefits of a successful program intervention would have the enhanced performance translate into more *wins*. The coaches believe that will happen, and that is why they requested the intervention. While the coaching staff is concerned with many more areas of development for their student-athletes than winning, winning is the most visible and easily measured criteria of coaching competence by administrators, peers, and fans, regardless of the myriad of circumstances that may contribute to winning or losing. For coaches, their jobs often depend on the number of wins and losses they experience, and it is an expectation by the coaches and the athletic department that the program continue to show improvement year after year. While teams can improve without increasing their won-loss ratio, winning is the most visible marker. Also, if the team were to earn a berth in the NCAA tournament, it would serve as validation that the volleyball program was extremely successful and headed in the right direction.

Sport psychologist as stakeholder. Beyond the impact on the student-athletes and coaches, another primary stakeholder is the SP. The SP believes that mental skills training can enhance individual and team performance. He also believes that for a mental skills program to be effective, it needs to be implemented early in the season to provide a foundation for successful reduction of problems like choking (performance collapse under pressure) and slumps (a prolonged period of poor performance) during the season. Unfortunately, coaches often do not want to spend the time necessary for a mental skills

training package intervention until the team is struggling, usually right before tournament time, when it is too late for an effective intervention. The benefit the SP receives from an effective program intervention with the volleyball team is to demonstrate a successful model for other teams and their coaches.

Mental skills trainer/evaluation researcher as stakeholder. The final major stakeholder is me, the MST and evaluation researcher. Like the SP, I believe that mental skills training will enhance both individual and team performance. As mental skills trainer (MST), my personal beliefs in the efficacy of mental skills training on performance enhancement and my professional reputation as a success coach, educator, and author are impacted by the success of the intervention (see Limitations and Biases, p. 252).

Secondary Stakeholders

Athletic department and university as stakeholders. The immediate community environment, in this case, was the varsity volleyball team of a NCAA Division I University. The volleyball team community resides within the athletic community of the university that has 17 varsity teams and is influenced by that community. For example, varsity athletes from other sports are considered peers, and there is a bond of shared experience (i.e. they all have extra work – practice and competitive contests – that is extremely demanding and that curtails the academic and social life that “normal” college students enjoy). Peer approval or disapproval of individual and team performance is important for self-confidence and positive or negative self-image.

While the other athletic teams at the university and the athletic department as a whole have no investment in the success or failure of the intervention, if the program is

effective, the other sports teams and the entire athletic department could become beneficiaries. This is why they are considered secondary stakeholders.

Sport psychology community as stakeholders. For the same reasons the SP, the university, and the athletic department can benefit, the sport psychology community as a whole can also benefit assuming there is a positive program evaluation of a successful mental skills training package intervention. The sport psychology community is in need of positive research to further support the efficacy of mental skills training (Voight & Callaghan, 2001), especially on the team level.

Community at large as stakeholder. Another level of community that could be considered stakeholders is the regular fan base of the team. This could number as little as 20-30 “hard core” fans who show up at every contest to several hundred spectators. Most of the fans are members of the university community which numbers approximately 25,000 students. A small number of the fans may come from the local town in which the college resides. The local community and the university community as a whole are not generally actively involved unless the team does well and is advancing in tournament play. With more success, the university and local communities take more notice and they are subsequently taken more notice of by outside agencies. Success of the volleyball team can enhance the visibility and reputation of the university and thereby the local community.

In addition, the student-athletes are also members of their own nuclear families. They come from a wide range of geographical locations within the United States which makes them part of the national community. Because the mental skills learned are also life skills (e.g., Kamann & Wong, 1993; Manning, While, & Daugherty, 1994; Neck &

Manz, 1992; Zinsser, Scott, & Camp, 1995), it is expected that the scaffolding provided by learning competency in the MSTP will be a bridge into the community life beyond the athletic department. Successful transfer of these skills into each individual student-athletes personal, academic, relationship (family and personal), and eventual professional life will enhance all those areas of their lives.

Applied Sport Psychology

Applied sport psychology is a term that has evolved over the past twenty years to delineate the basic science of developing and refining the psychosocial factors that influence participation and performance in sport and exercise and the *application* of those factors in the field with athletes (Cox, 2002). A central paradigm of applied sport psychology, which encompasses mental skills training, is that mental skills are *not* innate. That is, they can be learned by any mentally healthy person, and, just like their physical counterparts, they will improve with practice.

The Association for the Advancement of Applied Sport Psychology (AAASP, n.d.-b) lists nine areas of psychological (mental) skills that are the domain of applied sport psychology. They are (1) attention and concentration control (focusing); (2) communication; (3) energy management; (4) goal setting; (5) hypnosis; (6) imagery, visualization, mental practice; (7) self-talk; (8) team building; and (9) time management and organization. Of these, the four that have been most studied in the literature are goal setting, visualization (imagery/mental practice), self-talk, and energy (stress/anxiety) management. Athletes are instructed in these mental skills to enable them enhance or optimize performance – one of the primary goals of applied sport psychology (AAASP, n.d.-a).

The reality of applied sport psychology is that these mental skills are not taught in an isolated fashion. Mental skills are taught in groups, packages, or programs. Admittedly, the number and extent of mental skills taught are dependent on the needs of the individual. In a team environment, however, a package or program is called for. The mental skills training program (MSTP) utilized for this educational intervention for sport performance enhancement is based upon the *Winner's Mentality Mental Skills Training Program* (WMMSTP) (Reese, 1998, 2005). The WMMSTP was initially developed as my Masters Project and has been under constant evaluation, evolution, and refinement since 1998. The MSTP is a flexible facilitated curriculum for implementation specifically with student-athletes engaged in the NCAA Varsity Volleyball program at a Division I University. More generally, educational intervention with this course and curriculum may be modified and adapted for use with any competitive sports teams as well as for corporate performance.

Program Evaluation of Performance Enhancement

Within this holistic panorama my passion lies – enabling individuals, teams, groups, and organizations to enjoy success in the form of continuous performance enhancement. While standard research is limited to examining one or few variables, program evaluation allows examination of multiple variables. It is possible to examine impact of the educational intervention on overall performance enhancement in general and on mental toughness more specifically. The primary focus of this program evaluation accordingly is the large context of performance enhancement. A desire to enhance performance is, after all, what interests the volleyball team and its coaching staff. Also, enhancing performance is what applied sport psychology is all about. Program evaluation

is, itself, a transdiscipline that necessarily cuts across other disciplines (Scriven, 1991a). That is, it requires a variety of competencies such as preparation, standards, accuracy, utility, feasibility, and propriety to determine the worth or merit of a program (JCSEE, 1994, p. 5). This eclecticism is yet another reason for me to choose program evaluation as opposed to standard research as the methodology of this study. Fitzpatrick et al. (2004) note:

> Finally, the preparation of researchers and evaluators differs significantly. Researchers are trained in-depth in a single discipline, their field of inquiry. Evaluators, by contrast, are responding to the needs of clients and stakeholders with many different information needs and operating in many different settings. As such, evaluators education must be interdisciplinary. Only through interdisciplinary training can evaluators become sensitive to the wide range of phenomena to which they must attend if they are to properly assess the worth of a program or policy. (p. 7)

Schwandt (2001) sees the evaluator as helping practitioners to “cultivate critical intelligence.” Evaluation, he notes, forms a middle ground “between overreliance on and overapplication of method, general principles, and rules to making sense of ordinary life on one hand, and advocating trust in person inspiration and sheer intuition on the other.” (p. 86). Mark, Henry, and Julnes (1999) echo this concept when they describe evaluation as a form of assisted sensemaking (p. 179). In keeping with my eclectic interests and background, the evaluation of the worth of this program and an attempt to make sense of measurement of performance enhancement in this study is achieved by a mixed methods approach.

The following Review of the Literature (Ch. II) contains information about performance enhancement, mental skills – including mental skills training and mental skills programs – instructional design, and program evaluation. Chapter III discusses the methodology used and its rationale. Chapter IV contains the data collected and the results of its analysis, and Chapter V is the discussion of these results as they apply to the research evaluation questions and conclusions regarding this case study. Within that are recommendations for future interventions of this nature concluding with the potential of program evaluation in the advancement of applied sport psychology for the promotion of mental skills training.

Note: I served as the facilitator for this educational intervention, that is, as the mental skills trainer (MST). I am also the instructional designer and the author of the curriculum. Furthermore, I am the evaluation researcher who conducted this program evaluation. Throughout this document I will often refer to myself in the third person as the "MST," the "instructional designer," the "evaluator," the "researcher," the "evaluation researcher," or the "author" – whichever role is most appropriate within the context of the subject areas being discussed.

CHAPTER II REVIEW OF THE LITERATURE

The primary goal of an intervention of a mental skills training program is to enhance individual athletic performance and thereby enhance overall team performance of a sports team. By and large, the literature supports the premise that the inclusion of an integrated mental skills training program will enhance individual performance and, thereby, improve overall team performance (e.g., Hanrahan, 1996; Patrick & Hrycaiko, 1998; Rogerson & Hrycaiko, 2002; Straub, 1989; Thelwell & Greenlees, 2001, 2003; Wild, 2002). The focus of this case study program evaluation is to determine what impact, if any, the mental skills training program (MSTP) utilized in the education intervention had on individual and team performance.

There are four distinct subject areas of research that comprise this review of literature. Within them there are also several less conspicuous areas of confluence that bear mentioning. The four main subject areas are: (1) Psychological perspectives and mental skills constructs; (2) Performance enhancement; (3) Mental skills; and (4) Program evaluation.

Psychological Perspectives and Mental Skills Constructs.

Historically in psychology, there are generally considered to be four major forces (Maslow, 1971/1993), or theories, of psychological thought: behavioral, cognitive, humanistic, and transpersonal. The behavioral perspective is “a scientific approach that limits the study of psychology to observable behavior” (Gerrig & Zimbardo, 2002, p. 11). It focuses on a new behavioral pattern being repeated until it becomes automatic. The cognitive perspective is “the study of higher mental processes such as attention, language use, memory, perception, problem solving, and thinking” (Gerrig & Zimbardo, 2002, p.

G-3). More specifically, cognitivism is based on the thought process behind the behavior. The humanistic perspective is “a psychological model that emphasizes an individual’s phenomenal world and inherent capacity for making rational choices and developing to maximum potential” (Gerrig & Zimbardo, 2002, p. 11). The transpersonal perspective looks at “development beyond conventional, personal, or individual levels” (Scotton, p.3). Because of their direct translation into the psychology of learning, the behavioral and cognitive perspectives are of primary interest for this study.

Psychological Constructs

Behaviorism. Following World War I, the needs and desires of governments, institutions, corporations, and educational systems were focused on predicting, controlling, and explaining the differences of individuals (Parker, 1991; Winter & Barenbaum, 1999). This pressure to provide useful information resulted in the school of psychological thought we refer to as behaviorism. Modern behaviorism can find its origins in Pavlov (1927) and his classical conditioning. “Pavlov and other physiologists proposed to redefine psychology as the science of behavior” (Miller, 2003, p. 141). Thorndike (1898) and his Law of Effect, which explained operant conditioning, also became part of the behaviorist bill of fare. This lineage continued through Watson (1924) who terrorized “Little Albert” while conditioning him to fear white furry creatures, and Skinner (1938), who ran his rats through various mazes and then generalized their behavior to humans. Behaviorism began to lose its popularity in the mid-1950s due to its limitations to explain everyday anomalies – especially outside the laboratory. Miller (2003) remarks,

> Behaviorism was an exciting adventure for experimental psychology but by the mid-1950s it had become apparent that it could not succeed. As Chomsky remarked, defining psychology as the science of behavior was like defining physics as the science of meter reading. (p. 142)

Cognitivism. The first shots fired in the cognitive revolution in America were in the mid-1950s from MIT and coincided with the advent of computers. Noam Chomsky is one of the most notable names associated with the beginnings of cognitive sciences. The cognitive movement began to take hold in America in the 1960s after Miller and Bruner founded the Harvard Center for Cognitive Studies. Cognitive science became an interdisciplinary discipline (psychology, philosophy, linguistics, anthropology, neuroscience, and computer science) (Miller, 2003). Likewise, cognitive psychology began to study intelligence, language, thinking and problem solving, memory, attention, and perception. Cognitive theory endeavored to bridge the gap between brain and mind (Miller, 2003). Learning theories and instructional design (ID), which are both important to an educational intervention, embrace both cognitive and behavioral perspectives.

Mental Skills As Psychological Constructs

The MSTP consists of a group of core mental skills: goal setting, visualization, feelazation, energy management, effective thinking, and mental toughness. These mental skills are usually described as cognitive-behavioral constructs because when engaged in the prescribed manner they utilize traits from both of these psychological paradigms of learning but can be forced wholly into neither. When practicing each mental skill individually, one hopes to achieve the behavioral linear reaction of cause and effect for each skill and, when employed collectively, for encouraging mental toughness and

overall enhanced performance. Even entirely cognitive constructs such as visualization, nonetheless strive for behavioral results because in order to achieve the desired behavioral effects, the applicant must engage the cognitive processes of awareness and metacognition.

For example, goal setting is a primarily behaviorist construct that has generated its own theory (Locke, 1968). However, when one gets into advanced goal setting such as setting multiple long-term goals or less tangible goals (e.g., happiness, success), it is unworkable without the addition of a cognitive component like visualization as an adjunct modality. Visualization, on the other hand, is an entirely cognitive construct, and the ability to visualize was initially denied by behaviorists because it could not be directly measured. But, when one visualizes as part of a mental skills program, it is with a purpose – a goal, therefore the cause and effect behavioral component becomes integral. Similar examples of the cognitive-behavioral bridging could be made for each the remaining core mental skill constructs. That is, regardless of how strictly cognitive the applications of feelazation, energy management, effective thinking, and mental toughness may seem, they all have a behavioral goal setting component when used in the MSTP.

In sport psychology, researchers have generally been satisfied working within the theoretical boundaries of the cognitive-behavioral paradigm. The MSTP, however, adds an energetic component (psychic and emotive) as a significant causative factor in the application of not only feelazation and energy management but also the other core mental skills as well. While this affective energetic construct has always been a component of the advanced application of the above-mentioned mental skills, it has not been addressed before in the sport psychology literature. This appreciation of the energetic construct and

the way it is facilitated is somewhat limited by the cognitive-behavioral paradigm. That is to say while it is facilitated to athletes by reducing it to a cognitive-behavioral skill like the other mental skills, understanding it requires a broader theoretical framework.

Constructivism

More recently a set of theories regarding learning has emerged – constructivism. In the psychology of learning constructivism falls somewhere between the cognitive and humanistic views (Atherton, 2003). "A core notion of constructivism is that individuals live in the world of their own personal and subjective experiences" (Karagiorgi & Symeou, 2005, p. 18). There is a diversity of theories expressing constructivism, but they have five basic themes that are pervasive and "convey a view of the human experience that emphasizes meaningful action by a developing self in complex and unfolding relationships" (Mahoney, n.d., ¶ 9). Michael J, Mahoney, Ph.D. (2003), pioneering sport psychologist and executive editor of the journal *Constructivism in the Human Sciences*, lists these themes as follows:

1. *Active agency* – human experiencing involves continuous active agency; that is the opposite of determinism.
2. *Order* – much human activity is devoted to ordering processes.
3. *Self* – the organization of personal activity is self-referent, and this self exists and grows in living webs of relationships.
4. *Social-symbolic relatedness* – individuals cannot be understood away from their embeddedness in social and symbolic systems (in this case the volleyball team).

5. *Lifespan development* - All of the above concepts reflect an ongoing developmental flow in which dialectical tensions are essential. (¶ 8)

The broader constructivist perspective appeals to me intuitively, academically, professionally, and practically. It helps to fill in the theoretic blanks, such as social interaction, left open by cognitive-behaviorism when merging the energy component into the MSTP. The constructivist perspective adds an expansive component to the more reductionistic applications of the cognitive and behavioral theories, and the acceptance of the energetic component requires an expansive outlook. While this may seem contradictory at first glance, it is, at worst, ambiguous. This melding of theoretical perspectives from eclectic into holistic is what the constructivist viewpoint allows. Of the many theories of constructivism, the two that are of most interest in this investigation are *cognitive constructivism*, which is about how an individual learner understands things, and *social constructivism*, which emphasizes how meanings and understandings grow out of social encounters (Vygotsky, 1962).

Professionally this multi-theoretical approach is appealing because I have been trained and educated in multiple disciplines: sports medicine (athletic training), rehabilitation medicine (physical therapy), education and pedagogy, hypnosis, and psychology – especially sport psychology. This varied background has evolved over the 30-odd years I practiced as an athletic trainer in both the collegiate and professional settings. Therefore, I look at the world of research through a constructivist lens while embracing the practical applications of behavioral, cognitive, and cognitive-behavioral approaches. I look at realities as perceptions and perceptions as multiple mental constructions. These constructs are “socially and experientially based, local and specific,

dependent on their form and content on the persons who hold them" (Guba, 1990, p. 27). My epistemology is that of a subjectivist. That is, I celebrate subjectivity and am comfortable with ambiguity. While I appreciate objectivity, I make no pretenses that I am objective. If one is passionate about a subject or field of endeavor, it is impracticable, if not impossible, to be objective – and I am a passionate advocate regarding the potential of applied mental skills training for encouraging mental toughness specifically and enhancing performance generally.

Like bifocal or trifocal eyeglasses, this constructivist lens can be sharply focused myopically on one concept at a time (e.g., an individual mental skill). However, with only a slight adjustment of one's gaze (viewpoint), these individual, and sometimes seemingly disparate, constructs come into focus into a much larger representation (e.g., the MSTP). Mental skills as part of the MSTP for performance enhancement then are basically an amalgamation of cognitive-behavioral constructs that make up the foundation of applied sport psychology (Landers, 1995) sometimes combined with subjective constructivist approach. When competency is achieved, they can enhance performance and encourage mental toughness. If mastered, however, they can become a heuristic for advanced problem solving and a causative power in the quest to achieve our potential.

Performance Enhancement

Performance enhancement encompasses those concepts and techniques that encourage and allow individuals to remove the mental barriers that can prevent *peak performance*. As used in the early literature, peak performance is synonymous with *peak moment* or *peak experience* (e.g., Brewer, Van Raalte, Linder, & Van Raalte, 1991;

Cratty, 1984; Ravizza, 1984). Peak experiences, are described by Maslow (1971/1993): "The term peak experiences is a generalization for the best moments of the human being, for the happiest moments of life, for experiences of ecstasy, rapture, bliss, or the greatest joy" (p. 105).

Peak Performance

As with many sport psychology terms, peak performance can have several meanings. Numerous sport psychology authors and researchers use peak performance synonymously with peak experience (Ravizza, 1984) and flow (Csikszentmihalyi, 1977/1996). Athletes usually refer to flow as being in *the zone*. Douillard (1994) credits Ted Williams with coining the term "in the zone." Regardless, athletes, coaches, and fans embrace the term. The zone has the same qualities as flow and peak experience. Brewer, Linder, Van Raalte, and Van Raalte (1991) define the zone and peak performance as "behavior that exceeds one's predictable level of functioning." (p. 227). This definition suggests that after a "predictable" baseline of performance level is established, then if that baseline is surpassed, the athlete has experienced a peak performance.

Kauss (1980) bases his book, *Peak Performance*, on the "peak" of the "inverted U" used to describe anxiety/arousal levels. The "inverted U" was developed by Yerkes and Dodson (1908) and suggests that optimal performance accompanies a heightened level of arousal or anxiety, but that if one is over aroused or over anxious, performance declines rapidly. (The concept of the "inverted U" will be discussed further in the section on *Energy Management*, p. 43)

When used by this author, peak performance is not limited to a peak moment, or a peak event, or a peak experience in time; instead peak performance is a *process*. Peak

performance, as a process, includes a goal setting *mindset* in which athletes identify their personal best performances and strive to make those everyday or average performances (Reese, 1998). When referred to in this light, peak performance promotes the constant and consistent enhancing of performance. As such, it encourages athletes to set difficult yet realistic goals; to improve their self-image and self-worth, both as athletes and as individuals; to control their self-talk, which can dramatically affect their performance; to effectively manage the inherent stressors in high-demand situations; to visualize themselves accomplishing whatever goals they can conceive in their minds (i.e. their end-results); and to believe in what they visualize so that they develop the persistence and resilience to follow through on their goals (Reese, 1998). These constructs are mental skills and are the domains of performance enhancement that athletes must learn and must become proficient with so as to consistently improve athletic performance. According to Zinsser, Scott, and Camp (1995) from the West Point Center for Enhanced Performance (CEP), these skills must be *mastered* in order to achieve this type of peak performance in sport.

In order to consistently improve athletic performance and achieve peak performance, Ranier Martens (1987), one of the pioneers of applied sport psychology, recommends that athletes receive training and education in some, if not all, of the following mental skills: goal setting; attention (i.e. focus and concentration); stress and anxiety management; psychic energy management; and visualization and imagery. Peak performance, therefore, can be achieved by combining athletic prowess, hard work, and skills practice with mental skills training and practice.

Mental Skills

Mental Skills Training

As early as the 1950s, researchers began reporting that mental skills training could affect motor performance (e.g., Ammons, 1951; Lawther, 1951; Ulrich & Burke, 1957). Early areas of discussion included mental imagery, hypnosis and self-hypnosis, modeling, and how to cope with high levels of stress (e.g., Ammons, 1951; Carron, 1968; Johnson, 1961; Ryan, 1962). As time progressed, researchers began addressing the psychological variables of the coach-athlete relationship, individual performance and team cohesion, performance and mood, and behavioral assessment and development of guidelines for coaches (e.g., Carron & Ball, 1977; Cratty, 1973; Murphy, 1995; Ogilvie & Tutko, 1966; Ryan, 1962;). The research was applied in a technique called Visuo-Motor Behavior Rehearsal (VMBR), which combines relaxation with mental imagery (Suinn, 1973). VMBR may be considered one of the first mental skills training programs (Perna, Neyer, Murphy, Ogilvie, & Murphy, 1995).

Like all schools of psychology, sport psychology has borrowed from the other disciplines. Social psychology, in particular, has made significant contributions to sport psychology including social facilitation, group cohesion, anxiety, goal orientations, attitudes, and self-efficacy (Brawley & Martin, 1995). In earlier research (Reese, 1998), I reviewed both the sport and social psychology popular publications and research studies in the areas of motivation (e.g., Bandura, 1977b; Brawley & Martin, 1995; Covey, 1989; Csoka, 1993; Maslow, 1954/1970; Nideffer, 1992; Orlick, 1990; Peale, 1952/1983; Robbins, 1992; Spitzer, 2000; Tutko & Richards, 1972), self-efficacy (e.g., Bandura & Schunk, 1981; McDonald & Hutcheson, 1997; Peck, 1978; Seligman, 1998; Tice, 1992,

1993, 1995), stress and anxiety management (e.g., Anshell, 1994; Carron, 1968; Davis, Eshelman, & McKay, 1988; Haber & Haber, 1988; Kelly, 1995; Martens, Vealey, & Burton, 1990; McDonald & Hutcheson, 1997; Stotz, 1997; Whelan, Meyers, & Donovan, 1995), and also the seemingly unrelated, yet ultimately vital field of energetic medicine (e.g., Brennan, 1987; Chia, 1991; Chopra, 1994; Gerber, 1955/2001; Myss, 1996). From this research I distilled six core mental skills that I deemed to be essential for creating the *Winner's Mentality*.

The Winner's Mentality

The Winner's Mentality is not about winning; it is about behaving and thinking like a winner. It is the mind-set that athletes need to excel, to succeed, and to be the best they can be. Winners know how to concentrate and focus, to overcome obstacles and not lose sight of their goals, to learn from defeats, to overcome discouragement and frustration, and to perform maximally. Winners know how to maintain a winning attitude even in defeat. This is a positive mind-set. The core mental skills utilized in the Winner's Mentality Mental Skills Training Program (WMMSTP) are goal setting, visualization, feelazation (similar to emotive imagery), energy management, effective thinking, and mental toughness. The Winner's Mentality cannot be achieved without achieving mental toughness. In fact, one could say that the mental toughness as a cognitive construct is synonymous with the Winner's Mentality.

Goal Setting

Goal setting is the art and science of setting targets for achievement (Reese, 1998). Edwin Locke (1968) is credited with conceptualizing goal setting theory. Locke, hypothesized two core components for goal setting theory: (1) There is a linear

relationship between the difficulty of attainable goals and performance, and (2) specific, difficult goals lead to better performance than vague, easy, or “do-your-best” goals (Locke & Latham, 1990). Methodical research over 30 years has shown these relations “to be among the most robust findings within the motivational literature” (Hafsteinsson, 2002, p. 2).

Several meta-analyses (Mento, Steel, & Karren, 1987; Tubbs, 1986; Wood, Mento, & Locke, 1987) examining a combined 282 studies report consistent positive relationships between difficulty of goal and performance level. For example, Tubbs (1986) meta-analysis looked for the effects of goal difficulty, goal specificity, goals and feedback combined, and participation in goal setting on goal performance. To the widespread predictions that specific goals are associated with higher performance, he hypothesized that when feedback was combined with goals, it would have a stronger effect on performance than goals alone. In this meta-analysis, he compared 147 effect sizes in 87 studies and found that the mean effect size for goal difficulty was $d = .816$, for goal specificity $d = .502$, and for feedback $d = .564$. This supported the hypothesis and indicates that when feedback is combined with specific goals, performance increases. These findings are consistent with those of the other meta-analyses and demonstrate that a goal-performance relationship exists and is robust. It has been found to hold over multiple settings and time spans, differing tasks and/or criteria, and appears culturally universal. In sum, *effective* goal setting improves performance.

There is a natural assumption that improved performance includes physical performance, and therefore effective goal setting would enhance physical performance. Meyers, Whelan, and Murphy (1996) challenge this assumption by suggesting “the

predicted impact of goal setting on physical performance has not been verified" (p. 142). Meyers et al. (1996) reported an effect size for goal setting of .54, $p<.01$. Taking this into consideration, Moore (2003) reports, "However, there is evidence for indirect physical performance benefits as goal setting may enhance constructs such as motivation, self-efficacy, and commitment, which are believed to be indirectly related to valued performance achievements (Meyers et al., Weinberg, 1994)" (p. 21).

The goal of the WMMSTP regarding goal setting is not limited to the area of physical performance, although I concede this is where a successful intervention is noticed most readily.

Effective goal setting. Effective goal setting has been shown to not only improve performance (Lerner, Ostrow, Yura, & Etzel, 1996; Locke, Shaw, Saari, & Latham, 1981), but also to relieve boredom (Csikszentmihalyi, 1977/1996), increase self-motivation (Umstot, Bell, & Mitchell, 1976; Weinberg, 1982), and can improve self-confidence (Fairall & Rogers, 1997) in management, sport, and other subfields of psychology dealing with performance enhancement. Again, one notices there are multiple and disparate cognitive results achieved by a singular construct – goal setting.

Popular literature assumes goal setting works and is overwhelming in its volume. Every motivational, success, self-help, and "How to" guru from Norman Vincent Peale (1952/1983) to Dr. Phil (McGraw, 2000) gives programs on how to goal set effectively. The myriad of methods is mostly redundant with differences mainly in the number or progression the goal setting steps that are employed or a particular step that the author views as essential. The common thread is that without effective goal setting, one will not be successful in one's endeavors. Research literature is much more selective in studying

elements of goal setting because of its reductionistic nature, but the conclusion is the same – effective goal setting is necessary for enhanced performance. The key, of course, is what makes goal setting effective? The effectiveness of goal setting is determined by the attainment or acquisition of the goal that is set.

As mentioned in the meta-analysis references (Mento et al., 1987; Tubbs, 1986; Wood et al., 1987), the foci centers on effects of goal difficulty, goal specificity, goals and feedback combined, and participation in goal setting on goal performance. Goal difficulty studies suggest that goals should be challenging, that is, athletes should strive to achieve more than they are sure they can do. This helps explain why records and scores become so important in sport – the athletes use them to challenge themselves to break those records. Feedback, whether positive or negative, seems to improve acquisition of goals. And those who participate actively in setting goals are also more effective at goal attainment.

Goal specificity studies indicate that goal setting is more effective when there are clear, concise goals (specific) as opposed to broad general goals, or *do best* goals (Locke, 1991). For example, it will be more effective to have the goal of improving free throw shooting percentage from 50% to 60% than to have a goal of “improving my free throw shooting percentage,” or “I’ll do my best.” This area, *goal orientation*, comprises a significant amount of the goal setting literature and is a major focus of applied sport psychology and mental skills training. *Performance* goal setting as opposed to *outcome* goal setting is a constant focus of mental skills training. It is widely accepted that athletes should concentrate on their performance goals because how one performs is in the athletes’ control. Winning the game (an outcome goal) is not in the athletes’ control

because of too many outside influences – weather, a bad call by an official, equipment failure, etc.

Central to the WMMSTP and congruent with the above findings is the concept that beyond tangible performance goals, goal setters move toward and become like what they think about - i.e. what they have to be and do to achieve their goals (Kingston & Hardy, 1997; Locke & Bryan, 1966; Locke & Latham, 1990; Locke, Shaw, Saari, & Latham, 1981). That is, goal setting can affect behavior and can even act as a moderator of personality. This notion moves the goal setter out of the strictly behavioral realm and into cognitive theory, thereby creating the cognitive-behavioral bridge that humans are naturally teleological – that is, we are naturally goal-oriented (Bering, 2003; Rychlak, 2003).

There are several studies, however, that have shown inconsistent findings in specific areas of goal setting. For example, Keller (1999) attempted to show the "potential moderating effects of skill and outcome difficulty upon the relationship between specific, difficult goals and physical task performance" (p. ii). That is, do best goals and specific goals have different effects depending on the difficulty of the task. He points out that in many studies involving goal setting, the levels of difficulty of the tasks are ambiguous. In addition, the tasks in many of the studies are also extremely diverse, ranging from physical endurance tests like sit-ups and hand dynamometer squeezing tests to performance tasks such as shooting free throws or juggling. Due to poor research design (using a task that proved to be too difficult – golf putting), he was unable to support his hypothesis.

Locke (1991) one of the primary researchers in goal setting and sport, responds to problems in goal setting research in sports by highlighting seven areas of concern: (1) the failure to either manipulate or distinguish between do best goals, no goal, or specific performance goals, (2) personal commitment, (3) personal goals are not accurately measured, (4) specific goals may not be difficult enough for every member of the group being tested, (5) the baselines are not consistent, (6) the effects of competition are not considered or are ignored, and (7) the subjective effort or difficulty is a confounding measure. Locke suggests more single subject studies and measures of self-efficacy as solutions to the anomalous findings.

Overall, it is agreed that goal setting is an important component of any mental skills training package. The few inconsistent findings in goal setting research deal with specific methods of goal setting. More recent literature suggests that there is no single way to engage effective goal setting (Hafsteinsson, 2002; Keller, 1999; Tenebaum, Spence, & Christenson, 2002). With that in mind, goal setting is approached as a continuum in the WMMSTP. That means goal setting is an ongoing, dynamic process, which includes identification, planning, commitment, action, monitoring, and attainment and addresses both outcome and process goals.

In the WMMSTP, the first phase of goal setting is the initial identification of goals. In the initial identification phase, participants are taught to formulate the outcome or *end-result* goal. This results in a cognitive mindset construct referred to as *end-result thinking*, which becomes an integral component of the remaining core mental skills: visualization, feelazation, energy management, effective thinking, and mental toughness.

Visualization

Visualization is the ability of individuals to create and recreate images in their minds (Reese, 1998). Visualization gives form to goals and can serve as stimulation for achievement of goals. As a mental skill, visualization allows athletes *to see* their success in their mind as they prepare for a practice, performance, or competition. Once they achieve competency in a physical or mental skill, they can maintain that competency and improve it through practicing visualization.

In sport psychology literature, the term *imagery* is preferred to visualization because it is assumed that visualization is limited to only the visual modality, whereas imagery encourages the incorporation of "as many additional sense modalities as are appropriate … such as hearing, smelling, tasting, touching, and kinesthetic perceptions" (Cautela & Kearney, 1986, pp. 30-31). In the WMMSTP, I utilize the term visualization because my experience in the field with athletes and coaches has convinced me that this is the more acceptable and understandable term for them. For example, the athletes that I have worked with have had a more thorough concept of how to *visualize* practicing their skill than how to *image* the same scenario. In the WMMSTP, therefore, visualization is synonymous with imagery and includes utilizing all the appropriate senses (e.g., sight, smell, taste, hearing, touch, and kinesthetics) in its practice.

To further complicate the terminology issue in much sport psychology literature both imagery and visualization are often used synonymously with the term *mental practice* that assumes a visualization (imagery) process to practice sports skills (Rushall & Lippman, 1997). In addition, Vadcoz, Hall, and Moritz (1997) list five types of imagery (visualization) utilized to enhance performance: motivation general imagery for

self-confidence, cognitive specific imagery for rehearsal of skills, kinesthetic imagery for movement awareness, arousal imagery for levels of cognitive anxiety, and mastery imagery that combines cognitive specific imagery with motivation general imagery to enable the practitioner to take control of the kinesthetic visualization. Visualization in the WMMSTP is utilized not only for the mental practices indicated above but it is also used for enhancing goal setting and end-result thinking; for managing energy, stress, and anxiety levels; for effective thinking, focus and concentration; and for encouraging the mental toughness necessary to persevere in the effort needed to achieve goals. It is also an indispensable component for feelazation. For the remainder of this paper, I will use the term visualization synonymously with imagery and use mental practice specifically for that endeavor.

Visualization theory. The primary scientific explanation for the efficacy of utilizing visualization comes from the exploration of two theories: the *PsychoneuromuscularTheory* and the *Symbolic Learning Theory*. The oldest theory, Psychoneuromuscular Theory, suggests that when motor acts are visualized, a weaker magnitude but identical energetic neural impulse to the muscle groups involved occurs (Jacobsen, 1930; Hecker & Kaczor, 1988; Peynircioglu, Thompson, & Tanielian, 2000). Simply stated this means the body cannot tell the difference between something that is vividly imagined and an actual event that is occurring in real time. When explaining this phenomenon to athletes, the example of experiencing a nightmare is often invoked. For example, when individuals suddenly awaken from a nightmare about being chased by a monster or wild animal, their heart rates may be increased, they may be sweating, and

they may experience momentary fear until they realize that they were dreaming – their bodies interpreted their visualizations (dreams) as if they were really happening.

Symbolic Learning Theory was first described by Sackett (1934). Within this theory is a premise that there is a coding of certain movements into some symbolic component (like a mental picture) that gives an athlete a more automatic response in familiar situations. This "symbolic rehearsal or representing patterns of overt movements facilitates the learning skills in which cognitive factors are important" (¶ 9). Once the task is characterized (coded), visualization enhances those tasks that have strong symbolic components (Peynircioglu et al., 2000). A practical example of this theory that is often utilized in visualization research is the free-throw in basketball (Hall, Ostrow, Yura, & Etzel, 1996; Lerner, Ostrow, Yura, & Etzel, 1996). The symbolic learning theory also explains why individuals can ride a bicycle after not doing so for many years.

Another theory advanced in an attempt to explain how visualization enhances sports performance is the *Bioinformational Theory* (Lang, 1979). It is based on a response-set perspective. That is, situational cues activate psychological and physiological responses. The image in this theory is a functionally organized, finite set of propositions stored in the brain. In order to produce a mental image a network of propositionally coded information in long-term memory is activated. Because this network contains data about stimulus, physiological, and behavior responses, it serves as the model for overt behavior. Simply put, if athletes observe a stressful situation during an event, they will feel their anxiety levels increase. Hecker and Kaczor (1988) and Murphy (1990) support the bioinformational theory, as it explains how visualization, especially mental rehearsal, enhances performance in sport. Peynircioglu, Thompson, and

Tanielian, (2000) however, feel “A combination of these two theories [bioinformational and symbolic learning] would closely resemble the overarching framework of transfer-appropriate processing (Bransford, Franks, Morris, & Stein, 1979) and fare more successfully than either of the theories alone” (p. 154).

Another approach is the *Dual Coding Theory* (DCT). DCT integrates visual and verbal processes (Paivio, 1991) “DCT is a multiple coding theory, with special emphasis on the fundamental importance of the verbal/nonverbal symbolic contrast” (Paivio, 1991, p. 257). What this means is that athletes can visualize because the process of language allows them to develop an image (referred to as an *imagen* in DCT), and verbal cues can manipulate the image. For example, if one says the word “volleyball,” a volleyball is then visualized. In like manner, the opposite is also true – one reports the specific imagens by verbalizing the objects and/or actions in the visualization. In the above example, if one sees a volleyball, then one would identify it verbally within their consciousness.

One of the problems with all but the bioinformational theory is that the others only explain mental practice and ignore the movement (kinesthetic) and/or emotional components that may be present in visualization techniques, especially like those used for “psyching up” before and event. Ahsen (1984) in particular found fault with DCT because it lacked the somatic component. He felt it was too linear and abstract, so he added a third element, the somatic factor, to his theory, the ISM or *triple code model* (Ahsen, 1984). The “I” represents image, “S” stands for the somatic factor, and “M” is the meaning behind the experience. By incorporating the somatic component the kinesthetic and emotive components of visualization are better explained.

Recently, Martin, Moritz, and Hall (1999) proposed a new model that includes the cognitive, kinesthetic, and motivational aspects utilized with visualization. The five types of imagery constructs they study utilizing their Sport Imagery Questionnaire (SIQ) (Hall, Mack, Pavio, & Hausenblas, 1998) were referred to above in the discussion regarding visualization semantics (cognitive specific, cognitive general, motivational specific, motivational general-arousal, and motivational general-mastery). The SIQ model is the first theory that attempts to appreciate the aggregate nature of the visualization process.

In a mixed methods study of collegiate basketball players, Eslinger (2002) examined how mental imagery ability (IA) related to high and low performance. He employed both the Movement Imagery Questionnaire-Revised (MIQ_R) (Hall & Martin, 1997), and the Sport Imagery Questionnaire (SIQ) (Hall et al., 1998) as measures of IA.

> In this study, a high imager or high IA athlete is defined to be one who scores in the upper quartile on a combination of specific imagery questionnaires. They also report effective imagery use, i.e. imagery associated with positive performance that reflects real similarities of competitive environments (Short et al., 2002). … A low imager is one who reports he or she does not use imagery often, scores in the low quartile of imagery ability inventories … (p. 5)

Eslinger (2002) examined seven imagery traits between the two inventory scales: visual imagery (VI), kinesthetic imagery (KI), cognitive specific (CS), cognitive general (CG), motivational specific (MS), motivational general-arousal (MG-A), and motivational general-mastery (MG-M). He concludes from the research of the seven imagery types (p. 89):

- Kinesthetic imagery and motivational imagery are the most important and influential predictors of basketball performance. High performers [n = 43, *M* = 5.63, *SD* = 1.05] demonstrated more effective kinesthetic imagery abilities v. low performers [n = 43, M = 5.12, SD = 1.28]; [Competetive separation F(1, 82) = 3.974, p = .05; t(82) = 1.993, p = .05].
- High MG-M scores for point guards suggest the importance of maintaining control during games when correlated with B-PSR [Basketball-Performance Statistic Rating] in which they also ranked highest of the five positions. [*F*(4, 167) = 3.536, p < .01, η^2 = .02; n = 31, *M* = 5.71, *SD* = .67].
- Motivational general-mastery imagery is important for feelings of confidence whilst performing.

One area not reported in the conclusions is that CG ability is higher in low performers than in high performers, which refutes one of the hypotheses in the study. One might attribute this to more thinking by the low performers in order to gain an advantage over their more kinesthetic counterparts. Another challenge, because the surveys were mailed and the distribution was handled by the local coach, is the problem of terminology and definitions. The author admits that he assumed everyone knew what “mental imagery” was, and follow-up interviews showed that this was not the case. The same problem was encountered for definitions of “imagery” which showed up in the qualitative portion of the study. The complexity of utilizing two different assessments (SIQ & MIQ-R) was both a blessing and a curse; a blessing in that it provided overlap, a curse in that it seemed confusing and complex to the respondents.

This study is important, especially from an mult-theoretical perspective, because it draws elements from all the theories which indicates that all seven areas should be considered in visualization training. It also suggests that a combination of a “feel” for the game and a “vision” of success can enhance basketball performance. Perhaps more importantly to applied sport psychologists and mental skills trainers who like to employ assessments, the SIQ and MIQ-R are demonstrated again to be valid and reliable assessment tools – keeping in mind that they are self-assessment tools.

Regardless of which theory or combination of theories is embraced, researchers in visualization and mental imagery agree on two areas: visualization can be used effectively to enhance athletic performance, and the process of visualization is complex. When examining the types of visualization, researchers refer to visual, motor, kinesthetic, auditory, emotive, cognitive, motivational, healing, and tactile visualization constructs (Weinberg & Gould, 1995). While they all have a place, emotive and motivational visualization play key roles in the WMMSTP.

Visualization training. Some of the problems encountered with visualization center less around the theories and terminology involved and more about the techniques employed. It is often assumed by mental skills trainers and sport psychologists that everyone visualizes equally. Training in visualization is often sparse or even non-existent if the athletes merely say they know how to visualize. Some athletes confuse visualization with relaxation since it is utilized in many relaxation exercises. Still others don’t realize that imagination – or imagining – is visualization.

Hall (1985) lists several problem areas in visualization education which cause imagery research to be faulty: a lack of control of imaging elements; a lack of

differentiation between visual imagery and kinesthetic imagery; and controlled imagery instructions may not suit an individual's preferred imagery style or strategy. He also points out that many studies test individuals on novel imaging tasks and do not account for some subjects never getting out of the situation-familiarization and task-learning stages. Proper visualization training, therefore, is important.

In the WMMSTP everyone is trained in visualization beginning with an exercise referred to as the "Go to your room" exercise (Appendix A). Time is taken to facilitate differing visualization competencies, especially the common challenge that many participants have of not actually "seeing" a picture of what they visualize. While the ability to visualize is innate, many athletes do not experience a "Kodak moment," a technicolor movie, or an action video playing in their minds eye. For many, this experience is initially a *knowing* or *sensing* of the object or activity to be visualized. Often athletes feel that if they don't see the object, they cannot visualize. This can lead to them to believe something is lacking in their makeup, and rather than ask for help they just give up. This throwing in the towel may not stop with visualization; because visualization is a critical building block, it may undermine the entire mental skills training process. It is important, therefore, not to assume that all athletes know how to visualize.

1st and 3rd person viewpoints. Another component of the art of visualization is the assumption of the internal or external viewpoint. Cumming and Ste-Marie (2002) refer to this as intrinsic and extrinsic visualization. Intrinsic visualization is seeing the object or activity through the athletes' own eyes – seeing it as they saw it or will be seeing it. The extrinsic viewpoint is looking at the object or activity as a camera would – outside the

athletes' personal visual field. Athletes well practiced in the latter technique can see themselves performing from different angles and perspectives. In the WMMSTP the intrinsic view is referred to as the 1st person viewpoint, and the extrinsic is the 3rd person viewpoint. Both perspectives have been shown efficacious as stand alone visualization techniques or when merged.

Mahoney and Avener (1977) pioneered the early research on these constructs by looking at Olympic gymnasts. They describe the two viewpoints in the following way:

> [In] external imagery, a person views himself from the perspective of an external observer … Internal imagery, on the other hand, requires an approximation of the real life phenomenology such that the person actually imagines being inside his/her body and experiencing those sensations which might be expected in the actual situation (p. 137).

They reported that more successful elite gymnasts used the internal viewpoint more frequently than less successful gymnasts. Other researchers (e.g., Hale, 1982; Harris & Robinson, 1986) have shown that muscular EMG activity is increased in imaged muscles, and this has led to a perpetuation of this line of thinking. However replications of the original Mahoney and Avener (1977) study (Highlen & Bennett, 1983; Meyers, Cooke, Cullen, & Liles, 1979) on different populations failed to obtain the anticipated effect. Lew Hardy (1997) notes that

> Mahoney and Avener's (1977) description of internal imagery confounds visual imagery from an internal perspective with kinesthetic imagery. Furthermore, this confounding has been replicated in all the empirical studies that have shown higher levels of EMG activity for internal imagery in comparison with external

> imagery (for a review, see Hale, 1994). It is not surprising that kinesthetic imagery produces higher levels of EMG activity than no kinesthetic imagery. (p. 288)

Hardy's interest in this area resulted in several more studies (Callow & Hardy, 1997; White & Hardy, 1995) with conflicting results. His recommendation post hoc is essentially to apply what seems to work for the individual and the desired visualization task (kinesthetic, motivational, etc.) (Hardy, 1997). The WMMSTP makes use of both the 1st and 3rd person viewpoints and encourages a combination of the two.

Emotive Visualization

Of all the constructs studied regarding visualization, the one that can have the most powerful impact enhancing performance to peak performance levels is also one of the least studied: emotive visualization. Beyond simple mental practice, visualization is, at best, difficult to measure because it is a totally cognitive endeavor, and there are extreme variations in the individual manner and extent of its application by athletes. Measuring emotion is even more difficult to quantify because its perception is even more individually unique.

Take pain, for example, as an emotional construct. Following an injury, athletic trainers regularly have athletes describe their pain on a Likert-like scale of 0-10; with zero representing "no pain" and ten being "the worst pain imaginable." This gives athletic trainers a general concept about how badly the athlete "hurts." When combined with physical examination and clinical tests such as x-ray or MRI, the pain scale may give them some clue as to the severity of the injury so that they, in turn, may be able to predict the length of time before the athlete will return to action. It should be obvious that

"Athlete A's" pain cannot be directly compared to "Athlete B's" pain. It is helpful if the athletic trainer is familiar with the athlete, and the athlete has had a previous injury with which a comparison can be made: "Does this strained hamstring hurt as bad as the one you pulled last year in the opposite leg?" Of course, if you are comparing hamstring pain to knee pain … well, that is why injury prognosis may be more art than science. A secondary but more helpful function the injury scale does serve is to communicate uniquely with that athlete for that particular injury as he or she heals: "Last week you reported the pain in your hamstring as a '6'. How does it feel today?"

When examining the above scenario, it should be apparent that the perceptions of the athlete are exclusive and unique not only to the athlete, but also to the current injury. It doesn't take an experienced researcher to know that generalizing that "anyone who reports a '6' on the pain scale is suffering from a 2° strain that will take four weeks to heal" is not only poor research practice but also a good way to experience job loss by the athletic trainer. The measurement of all emotional constructs presents the same difficulty. How does one accurately measure the constructs of joy, anger, excitement, stress, pride, anxiety, self-confidence, arousal, or "the thrill of victory and the agony of defeat"?

This complexity in measurement of emotion is most likely why emotive visualization has been studied so little. Shane Murphy, Ph.D., (1990) an applied sport psychologist and former director of sport psychology services at the U. S. Olympic training center in Colorado Springs, has been responsible for the bulk of research on emotive imagery beginning with his dissertation (Murphy, 1986). This was followed closely by another study (Murphy, Woolfolk, & Budney, 1988) on the topic. Murphy (1986) initially focused on the impact of emotional visualization on tasks of strength and

fine motor skill accuracy. Using the Oxendine (1970) hypothesis, he predicted that arousal elevation would aid strength performance and interfere with fine motor skill performance. Anger and fear images were employed to raise arousal levels and a relaxation visualization was used to decrease arousal. He concluded that while emotional images (e.g., anger) influenced strength, it did not elevate it enough to be significant. Relaxation images decreed strength performance, and, surprisingly, none of the images affected fine motor performance. In the follow-up study (1988), 24 subjects chose their own angry, fearful, or relaxed images and produced similar results. The implications are that emotive imagery is appropriate for developing specific emotive sets; it does impact energy, so it can be utilized for "psyching up" especially in pre-event scenarios, and heightened arousal in pre-competition should be complemented by task-relevant process-thinking to focus the additional energy into accurate and enhanced physical movements. Because emotive imagery has only been studied in a task-specific manner, there is certainly a need for more research in this area.

Feelazation

The WMMSTP employs emotive imagery whenever indicated in order to imprint goals, augment motivation, and manage anxiety. Like the term imagery, emotive imaging was not popular among athletes I have worked with, so a more popular term was concocted – *feelazation*. Feelazation is the incorporation of a *felt sense* of emotion into visualization (Reese, 2005). As discussed previously, effective visualization incorporates all of the five senses and kinesthetic senses such as balance (Rushall & Lippman, 1997).

In the WMMSTP, athletes are taught to also incorporate their emotional components - e.g., self-confidence, pride, joy, and self-satisfaction, accomplishment,

courage, etc. - when visualizing the successful outcome of their sports performances or competitions. When they picture the triumphant scene with all the concomitant sensory input they can accomplish, they are then instructed to add the emotional component to that vision – the pride, joy, accomplishment, gratitude, etc. – and to feel it in their bodies; that is develop a tangible, energetic, bodily felt sense of the emotion (Gendlin, 1981).

Felt sense. Gendlin (1981) defines felt sense as a "kind of bodily awareness that profoundly influences our lives and that can help us reach personal goals" (p. 32). He goes on to say that "a felt sense doesn't come to you in the form of thoughts or words or other separate units, but as a single (though often puzzling and very complex) bodily feeling" (p. 33). According to Gendlin, while a felt sense has emotion as a component, it is not just an emotion – it is larger and more complex. Hence, feelazation is more than just emotive imagery.

Image absorption/imprinting. Eslinger (2002) notes that there "is an attention factor involved in the formation and concentration of images" (p. 23). This is referred to as *image absorption* by Finke (1984) and refers to athletes being able to focus and hold the image long enough, so they can manipulate the mental representation. In Neuro-Linguistic Programming (NLP), this absorption is referred to as *imprinting* (Bandler & Grinder, 1979; Thatcher, 1980), and it is the term I prefer.

For athletes to become competent in feelazation, they must learn to relax, to visualize, and to become aware of their body sensations. Feelazation begins with the kinesthetic imagery that is taught in mental practice. Kinesthetic imagery, because it implies movement, is energetic in nature. Once athletes become competent with visualizing kinesthetically, they then graduate to include recognizing subtle emotional

feelings within the body. They then progress to developing the felt sense, and then by naming or creating a cue word or phrase to represent the felt sense. Once named, the felt sense may assume a form designated by the athletes (Gendlin, 1981; Horton, 1997). Then, the emotional state can be controlled and recalled at will by *anchoring* it (Horton, 1997).

Anchoring. Anchoring gives cue words or affirmations more efficacy by providing a verbal and/or physical reminder of the mental states athletes want to access (Horton, 1997). A simple verbal anchor can be the use of a cue word or phrase to recall the physical and mental state for an impending activity. Sam Snead, the legendary golfer, is reported to have said “greasy” as his anchor when he addressed the ball. This would remind him to swing loose, easy, and to follow through on his drives. A type of physical anchor might be the squeezing of a fist before a gymnastic routine or an already programmed ritual like bouncing a basketball three times before shooting a free throw. By firing the anchor, the athlete can immediately enter the desired mental state. By combining the verbal cue with the physical prompt, the accession of the desired state should be even more likely to ensue. NLP practitioners insist this physical anchor triggers a biological memory in addition to the mental image and emotional affect that is desired. While this makes intuitive sense, I can find no research to support this claim, and therefore, this is an area that warrants more study.

Feelazation should serve to enhance the efficacy of the visualization in the areas where it is appropriate. For example, during the mental rehearsal of a gymnastic routine on the beam, emotion is not needed nor desired. However, feelazizing the joy, pride, and self-confidence of scoring a perfect ‘10’ at the climax of the competition can serve as a

powerful motivating force to continue to practice both physically and mentally. Both visualization and feelazation are incorporated into the other mental skills in the WMMSTP to make them more efficacious. Anecdotally, I have found the addition of feelazation to be not only helpful, but also enjoyable for the athlete.

Energy Management

Energy management is the effective usage of personal energy, and it involves learning to recognize, cultivate, and replenish personal energy (Reese, 1998). Energy management includes stress management. In the WMMSTP, stress management makes up the largest proportion of energy management; other components of energy management are task/time management, proper nutrition, and physical training and exercise. Because the participants in this study are student-athletes at a large Division I University who have access to strength coaches, sports nutritionists, and athletic counselors who address task/time management, proper nutrition, and physical training and exercise and because the impact of stress is so vitally important to energy management, the MSTP focused its energy management training on stress management and on the impact of energy and awareness of personal energy. Energy management is not only vitally important in the management of stress but is also necessary for the successful integration of the other essential mental skills (Reese 1998).

Humans are energetic beings. Humans are bioelectrical organisms – that is energetic beings (Gerber, 1955/2001). An interest in martial arts, Eastern meditation practices, and vibrational medicine have given me a greater understanding of the role that energy and energy awareness can play in stress and energy management and in goal setting and effective thinking. In the first chapter of *Vibrational Medicine*, Richard

Gerber, M.D. (1955/2001), describes the necessity of moving away from the Newtonian (behavioral) model of "the [human] body as a grand machine which is controlled by the brain and peripheral nervous system: the ultimate biological computer" (p. 39). He, instead, looks at the body through the eyes of Einstein - that matter is energy. This perspective looks at humans as "complex biological mechanisms which are in dynamic interplay with a series of interpenetrating vital energy fields …" (p. 39). From a constructivist viewpoint, one might assume this is at least a cognitive construct, if not a transpersonal one. But in the areas of electromagnetic imaging skin, muscle, heart, and brain electro-conductivity there are cause and effect relationships that will satisfy any behaviorist. The Association of Energy Psychology has been created to embrace the

> mind/body techniques that are clinically observed to consistently help with a wide range of psychological conditions. These interventions address the human vibrational matrix, which consists of three major interacting systems: (1) Energy pathways (meridians and related acupoints); (2) Energy centers (chakras); (3) Human biofield (systems of energy that envelop the body). (ACEP, n.d., pg. 1)

When one looks at the human being in this light, the Eastern concepts of life force energies – chi or pranna – make sense. In martial arts such as Tai Chi, the practitioner moves the chi (energy) around the body as part of a moving meditation (Chia, 1991; Chopra, 1990, 1994). It is the awareness more so than the ability to move this energy that becomes an important component of the WMMSTP. It is an integral construct of the WMMSTP that this *energy awareness* enhances the efficacy of each of the mental skills. Athletes can employ the felt sense of feelazation to become more energetically aware and to manage their stress levels.

Significance of the term energy management. Semantics again becomes important to the endeavor of enhancing sport performance among athletes. Athletes generally understand the term stress as their reaction to the stressors in life, and experience has shown me that they frequently believe that not being able to handle or manage stress in critical performance situations is a sign of weakness. Coaches, especially of team sports, often view the management of stress the same way and frequently let it be known that if athletes can't handle the stress, there is something wrong with them – as a person. This leads to athletes denying that stress or anxiety levels may be dangerously high, and that can undermine their self-esteem and negatively impact self-efficacy. High levels of stress coupled with low self-esteem almost inevitably leads to poor performance (Jones & Hardy, 1989; Weber & Eker, 2000).

The opposite of stress is relaxation. However, mental skills trainers telling coaches that they want to employ relaxation techniques to counteract the stress responses of members of the team is also fraught with misunderstandings and negative perceptions. Unless coaches have previously worked with sport psychologists or mental skills trainers, they often feel that such a proposal works against the inverted U theory (Yerkes & Dodson, 1908) (described below, p. 47). Most don't understand that when the relaxation response is evoked instead of the stress response, athletes can achieve an acutely focused, alert, aware, and present mental state that is the gateway to flow (Jackson & Csikszentmihalyi, 1999) and peak performance.

WMMSTP responds to the above dilemma by reframing terminology and engaging a positive discussion. Instead, of stress management and relaxation, the term energy management is emphasized. This also serves to promote rapport between the

athletes and their mental skills trainers so that they will report their stress and anxiety levels to the mental skills trainers. In addition, coaches want their athletes to have plenty of energy, so they will tolerate the relaxation that accompanies a guided visualization session when they are confident it will lead to increased energetic output and postponement of fatigue during competition. Athletes are especially comfortable with the term energy management because once they develop energetic awareness they can easily express where their energy level resides on a Likert-like scale of 1-10 (10 being high energy level). Athletes are not derided or at risk for losing self-esteem if they don't manage their energy effectively because this is viewed as a temporary situation and one that can be remedied.

Anxiety and arousal states. Anxiety is the preferred term for stress levels in sport psychology. Both the use of the term anxiety and the assessment measures of it are not employed in the WMMSTP for the reasons set forth below.

Anxiety means worry and presents the same semantic, rapport, and reporting problems as explained above with stress. In the WMMSTP, therefore, athletes are taught that worry is negative goalsetting (Tice, 1992) and that worry is a negative construct (Psychountaki & Zervas, 2000) that will inhibit the acquisition of their goals. In that athletes are empowered with goal setting techniques and the core mental skills of WMMSTP, they are also empowered to change negative goal setting habits such as worry. The reframing of the construct of worry to one of *concern* involves an awareness intervention of self-talk. The mental skill construct of self-talk will be discussed further in the section below on *Effective Thinking* (p. 50).

There have been innumerable studies on anxiety and arousal levels in athletes, both pre-competition and during competition (e.g., Annesi, 1997; *Anxiety in Sports: An international perspective*, 1989; Landers, 1985; Martens, 1977; Martens, Vealey, & Burton, 1990). Self-typing assessments of these attributes are staples of many sport psychology programs and mental skills training programs. The Sport Competition Anxiety Test (SCAT) (Martens, 1977), The State Anxiety Inventory (SAI), and State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch & Lushene, 1970) are some of the more popular assessments employed.

The Inverted U Theory. Study of anxiety and arousal states seems to center around the *Inverted U Theory* developed by Yerkes and Dodson (1908) which suggests that optimal performance accompanies a heightened level of arousal or anxiety, but that if one is under or over aroused or under or over anxious, performance declines rapidly. The efficacy and accuracy of the Inverted U Theory has been challenged as oversimplified by Lacey (1967). In this study, Lacey concluded that the cognitive, behavioral, and physiological responses that are measured are specific to different situations as opposed to uniform across those situations. More recently Hardy and Fazey (1987) referred to the inverted U as the “catastrophe curve” because they say cognitive anxiety and physiological arousal do not always have a symmetrical effect upon performance. Another consideration is that the Inverted U Theory is unidimensional and incapable of measuring the complex relational nature between stress and performance (Jones & Hardy, 1989). Regardless, the simplicity of the inverted U and its resultant focus on the cause of anxiety, the ready availability and long research history of anxiety measures (e.g., SCAT, TAIS, etc.), and the fact that most coaches are somewhat familiar with the models’

premise, cause it to still enjoy wide acceptance by sport psychologists, mental skills trainers, athletes, and especially coaches as the representational model of how anxiety affects performance (e.g., Annesi, 1997; Lawther, 1951; Martens, 1977, 1987; Martens, Vealey, & Burton, 1990; Nideffer, 1992).

While arousal and anxiety levels are considered important in the WMMSTP, trait anxiety assessments are not utilized to help manage stress levels. The reasoning behind this decision is twofold. First, based on the viewpoint that while these self-assessments may attempt to be global, they are snapshots of athletes at a given point in their careers'. For example, an athlete may be shown to have an ideal SCAT score in pre-season, but if that athlete experiences a situation where he or she has a poor performance or chokes, they may well go into a slump, and the information obtained in the assessment is of no further use. Secondly, these anxiety measures seek to generalize a trait that is extremely individualized from athlete to athlete. That is, they fail to take into consideration the role of personality as a mediating variable in performance factors (Jones & Hardy, 1989). Furthermore, as mentioned earlier, the focus of stress management should not be on how much anxiety the athletes experience; instead, interventions for stress and anxiety should be developed to manage the symptoms (Jones & Hardy, 1989).

Time-line visualization. Visualization is often used to control or modulate the desired anxiety state so that the athletes achieve the proper arousal state – for them. When used in this manner, it is referred to in the literature as arousal imagery (Vadocz, Hall, & Moritz, 1997). To capture the individuality of this trait state, at the West Point CEP Zinsser et al. (1995) facilitate athletes in choosing their personal best performances and then, utilizing *time-line visualization* techniques, to revisit those events and to recall their

anxiety and arousal levels present during those events. They then activate that state (anxiety and arousal levels at personal best performances) on cue, much like the feelazation process. In time-line visualization, athletes choose a particular performance in which they performed at a personal best level. When in a relaxed state, they mentally go back in time and visualize that performance. The mental skills trainer guides the athletes through that performance several times, gradually engaging each of the senses and then the emotions. When this is accomplished, the sensations are feelazized, named (cue word), and anchored. The mental skills trainer then verbally guides the athletes to upcoming performances, where they visualize themselves successfully incorporating all the performance skills and emotions that they enjoyed in their prior peak performance experiences with the desired anxiety or readiness level. They then fire their anchors to imprint the future experience firmly in their conscious and subconscious minds (Horton, 1997).

Stress management and coping are accomplished utilizing a variety of techniques that may merge several mental skills. Guided visualizations, progressive muscular relaxations, breath training, appropriate self-talk, and focusing exercises are all employed generally. Specific training is supplied as needed. Also, in the WMMSTP, visualization exercises are integrated with specific goals to create energy management exercises. Feelazation is combined with time-line visualizations individually for each athlete so that they can achieve on command the desired emotive state that will make them the most comfortable in their readiness to perform. In the WMMSTP, therefore, the term energy management encompasses all the constructs mentioned above. Just as with goal setting and visualization, energy management embraces multiple theories involving multiple

constructs. Sometimes these theories and constructs may seem ambiguous or even contradictory, but this latitude is required to individualize the intervention for effectiveness.

Effective Thinking

Effective thinking is the ability to use the mind deliberately (Reese, 1998). The mental construct of effective thinking includes the ability to focus and concentrate on the task at hand (compartmentalize) and to be a problem solver and breakthrough thinker. According to Orlick (1990), the one part of life that individuals have absolute control over is their thoughts. The mental skill of effective thinking includes practicing positive self-talk, the effective execution of thought stoppage, effective affirmation construction and use, and integrating these skills with goal setting, visualization, feelazation, and energy management techniques.

Self-talk. Self-talk is the foundational component of effective thinking. As a broad construct, self-talk is the conversations individuals have with themselves - their thoughts. Self-talk is a powerful mental skill that is often studied in both cognitive and sport psychology. It is frequently utilized as a stand-alone skill and in that capacity has been shown to be more effective in enhancing performance than visualization alone (Oei & Barber, 1989). Self-talk has been positively linked with learning achievement and academic success (e.g., Kamann & Wong, 1993; Manning, While, & Daugherty, 1994) and with stress and anxiety coping strategies (e.g., Girodo & Roehl, 1980; Girodo & Wood, 1979).

Bunker, Williams, and Zinsser (1993) regard self-talk as anytime someone thinks about something. Once again semantics and languaging impacts the definition and theory

of a construct, and therefore, how it is utilized and measured. Hardy, Jones, and Gould (1996) surmise that the Bunker et al. (1993) definition of self-talk focuses more on thought *content* instead of statements made to oneself. Hardy et al. (1996) prefer the Hackfort and Schwenkmezger (1993) definition of a discourse in which "the individual interprets feelings and perceptions, regulates and changes evaluations and convictions, and gives him/herself instructions and reinforcement" (p. 355). "This definition is *functional* and places emphasize on the importance of language, a crucial component of thinking and action (Rubenstein, 1973)" (Hardy et al., p. 306). This fine-tuning assists researchers by removing the vagaries and by making the construct easier to operationalize.

Until recently, research on self-talk in sport has mainly focused on the content – what athletes say to themselves. More specifically, investigations explore the effect that positive and/or negative self-talk has on performance (e.g., Highlen & Bennett, 1983; Mahoney & Avener, 1977; Van Raalte, Brewer, Rivera, & Petipas, 1994). For research purposes, there seems to be two major classifications of self-talk: motivational and instructional (cognitive) self-talk. Most research provides support for the use of positive self-talk to enhance performance (e.g., (Mahoney & Avener, 1977; Van Raalte et al., 1995; Van Raalte et al., 1994). Competitive and practice sports performances have also been shown to be affected positively with positive self-talk and negatively with negative self-talk (Ming, 1993; Ming & Martin, 1996; Van Raalte, et al., 1994).

Rushall, Hall, Roux, Sasseville, and Rushall (1988) go beyond the motivational and cognitive/instructional designations to further classify self-talk into three categories: (1) task specific statements related to technique; (2) mood words (e.g., "blast" or

"smooth") used to describe task characteristics; and (3) positive self-talk used to increase effort and encouragement, counter fatigue, and relieve boredom. Studying 18 elite cross-country skiers, Rushall et al. (1988) found that all three types of self-talk enhanced performance, with the most effective form of self-talk being task-specific.

For athletes, practicing positive self-talk involves the cognitive process of choosing positive language patterns and the metacognitive process of becoming aware of the conversations they have in their minds and with others. Positive self-talk is a form of positive thinking. The usefulness of positive thinking was first popularized by Norman Vincent Peale in 1952 in his book *The Power of Positive Thinking*. Since then the efficacy of positive thinking has been demonstrated in many studies (e.g., Rushall, Hall, Roux, Sasseville, & Rushall, 1988; Rushall & Shewchuk, 1989; Taylor, 1979). In the WMMSTP athletes are taught that positive thinking consists of thoughts and languaging that take them toward their goals. Negative thinking, conversely, takes them away from their goals.

Bunker et al. (1993) list seven areas for which they recommend self-talk:

1. Skill acquisition
2. Changing bad habits
3. Attention control
4. Creating affect or mood
5. Changing affect or mood
6. Controlling effort
7. Building self-efficacy (p. 226)

On the flip side, if positive self-talk can enhance performance, it stands to reason that negative self-talk will mitigate it. Techniques for controlling negative self-talk include: thought stoppage, countering, reframing, identifying, and changing the negative thoughts to positive ones (Bunker et al., 1993). Nate Zinsser, Ph.D., in his role as Director of the West Point CEP, regards athlete awareness of self-talk as foundational for attaining peak performance in his work with cadets at the U. S. Military Academy (N. Zinsser, personal communications, April 1994; May, 2004).

4 W's. Besides the limitation on research by the definition of self-talk, Hardy, Gammage, and Hall (2001) state that a second "serious limitation is that there seems to be a lack of theory-based systematic self-talk research, crucial to the process of science and to our understanding of the construct" (p. 308). As a result they sought to "develop a descriptive foundation for theoretically based self-talk research in sport" (p. 308). The study was qualitative and involved 150 varsity athletes in a variety of team and individual sports. A portion of the study was devoted to the *4 Ws* (i.e. What, When, Where, and Why) of self-talk use. This section of the questionnaire was based on the study conducted by Munroe, Giacobbi, Hall, and Weinberg (2000) where the *4 Ws* were utilized to study visualization use. The following findings (Hardy et al., 2001) are not only important to further define and describe self-talk, but will also be valuable in the facilitation of effective self-talk with athletes.

Where. Two categories involving venues were noted in the *Where* portion of the study: "sports related (e.g. practice environment, dressing room, bench) and non-sports related (e.g. home, quiet place)" (p. 310). As one might guess, the sports related venues were mentioned most.

When. Three general categories were described as *When*:

> … competition, practice, and miscellaneous (e.g., when alone, when using other psychological skills). Both the competition and practice categories were further classified into before, during, and after. Athletes reported using self-talk least often after competition and after practice, while the remaining times, except for before practice, received approximately equal frequencies of reported use. Overall, athletes reported using self-talk most frequently when actually competing and practicing. (p. 310-311)

Where & When. Once Where and When are combined, a more meaningful picture emerges regarding the use of self-talk by athletes. They use self-talk during participation and at sporting locations (e.g., fields, arenas). Widespread use was also reported during practice sessions for both skill development and preparation to compete. The researchers also note the use prior to competition was as much as during competition which reinforces "how crucial the time prior to competing is for performance preparation" (p. 311).

What. The content of the self-talk represents the *What*. As mentioned earlier, this is the most studied component of self-talk. These responses fell into five general categories: nature, structure, person, task instructions, and miscellaneous - all of which bear discussion.

Nature. The nature refers to positive or negative self-talk and also the perspective (internal or external). For this study, positive self-talk is

> … encouragement or talk that one can be successful, while negative self-talk is self-critical or represents an inability to succeed. Consequently, positive self-talk

> was reported much more frequently than was negative self-talk is exemplified by athletes who stated "You're the best passer on the team" and "Good job, do it again." Conversely, negative self-talk is exemplified by participants saying "Stupid mistake" and "Get your lazy ___ in gear." (p. 312)

While, positive self-talk was reported much more frequently than negative self-talk (38 vs. 11), it appears that the negative self-talk not only emerges under highly stressful situations, "it dominates" (p. 312). The authors stop short after this finding, but there is an opportunity for more study in this area. If one accepts the cognitive-behavioral premise expressed in application of many psychotherapeutic modalities (e.g., hypnosis, NLP, parts therapy, cognitive reframing) that under stress one reverts to ones strongest patterns, then even elite athletes operate from a negative mindset when the chips are down. A possible question for further study might be "Is this what makes them elite?" Or, "Are they elite in spite of this seeming contradiction?"

Additionally, Highlen and Bennett (1983) have shown that negative self-talk can also be associated with improved performance, while other research finds no effect between positive and negative self-talk. While the WMMSTP contends that positive self-talk is an important adjunct to athletic success and focuses on that end, I have seen negative self-talk used to create positive ends. For example, sometimes athletes degrade themselves and use that degradation for long-term incentive and/or short-term motivation. When invoked, they usually create anger which, when channeled correctly, serves to sharpen their focus. This requires what I refer to as the "I'll show you" mindset.

I'll show you. Historically, the military counted on recruits and draftees to possesses this mindset. For example, in World War II (WW II) and after, during boot

camp drill instructors (DIs) would initially attack the young soldiers' egos with insults and personal attacks on their manhood and courage. This restrictive motivational model depended on the soldiers having a deep-seeded "I'll show you … that I'm not a (insert insult)" mindset. The anger and rage that was pent-up was channeled into challenging actions such as obstacle courses, forced marches, and other war games. When the DIs felt they had torn down the rookies enough, they would then begin to build them up with massive ego strengthening (Waxman, 1989), and the soldiers were deemed ready to follow orders unquestionably, as they faced up to the rigors of combat (L. Saban, personal communications, 1972-76 [Lou Saban was Head Coach of the Buffalo Bills Football Club, a former DI, and a Korean War veteran]). This approach is apparently extremely efficacious when there is a powerful and unified end-result goal like defeating the Axis nations as in WWII.

This same model was used by sports coaches during the 1950s and 1960s. The most famous proponent was the legendary Vince Lombardi, of whom it was said by his players, "He treated us all the same – like dogs" (J. Ringo, personal communication, 1973). Since most coaches coach like they were coached, this "boot camp" model became the traditional model and is still perpetuated today by many coaches, the most notable being Bill Parcells.

Athletes, who respond to this motivation, also use it on themselves with success. They may insult themselves in order to prove themselves wrong, resulting in anger and rage that is then channeled into intensified focus and both physiologic and psychic energy. Tennis "brat" John McEnroe used this technique with great success. While he is

best known for gaining his focus and energy from his biting sarcasm directed toward tennis officials, he would also berate himself to the same end.

The danger is that this ego challenging motivational technique may be overused. For example, I have seen athletes educated in the use of positive self-talk deride themselves for slipping into negative self-talk. Their focus on the lapse into negative self-talk can overwhelm their ability to concentrate and make shots or plays. This is why it is important to keep it simple. As a mental skills trainer, one must always keep in mind that most competitive athletes are extremists when it comes to their training and routines. Many adhere to the unwritten rule of "If some is good, more is better!" which can, of course, lead to problems like overtraining or over thinking.

Intrinsic and extrinsic. Highlen and Bennett (1983) also report an additional finding that, like visualization, self-talk can be intrinsic or extrinsic, and this also deserves further study.

Structure. Cue words, phrases, and full sentences comprise the structure component. Cue words might be "concentrate," "focus," or "breathe." Phrases, which are the most used, are short and to the point (e.g., "come on," "shoot it," or "hit the crease"). Full sentences, which take the form of affirmations, are utilized the least (e.g., "I am a 50 percent field goal shooter. The more I miss, the more likely the next one is to go in.").

Person. According to the study (Highlen & Bennett, 1983), athletes refer to themselves in the first person (i.e., I, me) or the second person (i.e., you). In other words, some athletes "indicated that they say, 'I can do this,' while others reported saying 'You can do this'. " (p. 312). First and second person were used nearly equally. This research contradicts a study by Gammage, Hardy, and Hall (2001) on self-talk by exercisers.

> Gammage et al. (2001) found that exercisers talked to themselves in the second person more so than in the first person. Gammage et al. suggested that the second person context may give greater authority and importance to what is being said than the first person alternative and, as such, was used more frequently. Why this same argument would not hold true in a sport context is unclear. In addition, it may be the Structure and Person classifications of athlete self-talk are related. Specifically, the use of self-talk in the second person may be related to the abbreviation of the athlete's self-talk. That is, abbreviated self-talk can become a command in the second person. The Person dimension of both athletes' and exercisers' self-talk requires further consideration. (Hardy, et al., p. 312)

I am in agreement that this area requires further consideration but not for the same reason – there is no mention of athletes speaking to themselves in the third person. For example, many of today's sports stars often speak about themselves in the third person (e.g., "Bo knows," "Deion plays for pay"). Furthermore, they don't have to be stars to speak in this manner, as exemplified by NFL cornerback Fred Smoot (2004), "64% of the earth is covered by water and the rest is covered by Smoot." While this practice can be annoying while trying to converse with someone, it also reflects a very strong self-image of the athlete that they want to be. Athletes who consistently use the third person for their athletic alter ego are often easier to work with from a mental skills perspective because they can be more objective and self-critical about "Bo" or "Smoot." Because youth imitate their sports heroes, I can only imagine that this trend will continue, so it definitely warrants more study.

Task instruction. Two groupings were formed to describe the athletes giving themselves instructions about their sport: skill specific instructions and general instructions.

> Skill specific instructions related to particular skills and were mostly concerned with the technique of such skills (e.g., “Tackle low” and “Keep my head up”). General instructions, on the other hand, were concerned with the task in general (e.g., “Get there faster” and “Stay tough throughout the race”). (Gammage, et al, 2001, p. 313)

This category of the *What* contained a large amount of “meaning units” (p. 313) which indicates that task instruction is one of the main uses of self-talk in athletes.

Why. The final W, *Why*, is the function the self-talk is serving. The subcategories of *Why* mirror some of the visualization subgroupings: Cognitive Specific, the cognitive function used for skill development and skill execution; Cognitive General, for performance improvement and strategy; Motivational Mastery, conducted for focus, self-confidence, mental readiness, and coping in difficult situations; Motivational Arousal, employed to regulate arousal levels; and Motivational Drive, utilized to maintain and increase levels of drive, control effort levels, to work on goals, and for general encouragement.

Hardy et al. (2001) conclude that the *Why* is a critically important area because it studies the function of self-talk and not just the content that has been the most studied area. The findings also suggest that athletes use self-talk much the same way, and for the same reasons they use visualization. They agree with the conclusions of Martin, Moritz, and Hall (1999) regarding visualization. That is, to gain the greatest benefit from the

visualization or self-talk intervention, the functions should be matched with the desired outcomes. They also recommend “greater benefits may be realized if the athlete were to use Mastery imagery in combination with Mastery self-talk” (p. 316). Both the functional matching of desired outcomes and the combining of visualization and self-talk are employed in facilitation of the WMMSTP.

Self-talk, self-esteem, and self-efficacy. Self-talk has also been implicated in enhancing or lowering *self-esteem* (Burnett, 1994), which is one’s opinion of oneself. Self-esteem is directly associated with *self-efficacy*, one’s belief in one’s causative power. That is, if self-esteem is enhanced, then self-efficacy is enhanced (Bandura, 1977a, 1977b). Bandura (1977a) also directly links self-talk with self-efficacy. The impact of this confluence of constructs – self-talk, self-esteem, and self-efficacy – is that they are all linked to improved performance (Bandura, 1977a; Miller, 1993; Theodorakis, Chroni, Laparidis, Bebetos, & Douma, 2001). By practicing positive self-talk, improving self-esteem, and enhancing self-efficacy, athletes are able to better manage the stressors in their lives (Brody, Hatfield, & Spalding, 1988; Wittig, Duncan, & Schurr, 1987). Furthermore, Jones, Mace, Bray, MacRae, and Stockbridge (2002) have shown that visualization can reduce performance stress and increases self-efficacy.

Self-talk, then, becomes a primary component of stress management in the WMMSTP. When combined with visualization correctly and consistently, physiologic stress management becomes almost moot because the combination of visualization and self-talk can mediate the stressors presented in a high stress environment to the point that they are immediately transformed from a negative anxiety into positive energetic experience.

Affirmations. One of the most effective ways to create positive self-talk is through the use of properly constructed affirmations (Reese, 2005). Affirmations are stated assertions of fact. Because they are self-talk, they also can be positive or negative.

In constructing effective affirmations, athletes are instructed to include three primary components: personal, positive, and present. Personal means first person, that is it includes *I* or *me*. Positive means toward their goal – the athletes must describe what they want, not what they don't want. "I eat healthy at all times." as opposed to "I don't eat pizza and junk foods." "I am energetic and controlled when competing" versus "I'm not nervous and I don't get rattled …" Present means now – the present verb tense, as in I *am*. This first person, positive statement must be said as if it were already accomplished or achieved presently.

Adding the fourth fundamental component of an effective affirmation – feelazation – now energizes this statement of intent. Athletes feelazize exactly how they will be when their goals are achieved – as broadly and deeply as possible, bringing in all the senses and the desired emotions. Once they feel it, they then name it (cue word or phrase) with their affirmation and then anchor it.

Athletes are then encouraged to create a *story* to accompany their affirmations. The story should contain the positive end-results, all of the accompanying sensory cues and emotions desired, and all of the physical trappings of success that may accompany the achievement of the goal. The example that I utilize most often for teaching how to create the story is Muhhamad Ali and his famous affirmation, "I am the greatest!" For Ali, just saying those words alone did not make him the greatest. He created an entire story to accompany his affirmation. In his vision, he saw that he trained harder than his

opponents. Beyond the immediate joy and glory of winning, he visualized the wealth that he would accumulate, the respect that people would give him, and the impact that he could have on the world – like his heroes Martin Luther King, Jr. and Malcolm X (Gast, 1996). In the WMMSTP, affirmations are utilized to create positive self-talk, to emphasize the end-result in goal setting, and to help create the story that will serve as a constant reminder of the performances the athletes want to achieve.

In a mental skills training intervention like the MSTP where time, or lack thereof, is an issue, the correct affirmation construction, which consists of a two-hour workshop, is sacrificed. Athletes are encouraged to go directly to the story composition of creating the end-result goal. They are then instructed to visualize and feelazize the desired end-result and all of the accompanying positive perquisites and to employ an anchor.

Focus and concentration. Focus and concentration can be improved by effective thinking techniques. Positive self-talk and affirmations can help athletes focus on the task at hand. States of intense focus can be recalled through time-line visualization techniques and anchored by a cue word or phrase and/or a physical anchor. These effective thinking practices can also be integrated with the athletes' rituals and routines to enhance focus and concentration. An example of this in sport comes from the University of Nebraska football team in the late 1970s. As this team prepared to break the huddle, they would say their cue phrase, "One play at a time" in order to remain focused on the task at hand, the performance goal, and to avoid becoming overwhelmed by looking too far ahead and worrying about the remainder of the game (K. Ravizza, personal communication, August, 1991). "One play at a time" has since become a sports cliché.

Thought and energy. The above-cited research provides a foundation for understanding how the integration of the mental skills has a synergistic effect resulting in enhanced performance. The power of this synergistic integration is further demonstrated by examining core concepts of the WMMSTP in goal setting and energy management. In the above section on goal setting, it was reported that individuals move toward and become like what they think (Locke & Latham, 1990; Locke et al., 1981). In the section on energy management, it is said that humans are energetic beings (Chopra, 1990, 1994; Gerber, 1955/2001).

The emergent phenomenon from the integration of these two principles is the energy and power of thoughts to create and bring about changes (Brennan, 1987; Chopra, 1990, 1994; Myss, 1996; Tiller, 1973; Toben, 1975). The roots of this phenomenon are found in the quantum theory in physics (Heinsenberg, 1958; see also Friedman, 1994). Quantum theory and the above cited studies and authorities confirm the three principles (humans are energetic beings; their thoughts have energy; and they move toward and become like what they think) that explain the synergy created by integrating the essential mental skills. The power of thought and the admonition to “treat your thoughts as things” is demonstrated to athletes by having them participate in the *paper clip exercise* (see Appendix B).

Mental Toughness

Mental toughness is a somewhat elusive concept to define, yet, it is a quality that every coach desires in their athletes, every athlete covets, and sports fans everywhere admire. Mention a sports hero or legend, and a common trait will be mental toughness. In over 30 years of observations, conversations, and interviews with elite athletes, it has

become apparent to me that those who enjoy enduring success are mentally tough. Mental toughness takes on special significance because without it peak performance, as defined in this study, is not maintainable. Mental toughness, while inexplicably innate in some, can be effectively learned and practiced by integrating the other core mental skills contained in the WMMSTP. (No claim is made that this is the *only* way to achieve mental toughness.)

The mental skill of mental toughness is not a skill that can be developed independently like goal setting or visualization. It requires an integration of the other core mental skills to occur. These skills are combined as a holistic intervention package (WMMSTP) with the ultimate goal of enhancing performance. The benefits of mental toughness include increased confidence, maintaining control of individual performance, emotion management, and emotional endurance regarding long-term goal acquisition (Reese, 1998). Achieving mental toughness *is* the Winner's Mentality.

Defining mental toughness. In earlier research, I defined mental toughness as possessing the persistence and resilience of a winner (Reese, 1998). Further describing this illusory construct, I noted it included the ability to re-focus and re-concentrate. In addition, mental toughness also includes accepting responsibility and accountability for actions and their results – both successes and failures. Without mental toughness, one cannot fully achieve the Winner's Mentality.

That being said, for every study that includes the construct of mental toughness, there are just as many definitions. So, what is mental toughness? Or, more importantly for this evaluation research, how can I measure mental toughness?

In a rigorous and robust study Jones, Hanton, and Connaughton (2002) arrived at a definition of mental toughness and the 12 constructs that appear unanimous among 10 internationally elite, yet diverse, athletes. Utilizing qualitative methodologies, they employed three stages in the study beginning with a focus group to arrive at a working definition, followed by individual interviews, and concluding with a rating of the definition and a ranking of its attributes.

In Stage 3, the researchers "independently and then collectively" (p. 209) reviewed the definitions supplied by the participants and their accompanying commentary.

> The researchers then arrived at an agreed definition that embraced all of the factors and key elements emerging from the focus group and interviews. The definition and attributes of the ideal mentally tough performer were then distributed to all of the participants who were first asked to rate the extent to which they agreed with the definition on a scale from 1 (*not at all*) to 10 (*totally agree*). The participants then rank ordered the attributes in terms of their importance to the ideal mentally tough performer (with 1 being the most important and 12 being the least important). (p. 209)

It is this definition and the 12 constructs that provide the teaching and evaluation tool for this intervention. Jones et al. (2002) define mental toughness as follows:

> Mental toughness is having the natural or developed psychological edge that enables you to
>
> - Generally, cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer.

- Specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure. (p. 209)

The 12 attributes described that define the descriptives of "self-belief, desire/motivation, dealing with pressure and anxiety, focus (performance-related), focus (lifestyle-related), and pain/hardship factors" (p. 205) are listed below:

1. Having an unshakable self-belief in your ability to achieve your competition goals.
2. Having an unshakable self-belief that you possess unique qualities and abilities that make you better than your opponents.
3. Having an insatiable desire and internalized motives to succeed.
4. Bouncing back from performance set-backs as a result of increased determination to succeed.
5. Thriving on the pressure of competition.
6. Accepting that competition anxiety is inevitable and knowing that you can cope with it.
7. Not being adversely affected by others' good and bad performances.
8. Remaining fully-focused in the face of personal life distractions.
9. Switching a sport focus on and off as required.
10. Remaining fully focused on the task at hand in the face of competition-specific distractions.
11. Pushing back the boundaries of physical and emotional pain, while still maintaining technique and effort under distress (in training and competition).

12. Regaining psychological control following unexpected, uncontrollable events (competition specific). (p. 211)

These 12 attributes of mental toughness have been developed into a survey (Appendix C1, C2) on mental toughness that was administered to the volleyball team and the coaches at mid-season as an awareness tool and at season's end as an evaluation tool.

Research on mental toughness. Beyond the Jones et al. (2002) study, there is a paucity of direct research on the cognitive construct known as mental toughness. As mentioned earlier, this is remarkable considering the popularity of the term. Thomas, Schlinker, and Over (1996) quantitatively examined 12 psychological and psychomotor skills subscales of ten-pin bowlers. The psychological subscales consisted of visualization, negative emotions and cognition, mental toughness, conservative approach, and planning and evaluation. The Ten-Pin Bowling Performance Survey (Thomas et al., 1996) was developed for their research. On this self-assessment scale, there are 95 items

> designed to obtain information on psychological and psychomotor skills in ten-pin bowling and involvement in the sport. … respondents did not rate mental toughness in general, but mental toughness when bowling. The items (e.g., "I am a mentally tough competitor at bowling") were each rated on a 5-point scale ranging from "strongly disagree" to "strongly agree." (p. 259)

The mental toughness subscale "evaluated concentration and coping with pressure during competitive bowling" (p. 260). They showed that skilled bowlers differed significantly from less skilled bowlers in mental toughness. The definition of mental toughness is extremely narrow and at the same time is open for wide interpretation by the subjects. Also, there is no way to determine tense or honesty of the reports. That is, are

the bowlers reporting the way they are now or the way they wish or hope they are in pressure situations in the future?

Gould, Dieffenbach, and Moffett (2002) qualitatively reported on mental toughness as a characteristic possessed by Olympic champions. The “high-order theme [of mental toughness] was comprised of raw data responses such as mentally tough, perseverance, resilient, and persistent. Eight [of ten] athletes, 8 parents/siblings/significant others, and 6 coaches indicated that the athlete was mentally tough” (p. 186). This study was a compelling, in-depth look at how the standard characteristics (anxiety, mental toughness, focus, sport intelligence, competitiveness, hard-work ethic, goal setting, and coachability) and previously unexplored characteristics (optimism, hope, perfectionism) developed in ten U. S. Olympic champions. It serves, however, as only a descriptive glimpse into mental toughness.

In a dissertation, Kaiser (1981) compared the relationship between pain tolerance and mental toughness in Idaho State football players by using the Athletic Motivation Inventory as the measuring tool for mental toughness. He found no correlation.

These studies are representative of the few that are available with mental toughness as a primary research construct. Not only are they all descriptive in nature, they are also limited because they report only the content rather than function of mental toughness.

Developing mental toughness. Gould et al. (2002) report over 634 references to sources of influence for the development of the psychological characteristics (including mental toughness) possessed by Olympic champions. These include community, family, individual development, non-sport personnel, sport environment personnel, and the sport

process. They conclude “psychological development is best thought of as a complex system made up of a variety of factors of influence. It is a long-term process that requires proper nurturing if success is to be achieved” (p. 202). This study has significant implications for youth coaches and family members in their influence on athletes. However, this is a retrospective look at development and has little bearing on mature college athletes and their development of mental toughness.

The mental skill of mental toughness is developed through practice and repetition and in time converts the conscious mental constructs that the athletes have been developing in the WMMSTP into unconscious habits. In this way, they have either changed an unwanted behavior, enhanced an existing positive trait, or created a positive behavior or habit that did not exist previously (Bandura, Ross, & Ross, 1961; Pavlov, 1927; Skinner, 1948; Watson & Raynor, 1920). Like physical skills and the other essential mental skills, with practice and repetition, mental toughness can be encouraged, developed and improved.

Evaluating mental toughness. The enhancement of mental toughness is a focus of this program evaluation. It is thought by the evaluator that by an educational intervention utilizing the MSTP, where the student-athletes of the volleyball team learned to apply and integrate the core mental skills of goal setting, visualization, feelazation, energy management, and effective thinking, those athletes would encourage the enhancement of their mental toughness.

Mental States

Competency in the core mental skills requires three cognitive-behavioral states: *awareness*, *mindfulness*, and *habituation* (Reese, 1998).

- Awareness – Goal setting, visualization, feelazation, and energy management require an increase in cognitive awareness. That means individuals amplify their consciousness to include not only themselves, their environments, their goals, and the resulting benefits, but also the obstacles to be overcome while achieving those goals.
- Mindfulness – Effective thinking demands mindfulness, that is, the ability to manage thoughts by staying aware of those thoughts, and choosing which thoughts will be entertained. Mindfulness is a metacognitive process in which individuals pay close attention, or heed, to their process or responsibilities. It is being acutely aware of one's own thought process (Goleman, 1995).
- Habituation – After individuals become aware and mindful, they are ready to train their brains so that the learned mental skills become habits. Habits are the result of practice and repetition over time. Just like physical skills, by practicing the mental skills, individuals can ingrain within their unconscious automatic behaviors, thoughts, actions, and reactions. Habituation of the other essential mental skills is a necessary component in the development of mental toughness.

Mental Skills Training Packages

The integration of mental skills into training packages or programs is a hallmark of the popular books by the pioneers and most well recognized names in sport

psychology (e.g., Martens, 1987; Nideffer, 1992; Orlick, 1990; Ravizza & Hanson, 1995). Research in sport and motivational psychology suggests, and anecdotal experience and common sense prescribes, that the integration of mental skills is much more effective for overall performance enhancement than utilization of a singular mental skill (e.g., Hanrahan, 1996; Patrick & Hrycaiko, 1998; Rogerson & Hrycaiko, 2002; Straub, 1989; Thelwell & Greenlees, 2001). The use of a multi-component, multi-construct intervention is also consistent with my history of multi-disciplined, multi-faceted, eclectic and successful approach to sports medicine, and now to sport psychology and mental skills training.

Multi-component Interventions Lack Efficacy?

Interestingly, most research to date involving mental skills training packages has not involved competitive athletics (e.g., Hall, Ostrow, Yura, & Etzel, 1996; Hamilton & Fremou, 1985; Lerner, Ostrow, Yura, & Etzel, 1996); and those that have are generally retrospective (e.g., Brewer, Van Raalte, Linder, & Van Raalte, 1991; Mahoney, Gabriel, & Perkins, 1987) and limited by measuring a singular aspect of the overall mental skills intervention (e.g., Noel, 1980; Rushall, Hall, Roux, Sasseville, & Rushall, 1988). For her dissertation, Zella Moore (2003) of La Salle University conducted a comprehensive, yet extremely strict, structured qualitative study of all multi-component sport psychology studies involving actual competitive performers since 1960.

> … in order to be considered for review according to the specific empirically supported treatment criteria, studies were required to be empirical studies on the direct enhancement of competitive athletic performance, utilize clear objective (athletic) performance dependent variables, utilize appropriate methodological

designs (randomized controlled between-group designs and single case-designs with comparison to another intervention), and utilize one (or a combination) of the major intervention techniques as the independent variable: goal setting, imagery, self-talk, and/or arousal regulation. (p. 29)

Eleven studies utilizing multi-component interventions made the cut using the criteria stated above (only ten were reported in the appendix table). Findings include:

- Two (2) single case-designs with comparison to another intervention that demonstrated that a combination of goal setting, imagery, self-talk, and relaxation enhanced competitive performance. (p. 42)
- One comparison evaluating the combined use of self-talk and arousal regulation interventions demonstrated no significant performance enhancing effects beyond that of control conditions. (p. 42)
- One randomized controlled between-group design comparison evaluating a combination of imagery and preparatory arousal demonstrated performance enhancing effects beyond that of control conditions with 10-12 year old boys. (p. 42)
- Among 3 comparisons evaluating a combination of relaxation, imagery, and self-talk, 1 found no significant performance enhancing effects beyond that of the control condition, 1 demonstrated significant performance enhancing effects beyond that of the control condition, and 1 found significant performance enhancing effects beyond that of the control condition. (p. 43)
- Three (3) comparisons utilized a multi-component intervention known as visuo-motor behavior rehearsal (VMBR), which is a specific, manualized

intervention essentially consisting of imagery and arousal regulation in the form of relaxation. … Among these 3 studies, 2 demonstrated marginal statistically significant performance enhancing effects beyond that of the control conditions, and 1 found no significant performance enhancing effects beyond that of the control condition. (p. 43)

- One (1) additional study utilized a combination of imagery and relaxation, which was similar to VMBR but did not utilize the actual VMBR protocol. … This comparison demonstrated no performance enhancing effects beyond that of the control condition. (p. 44)

Moore (2003) categorized the reviewed studies as either *Well-established Interventions*, *Probably Efficacious Interventions*, or *Experimental Interventions*. All of the above multi-component interventions were designated Experimental Interventions because they were found to have one or more of the following: contradictory findings, lack of thorough description of sample characteristics, or the lack of a clear intervention manual. By Moore's strict reductionistic parameters, any intervention found to be *experimental* could not be considered efficacious (Chambless, et al., 1998). Therefore, none of the multi-component interventions are considered empirically efficacious. In fact, according to this inquiry, the same holds true for every goal setting, imagery, self-talk, and arousal regulation studies that were investigated.

Rigorous qualitative study, as this study purports to be, requires that researchers present their biases and list the limitations of their study, neither of which was done for this investigation. This stringent type of reductionistic empirical measurement is appreciable in a behaviorist laboratory, but is impossible when trying to measure athletes

in competitive situations. The competitive arena or field is an unpredictable research environment – not a laboratory where one has control groups and variables they can manipulate as desired. It is precisely this unpredictability of the field that has spurred a renaissance in qualitative investigative measures in sport psychology. Of course, because of the strict reductionistic criteria of reviewing only empirical studies, no qualitative inquiries were included in Moore's study. Therefore, to conclude that there is *no* evidence to support the efficacy of mental skills training in enhancing performance is ignoring an entire body of research – qualitative – one that she chose to utilize as her own reporting method.

Program Evaluation as Methodology

A program evaluation was chosen as my methodology, in part, to address this lack of study of a competitive team during the season. The evaluation is a mixed methods case study and presents both formative and summative information regarding the impact of the MSTP on the student-athletes and the team providing a holistic macro view of the efficacy of the intervention (MSTP). (see Program Evaluation below, p. 76)

The MSTP Intervention

The WMMSTP consists of the six core mental skills discussed above. When used individually, they facilitate transforming potential into performance. When integrated, these core mental skills enable the transformation of performance into peak performance. The Winner's Mentality is a holistic mind-set that allows athletes to focus on end-results, block out distractions, and overcome obstacles in order to enhance performance. The MSTP used with the volleyball team in this study is a condensed version of the

WMMSTP curriculum that is both flexible and appropriate (see *Instructional Design*, p. 82).

Within the context of the WMMSTP and this intervention, the MSTP, athletes can enhance their performance by identifying an area of performance in which they wish to improve and apply one or more of the core mental skills to their training regimes. Contrary to Zinsser et al. (1995) at the West Point CEP, the WMMSTP/MSTP professes that *competency* in these mental skills as opposed to mastery is all that is required for enhancing performance. Additionally, because these core mental skills build upon one another, athletes can achieve peak performance by integrating the application of the core mental skills and can also improve their mental toughness by habituating their practice. Mastery is, however, necessary for achieving enduring success.

Life Skills

The core mental skills of the WMMSTP/MSTP are examined in this program evaluation to examine its impact on the overall performance of individuals on an intercollegiate volleyball team and the team performance as well. Additionally, and perhaps more importantly when taking a macro view, mental skills in general, and the core mental skills of the WMMSTP/MSTP in particular, are not only skills to enhance sports performance, but they are also life skills (e.g., Kamann & Wong, 1993; Manning, While, & Daugherty, 1994; Neck & Manz, 1992; Zinsser, et. al., 1995). Research has also shown that mental skills may positively impact the academic careers of the student-athletes (e.g., Danish, Petipas, & Hale, 1995; Hodge, 1994). The use of mental skills as life skills was also examined as a secondary foci of this evaluation.

Program Evaluation

Program evaluation is its own field complete with professional organizations like the American Evaluation Association and the Australasian Evaluation Society (AEA, n.d.; AES-ASN, n.d.), and peer reviewed journals like the American Journal of Evaluation and the Canadian Journal of Evaluation (AJE, n.d.; CJE, n.d.). There is also a Joint Committee on Standards for Educational Evaluation (JCSEE) in which different disciplines with different purposes have joined together to create some order and consistency within this transdisciplinary field.

Program. What is program evaluation? *Program*, in this context, is defined as a "plan of events; a course or series of lectures or studies" (Urdang, 1996, p. 460), or "curriculum or syllabus for a course of study" (Webster's New Dictionary and Thesaurus, 1990, p. 433). The JCSEE (1994), which is the recognized authority in the field of evaluation, defines a *program* as "activities that are provided on a continuing basis" (p. 3). There is little, if any, disagreement when it comes to what a program is.

Evaluation. Typical dictionary definitions of *evaluation* are short and to the point: "to fix the value of" (Webster's New Dictionary and Thesaurus, 1990, p. 199) or "assess; appraise" (Urdang, 1996, p. 195). The JCSEE (1994) is slightly more specific when it says that evaluation "is the systematic investigation of the worth or merit of an object" (p. 3). Regardless of the standing of the JCSEE, however, there is no one agreed-upon definition among professional evaluators. One reason for this is the wide variety of areas in which evaluation is prescribed and used. Early in the development of the field Michael Scriven (1967) described evaluation as "judging the worth or merit of something" (Scriven in Fitzpatrick, Sanders, & Worthen, 2004, p. 5). Fitzpatrick, Sanders, and

Worthen (2004) in their textbook *Program Evaluation* say evaluation is "the identification, clarification, and application of defensible criteria to determine an evaluation object's value (worth or merit) in relation to those criteria" (p. 5). Schwandt (2001) describes evaluation as forming a middle ground "between overreliance on and overapplication of method, general principles, and rules to making sense of ordinary life on one hand, and advocating trust in personal inspiration and sheer intuition on the other" (p. 86). Mark, Henry, and Julnes (1999) refer to this viewpoint as a form of assisted sensemaking. Regarding an educational intervention like this study, Cronbach (1975) invokes a more expansive definition by classifying evaluation as "the collection and use of information to make decisions about an educational program" (p. 244). For this program evaluation I have *systematically* collected information in order to *determine the worth* or value of the educational program (MSTP) and to *make decisions* about its application and curriculum effectiveness.

Purpose of Evaluation

Along with disparity in definitions, there are also differences of opinions regarding the purpose of evaluation. Mark, Henry, and Julnes (1999) have articulated four different purposes for evaluation:

1. Assessment of merit and worth
2. Oversight and compliance
3. Program and organizational improvement
4. Knowledge development

Rallis and Rossman (2000) contend the fundamental purpose of evaluation is learning. Fitzpatrick et al. (2004) agree that knowledge can be "a useful outcome or

corollary to evaluation," but emphasize "that [learning] is not the primary purpose [of evaluation]" (p. 11). Scriven (1967) says, "we may say that evaluation attempts to answer certain types of *questions* about certain *entities*. The entities are the various … instruments (processes, personnel, procedures, programs, etc.)" (p. 40). In regard to evaluation specifically in education, Hawkes (n.d.) notes that evaluation can achieve several valuable objectives in the development of instruction, including goal refinement, documentation, determination of impact, and program improvement.

In keeping with my evaluation questions – my purpose – within the methodology of program evaluation I intend to *determine the impact* of the intervention on performance of individuals and the team, consider *means of improving* the program (MSTP), and in the process ascertain the *worth* or *value* of the program to the stakeholders.

Semantics

Often the terms evaluation, assessment, and measurement are used synonymously. This can become confusing in the context of program evaluation. Choppin (1985) endeavors to "maintain the semantic distinctions" by distinguishing the "ultimate objective" (p. 1747) of each term.

Measurement implies a numerical assignment of value, using instruments such as rulers, stopwatches, etc. "Measurement is rarely carried out for its own sake. It may be included in an assessment or evaluation, but is more to be regarded as a basic research procedure." Choppin argues that the term assessment should be reserved for application to people, including grading, certifying, etc. Assessment may often utilize a test for measurement, but it rarely has "much in common with scientific measurement." The term

evaluation Choppin reserves for application to "abstract entities such as programs, curricula, and organizational variables" (p. 1748). Evaluation implies determining value and worth, and often involves making comparisons to other programs, curricula, or organizational schemes (Ogle, p. 1).

Research versus evaluation. As noted in the Introduction, while evaluation is a form of research, there are also some differences between research and evaluation. The primary difference previously discussed lies within the purpose of the two: the purpose of research is to add to the body of knowledge of a particular subject; the purpose of evaluation is to help those who hold a stake in what is being evaluated. That is, "research seeks *conclusions*; evaluation leads to *judgments*" (Fitzpatrick, et al., 2004, p. 6).

Another area of difference noted earlier was the preparation of the evaluator versus that of the researcher. The evaluator needs an interdisciplinary educational background to conduct an effective evaluation, while the researcher is trained in-depth in a single discipline in order to add to the knowledge of that field (Fitzpatrick, et al., 2004). Scriven (1991b) points out that evaluation "is not a traditional discipline but a transdiscipline that necessarily cuts across disciplines, and evaluators must avoid the luxury of remaining within any single discipline-based inquiry paradigm" (p. 64).

More dissimilarities are found in their differing abilities to *generalize* (Fitzpatrick et al., 2004; Worthen & Sanders, 1987) and in their differing relationships to *decision-making* (Hanson, 1978). That is, "the information produced by research is not necessarily used to make decisions" (p. 98), whereas evaluation implies making a decision of some sort.

> Good evaluation, like good science, utilizes measurement and observations that are accurate, reliable, and valid, gathers evidence systematically, and analyzes results objectively. When it comes to purposes, however, science seeks to discover regularities, generalizations, and laws, to test hypotheses, or to account for and explain the reasons or causes for what happens. Evaluation is more clearly pragmatic and, most important, explicitly seeks to produce judgments of value, worth, or merit whereas science shuns such judgments. Perhaps in an effort to connect evaluation and science, the term *evaluation research* has come into prominence. (Pace & Friedlander, 1978, p. 9)

Considering this, "the goal of evaluative research is to provide you with the particular information you need to make the best decisions" (Oetting & Cole, 1978, p. 37). Much like qualitative inquiry, it is more interested in transferability than generalizability (Fitzpatrick, et al., 2004). For example, programs that have been evaluated may be transferred to other settings in other times – and they may require adjustments and modifications. This is in keeping with the flexibility and fluidity of mental skills training in general and the WMMSTP/MSTP in particular. Further, while the MSTP itself may not be replicable by other mental skills trainers operating in differing settings, by exposing my methods of evaluation for everyone to see, they can easily transfer components to fit the needs of the clients or consumers they service.

Standards. Criteria or *standards* used to judge adequacy is yet another area of differentiation. In research, validity is measured as internal, or causality, and external, or generalizability, which has been discussed. These criteria are neither sufficient nor appropriate for judging the quality of an evaluation. The JCSEE (1994) has determined

four important attributes about which its standards are grouped. This enables both evaluators and consumers to understand what evaluators do:

1. *Utility* – the extent to which the results serve practical information needs of intended users. Evaluations will be informative, timely, and influential. Standards in this category include: Stakeholder Identification, Evaluator Credibility, Information and Scope Selection, Values Identification, Report Clarity, Report Timeliness and Dissemination, and Evaluation Impact.
2. *Feasibility* – the extent to which the evaluation is realistic, prudent, diplomatic, and frugal. Feasibility recognizes that evaluations occur in natural as opposed to laboratory settings. Standards include: Practical Procedures, Political Viability, and Cost Effectiveness.
3. *Propriety* – the extent to which the evaluation is done legally and ethically, protecting the rights of those involved. Standards are: Service Orientation, Formal Agreements, Rights of Human Subjects, Human Interactions, Complete and Fair Assessment, Disclosure of Findings, Conflict of Interest, and Fiscal Responsibility.
4. *Accuracy* – the extent to which the information obtained is an accurate reflection with reality and conveys accurate information about the program's merit and/or worth. Standards include: Program Documentation, Context Analysis, Described Purposes and Procedures, Defensible Information Sources, Valid Information, Reliable Information, Systematic Information, Analysis of Quantitative Information, Analysis of Qualitative Information, Justified Conclusions, Impartial Reporting, and Metaevaluation. (pp. 5-6)

With the exception of Metaevaluation, which has no application in this intervention, these standards have all been met or addressed in some manner within this study.

Instructional Design

At this point it becomes incumbent to discuss the roll of the instructional design (ID) in this program evaluation. While ID requires evaluation to be effective, in this case study, the ID is a critical component of the evaluation.

Shambaugh and Magliaro (1997) define instructional design (ID) as "an intellectual process which systematically analyzes the needs of learners and provides features to assist designers construct structured possibilities to responsively address those needs" (p. 24). With this definition in mind, a *process approach* was taken in the instructional design utilized for this educational intervention of the MSTP. The process approach for this ID takes a general systems view (e.g., Dijkstra, 1997; Shambaugh, 1999) that is initially behavioristic (e.g., Gagné, 1965; Gagné, Briggs, & Wagner, 1992; Merrill, Li, & Jones, 1991). This behavioristic systems approach and the incorporation of other behaviorist principles like reinforcement, repetition, and contiguity (Burton, Moore, & Magliaro, 1996) has resulted in a foundation that serves as the underpinnings not only of this ID, but of most ID models in use today.

The process approach is not limited to behavioristic systems; it is holistic (Bertalanffy, 1968) and incorporates the eclecticism mentioned above by integrating the behavioristic systems with cognitive, and constructivist approaches. In context, both cognitivism and behaviorism possess an objective view of what it means to know something. Just as cognitivism builds off behaviorism in the psychological forces, the same occurs in ID. That is, the efficient and effective transfer of knowledge to learners

remains the goal of instruction and the cognitive addition enhances the behavioral underpinnings (Bednar, Cunningham, Duffy, & Perry, 1995). The context for constructivism in learning is important mainly in the advanced knowledge acquisition stage of learning (Jonassen, Mayes, & McAleese, n.d.).

Eclectic approach. It should be noted that cognitive theory is the current dominate theory in ID. As such, it embraces many of the instructional strategies promulgated by the behaviorists, so, in essence, most ID is a cognitive-behavioral enterprise. Mergel (1998) notes:

> Behaviorism and cognitivism both support the practice of analyzing a task and breaking it down into manageable chunks, establishing objectives, and measuring performance based on those objectives. Constructivism, on the other hand, promotes a more open-ended learning experience where the methods and results of learning are not easily measured and may not be the same for each learner. (p. 20)

Reality: Training versus education. Both program evaluation and ID are not only eclectic endeavors, they are by necessity pragmatic enterprises. That is, you use what works. Therefore, despite my affection for an overall constructivist viewpoint, I recognize that the MSTP educational intervention is mostly a cognitive-behavioral enterprise. After all, the “T” in MSTP stands for *training* and training is essentially a behavioral process. Several techniques utilized for recognizing self-talk and for concentration employ stimulus-response mechanisms and contiguity of feedback and/or reinforcement. The “M” refers to the *mental* component which is, of course, cognitive and comprises most of the education portion of the program intervention. Advanced tasks

required a higher level of mental processing, organization, reasoning, and advanced problem solving. Recall also the section on *Mental States* (p. 70) that the progression in learning, applying, and integrating the core mental skills involves the cognitive states of awareness and mindfulness and then concludes with behavioral habituation of the skills that have been learned.

What is constructivist in the MSTP is the facilitative nature of instruction employed including Socratic questioning (Paul & Elder, 2002), cognitive apprenticeships, and social negotiation that all encourage metacognition. There was also some high levels of processing employed by a few of the student-athletes as they recognized and took advantage of situated learning opportunities, monitored their own cognitive strategies, and practiced reflexivity in the journaling exercises.

Comparable Curricula/Coursework

Comparable curricula/coursework is found in popular literature on sport psychology (e.g., Cox, 2002; Cratty, 1984; Jackson & Csikszentmihalyi, 1999; Loehr, 1994; Murphy, 1995) and similar popular texts generally referred to as self-help programs (e.g., Covey, 1989; Peale, 1952/1983; Robbins, 1992; Rotella, 1995). One educational intervention course that is utilized in corporate training world-wide (Tice, 1992) and one that is employed in higher education (Tice & Pace, 1993/1998) were also appraised as models because they employ a *facilitator* as opposed to a trainer or instructor. (The MST was a Master Facilitator of The Pacific Institute's curricula designed by Tice and Pace and performed in this capacity for many corporate and educational clients from 1998-2002.) Several unpublished sport psychology performance enhancement programs (mental skills training packages) that are utilized wholly or in part

at various colleges and universities were also reviewed and found to possess similar areas of content. Such sources included the U.S. Military Academy, University of Arizona, Purdue University, University of Virginia, University of Denver, and Springfield College.

Supporting Literature

Sport psychology popular literature abounds with books (e.g., Martens, 1987; Murphy, 1995; Nideffer, 1992; Orlick, 1990; Ravizza, 1995; Rotella, 1995) and scientific studies (e.g., Brody, Hatfield, & Spalding, 1988; Fenker & Lambiotte, 1987; Lerner, Ostrow, Yura, & Etzel, 1996; Ming, 1993; Patrick & Hrycaiko, 1998) on the application of mental skills for enhancing sports performance through mental skills training packages. Bookstores such as Barnes & Nobel have shelf after shelf filled with books on success, motivation, goalsetting, and managing stress (e.g., McDonald & Hutchenson, 1997; Peale, 1952/1983; Peck, 1978; Robbins, 1991) and books on the mind-body connection, vibrational medicine, and the energetic component of healing (e.g., Brennan, 1987; Gendlin, 1981; Gerber, 1955; Myss, 1996). The MST as author of the curriculum has reviewed this popular and scientific literature extensively since 1991in an effort to bridge the gap between human performance enhancement and the many psychology disciplines. This goal was realized with the development of the WMMSTP.

The current course, WMMSTP, is the evolution of *Motivation for the Millennium – A Certification Course in Mental Skills Training*, the author's unpublished Masters Project (Reese, 1998), and *Develop the Winner's Mentality: 5 Essential Mental Skills for Enduring Success*, the author's book (Reese, 2005). Both the scientific and popular literature researched for these two manuscripts is included in the reference section and comprises the citations upon which the core course content is based.

Interviews

Since 1998, the author has conducted informal and formal interviews regarding the need and the appropriateness of a course like the WMMSTP with leaders and practitioners in the field of applied sport psychology; sports coaches in high school, amateur, college, and professional athletes; and athletes at all levels of competition. The feedback has been mostly positive. Negative feedback was viewed constructively and adjustments to curriculum and delivery were incorporated rapidly if corroborated or if the source was an eminent practitioner. While this evidence is anecdotal, it is nonetheless compelling enough to be mentioned as impacting the current intervention.

Instructional Design Model

After a review of several instructional design (ID) models that included the Dick and Cary (1996) Model, the Gagné and Briggs Systems Model (Gagné, Briggs, & Wagner, 1992), the U. S. Air Force (1975) Model, the Kemp Model (Kemp, Morrison, & Ross, 1994), the Gerlach and Ely (1980) Model, the Layers of Necessity Model (Wedman & Tessmer, 1990), and the Rapid Prototyping Model (Tripp & Bichelmeyer, 1990), I chose to adapt the Gerlach and Ely Model (1980) for this atypical educational intervention because it seemed the best fit (Fig 2.1, p. 107). This model is recommended for “a novice designer, but who possesses content expertise and can specify objectives, or specific outcomes of instruction (Gerlach & Ely, 1980). This systematic model prompts teachers to specify entering behaviors or to what extent students achieve these objectives” (Shambaugh & Magliaro, 1997, p. 37). Also, I selected this model because it is described as practical and is micro-focused which I determined was needed for this particular instructional intervention.

> Designing with this model includes determining an instructional strategy, accomplishing the objectives, organizing students into groups, determining how much time and space to allocate to activities, and selecting instructional materials. The model further specifies design tasks to evaluate performance, both teacher and student, as well as analysis of feedback on whether or not objectives were met. … This model also integrates instructional media into the design process (Shambaugh & Magliaro, 1997, p. 38).

Gerlach and Ely (1980) explain at length that theirs is a systematic approach as opposed to a systems approach to ID. They do, however, recognize that this ID and curriculum is a comprehensive system in which "all elements are related to each other; all elements contribute to a common goal. A change in one element may cause a change in other elements or in the system itself. A change in one element may even result in a change in a goal, or objective." (p. 8)

As expressed earlier, this concept of reacting to change is critically important due to the necessity of a flexible curriculum for this intervention. I also appreciate this models' practicality and overall fluidity between its ten elements: (1) *Specification of Objectives*; (2) *Specification of Content*; (3) *Assessment of Entering Behaviors*; (4) *Determination of Strategy*; (5) *Organization of Groups*; (6) *Allocation of Time*; (7) *Allocation of Space*; (8) *Selection of Resources*; (9) *Evaluation of Performance*; and the (10) *Analysis of Feedback*.

Model Modification. The Air Force Model with its clearly defined steps and its ongoing feedback for continuous revision, and the Layers of Necessity Model with its "what *can* be done in the situation, not what *ought* to be done" (Wedman & Tessmer,

1990, p. 81 – *emphasis added*) both contain useful design components for this project. The ongoing feedback for continuous revision was seen as a necessity in order to maintain a flexible intervention that was constantly addressing the immediate needs of the student-athletes and coaches. In modular form, this diagram was accomplished by the addition of a hashed arrow pointing in both directions from the *Analysis of Feedback* box to the large subdivided box containing *Determination of Strategy, Organization of Groups, Allocation of Time, Allocation of Space*, and *Selection of Resources* (Fig. 2.2, p. 107). Gerlach and Ely say that "this phase in the cycle [*Analysis of Feedback*] may occur at any time" (p. 38), but I felt it was visually more descriptive with the addition of the arrow. It also lends itself better to the formative and summative nature of not only the ID, but also the program evaluation as well. The addition of this arrow gives the model the flexibility that is required for this specific instructional intervention. The pragmatism afforded by Layers of Necessity Model regarding "do what *can* be done as opposed to what *ought* to be done" was not diagrammatically added, but the practicality of the statement was not forgotten throughout the intervention.

Instructional Design Model

The components of the ID are segregated into topics described by Shambaugh and Magliario (1997) as requisite ingredients of an effective ID. These include, but are not limited to the Project Mission and Intent Statement, the Needs Assessment (see Ch. III Methods, p. 112), Instructional Sequence, Instructional Framework, Instructional Media Plan, and the Assessment Plan. They also call for a Program Evaluation as part of the ID. In this study, as mentioned earlier, the program evaluation includes the ID. The ID

utilized for this educational intervention is included as an appendix for those who might wish to replicate all or part of this educational intervention. (see Appendix D1)

Incorporating ID Into Program Evaluation

Beyond the differences in research and evaluation, more potential semantic difficulties arise in the often synonymous use of the terms “type,” “design,” “model,” “approach,” and “tool.” In evaluation they are distinctly different but are often used interchangeably, even by evaluators. This lack of agreed upon language in education evaluation is highlighted by Worthen and Sanders (1987) when they say “The semantic undergrowth in the field of evaluation could hardly be termed univocal; some clearing of redundant verbiage is clearly called for” (p. 145). Gwendolyn Ogle (2002), has categorized and defined these evaluation components as follows:

- Evaluation *types* are phases of evaluation; the type selected depends on the purpose of the evaluation (Braden, 1992).
- Evaluation *designs* provide the method by which the evaluation will be conducted.
- Evaluation *models* provide a graphical or textual overview of the steps involved in the evaluation.
- Evaluation *approaches* are neither models nor designs; approaches are overarching theoretical frameworks that give the evaluator some foundations on which to plan and implement the evaluation.
- Evaluation *tools* are instruments that aid in planning or implementation of an evaluation without serious time investments in research and without serious potential for errors or reinventing the wheel. (p. 11)

Evaluation Types

Stevens, Lawrenz, and Sharp (1997) and others (e.g., Braden, 1992; Fitzpatrick, et al., 2004) list three basic types of evaluation: planning, formative, and summative. Fitzpatrick et al. (2004) add formal and informal evaluation as well as internal and external evaluation. Of these, the two evaluation types of concern to this case study are formative and summative evaluation.

Formative versus summative. Regarding formative versus summative evaluation, an understanding of one assists with an understanding of the other. Fitzpatrick et al. (2004) say that "an evaluation is considered formative if the primary purpose is to provide information for program improvement" (p. 16). "In contrast," they go on to say, "summative evaluations are concerned with providing information to serve decisions or assist making judgments about program adoption, continuation, or expansion" (p. 17). A more colloquial description comes from Michael Scriven (1991a) citing Robert Stake describing the difference between the two as "When the cook tastes the soup, that's formative evaluation; when the guest tastes it, that's summative evaluation" (p. 19).

Formative evaluation. Formative evaluation is part of the *process* of the ID (Tessmer, 1993) and "is recognized as an important step for program improvement and acceptance" (Ogle, 2002, p. ii). "The term formative evaluation was introduced in 1967 by Michael Scriven and originally referred to 'outcome evaluation of an intermediate stage in the development of the teaching instrument' (p. 51)" (in Flagg, 1990, p. 5). Scriven (1973) later recognized the evolution of the role of formative evaluation as it serves to improve the product by having evaluation feedback stay within the development loop. Fitzpatrick et al. (2004) say that the primary purpose of formative evaluation is "to

provide information for program improvement" (p. 16). Tessmer (1993) now defines formative evaluation as "a judgment of the strengths and weaknesses of instruction in its developing stages, for purposes of revising the instruction to improve its effectiveness and appeal" (p. 11). He goes on to observe that a very important reason to include formative evaluation is that "by involving instructors, administrators, or learners in the evaluation process they obtain ownership in the product, and with their ownership comes a greater chance for their acceptance and use of the final product" (p. 20). Improvement of the program and ownership leading to acceptance and usage of the core mental skills were certainly primary goals of this intervention.

Formative evaluation in ID. As a component of ID, Dick, Carey, and Carey (2001) remark, "The formative evaluation component distinguishes the instructional design process from a philosophical or theoretical approach. Rather than speculating about the instructional effectiveness of your materials, you will be testing them with learners" (p. 302). Instructional designers are also intimately familiar with the content and design of the curriculum and therefore should best be able to improve the program by translating comments and suggestions into program and/or curriculum improvements. During the same process, learners can identify confusing questions and/or tasks and can also point out problems that may have been overlooked by the evaluator on surveys or assessments. This is exactly the component that is necessary for a flexible and fluid program. Ogle (2002) observes, however, that, "the most difficult problem facing formative evaluators is how to translate comments and suggestions into appropriate solutions" (p. 12). This is a constant challenge for curriculum presentation in mental skills interventions like the MSTP because of the multitude of external factors affecting

performance that inundate a team during a competitive season and the adjustments that must be made almost instantaneously. While in most ID models the stage of formative evaluation is placed after instructional development, Braden (1992) suggests that formative evaluation be placed within every part of the ID process. The modified Gerlach and Ely model adapted for the ID of this intervention (Fig. 2.2, p. 107) also serves as the model for the program evaluation. The *Evaluation of Performance* stage at the linear end of the model can be both formative and summative, depending on where you are in the process. That is, formative evaluation was applied during the volleyball season and then became summative after the season concluded.

During the season, the MST was continually evaluated on education session delivery and if the objectives of the sessions were met. Learners (student-athletes) were continuously evaluated on knowledge, use, and desired use of not only core mental skills, but individual components of each skill. In most instances positive changes were implemented promptly. From a formative evaluation perspective in the Gerlach and Ely model, the addition of the arrow from the *Analysis of Feedback* stage also allows for formative evaluation along the entire spectrum of *Determination of Strategy, Organization of Groups, Allocation of Space, Allocation of Time*, through the *Selection of Resources*, thereby fulfilling Braden's (1992) recommendation of formative evaluation within every part of the ID process. The only area that is not a direct recipient of ongoing formative evaluation is the *Assessment of Entering Behaviors* stage which logically would only change the next season when a new intervention and subsequent evaluation begins.

Phases of formative evaluation. There are several phases to formative evaluation. Flagg (1990) introduced four phases of formative evaluation that are complimentary to phases of program development (Table 2.1, p. 108) and refers to these as needs assessment, pre-production formative evaluation, production formative evaluation (also known as *progress evaluation* [Stevens, et al., 1997]), and implementation formative evaluation. Some evaluators consider the needs assessment as part of the planning evaluation as opposed to formative evaluation. Since there was no formal planning evaluation performed, the needs assessment for this intervention is considered formative evaluation. Pre-production evaluation collects information that guides decisions during the design phase. Production/progress evaluation is performed to determine if the project is meeting its goals. Implementation evaluations (also called *field testing*) are conducted to determine if the project is proceeding as planned. At the conclusion of the formative evaluation comes a summative evaluation.

Course improvement. Cronbach (1975) writes that "When [formative] evaluation is carried out in the service of course improvement, the chief aim is to ascertain what effects the course has – that is, what changes it produces in pupils" (p. 246). Evaluation is essential because it helps determine how the program produces its effects and what parameters influence its effectiveness. Furthermore, he states, "The greatest service evaluation can perform is to identify aspects of the course where revision is desirable" and also that "evaluation, used to improve the course while it is still fluid, contributes more to improvement of education than evaluation used to appraise a product already placed on the market …" (p. 247). Cronbach feels a mistake is made by lumping information into a single score because it masks failures and successes (Ogle, 2002).

Summative evaluation. The audiences for formative and summative evaluation are very different. Formative evaluation appeals to those delivering the program, or those close to it. Summative evaluation audiences include funding sources, supervisors or other officials, and in the case of this evaluation, the consumers and potential consumers (Fitzpatrick, et al., 2004). Fitzpatrick et al. (2004) write that, "In contrast to formative evaluations, which focus on program improvement, *summative* evaluations are concerned with providing information to serve decisions or assist in making judgments about program adoption, continuation, or expansion" (p. 17). The common goals of summative evaluation are to determine effectiveness, costs versus benefits, and decision-making (Braden, 1992). Some purposes of summative evaluation (Stevens et al., 1997) are:

- To determine overall project success.
- To determine whether or not specific goals and objectives were achieved.
- To determine if and how participants benefited from the program.
- To determine which components were most (or least) effective.
- To determine any unanticipated outcomes.
- To determine cost vs. benefits.
- To communicate evaluation findings to stakeholders.

In addition, Valdez (2000) identified three types of summative questions that should be addressed for any intervention: intervention efficacy, intervention effectiveness, and intervention costs.

The formative and summative components for this evaluation can best be seen in the evaluation research questions asked. Below my primary and secondary evaluation research questions are re-listed with a formative and/or summative notation. Timing is

the differentiator for those questions that are both formative (during the season) and summative (post season) in nature.

Primary Evaluation Research Questions:

1. Was individual and/or team performance enhanced during the season? (Summative)
2. In what ways did the intervention of the MSTP impact individual and team performance? (Formative & Summative)
3. In what ways did the intervention of the MSTP impact team communication and team chemistry? (Formative & Summative)
4. In what ways did the intervention of the MSTP impact individual and team mental toughness? (Formative & Summative)
5. How did the coaches and student-athletes view the investment of time and effort (value/worth)? (Summative)

Secondary Evaluation Research Questions:

1. In what ways can the MSTP be modified or improved to better service stakeholders at the collegiate level? (Formative)
2. For those student-athletes who enhanced individual performance, which mental skills were utilized or integrated to achieve this improvement? (Formative & Summative)
3. For those student-athletes who enhanced individual mental toughness, which mental skills were utilized or integrated to achieve this improvement? (Formative & Summative)

4. Which mental skills were student-athletes able to transfer to other areas of their lives beyond volleyball (i.e., academics, relationships, etc.)? (Summative)
5. To what extent have athletic department administrators and other team coaches become interested in incorporating mental skills training as an educational intervention with their teams? (Summative)

Evaluation Approaches

House (1980) groups evaluation approaches into two main categories: objectivism and subjectivism. Fitzpatrick et al. (2004) observe that objectivism in program evaluation requires information be "scientifically objective"; that is, "that it use data-collection and analysis techniques that yield results reproducible and verifiable by other reasonable and competent persons using the same techniques" (p. 60). This also requires an empirical approach external to the evaluator. Subjectivism bases its validity on "an appeal to experience rather than to scientific method. Knowledge is conceived as being largely tacit rather than explicit" (House, 1980, p. 252). Fitzpatrick et al. (2004) remark,

> the validity of the subjectivist evaluation depends on the relevance of the evaluator's background and qualifications and the keenness of his perceptions. In this sense, the evaluation procedures are "internalized." existing largely within the evaluator in ways that are not explicitly understood by others. (pp. 60-61)

As discussed earlier, my approach is mainly subjectivist. There are, however, some statistical areas of the evaluation such as won-loss records and service errors that fall into an objective category and have impact on the interpretation of the effectiveness of the evaluation.

Fitzpatrick et al. (2004, p. 68) classify five schema for evaluation approaches. They include:

1. *Objectives-oriented approaches* – in which the focus is on specifying goals and objectives and determining the extent to which they have been attained.
2. *Management-oriented approaches* – in which the central concern is on identifying and meeting the informational needs of managerial decision makers.
3. *Consumer-oriented approaches* – in which the central issue is developing evaluative information on "products," broadly defined, and accountability, for use by consumers in choosing among competing products, services, and the like.
4. *Expertise-oriented approaches* – which depend primarily on the direct application of professional expertise to judge the quality of whatever endeavor is evaluated.
5. *Participant-oriented approaches* – in which involvement of participants (stake-holders in that which is evaluated) are central in determining the values, criteria, needs, data, and conclusions for the evaluation.

As an approach, this program evaluation falls under the category of Participant-Oriented Evaluation Approach described above. In this approach,

> The evaluator portrays the different values and needs of individuals and groups served by the program, weighing and balancing this plurality of judgments and criteria in a largely intuitive fashion. (By intuitive, we do not mean that the evaluator cannot approach this task in a systematic manner but rather that there is

> no algorithm she can follow in doing so; her intuition about what weight to put on each criterion will determine how the judgment is shaped.) What is judged "best" depends heavily on the values and perspectives of whichever groups or individuals are judging. (Fitzpatrick et al., 2004, p. 131)

Fitzpatrick et al. go on to note that Participant-Oriented Evaluation approaches allow for advocacy and a more holistic approach than other models. Evaluations that use this approach generally include the following characteristics:

1. *They depend on inductive reasoning*. Understanding an issue or even or process comes from grassroots observation and discovery. Understanding emerges; it is not the end product of some preordinate inquiry plan projected before the evaluation is conducted.
2. *They use a multiplicity of data*. Understanding comes from the assimilation of data from a number of sources. Subjective and objective, qualitative and quantitative representations of the phenomena being evaluated are used.
3. *They do not follow a standard plan*. The evaluation process evolves as participants gain experience in the activity. Often the important outcome of the evaluation is a rich understanding of one specific entity with all of its idiosyncratic contextual influences, process variations, and life histories. It is important in and of itself for what it tells about the phenomena that occurred.
4. *They record multiple rather than single realities*. People see things and interpret them in different ways. No one knows everything that happens in a school or in any but the tiniest program. And no one perspective is accepted as *the* truth. Because only an individual can truly know what she has

> experienced, all perspectives are accepted as correct, and a central task of the evaluator is to capture these realities and portray them without sacrificing the program's complexity. (pp. 133-134)

Case Study

House (1980) created a taxonomy for the major evaluation approaches that is still well accepted and utilized today. The major approaches to evaluation are: Systems analysis, Behavioral objectives, Decision-making, Goal-free, Art criticism, Professional review, Quasi-legal, and Case study. The approach utilized in this program evaluation is case study.

Yin (2003) states that, "the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events" (p. 2). It represents a comprehensive research strategy covering the "logic of design, data collection techniques, and specific approaches to data analysis" (p. 14). Creswell (1998) says case study is

> an exploration of a "bounded system" or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context. This *bounded system* is bounded by time and place, and it is the *case* being studied – a program, an event, an activity, or individuals. (p. 60)

Schramm (1971) describes case study thusly: "The essence of case study, the central tendency among all types of case study, is that it tries to illuminate a decision or set of decisions; why they were taken, how they were implemented, and with what result" (Schramm, 1971 cited in Yin, 2003, p. 12).

The bounded system is, of course, the volleyball team and its competitive season. Maintaining the holistic outlook of both the program evaluation and the case study design, I have chosen the multiple strategy of including surveys within the case study design. This combination is classified as an embedded case study design (Yin, 2003).

All the above reflect a more quantitative approach to case study. For the qualitative components in this mixed methods design, Robert Stake (1995) is the advocate utilized for guidance. Stake reminds both the case study researcher and the reader to remain open to the nuances of "increasing complexity" (p. 21) within the case, to look for transferability as opposed to generalizability, and to remember the interpretation of the study also rests not only with the researcher, but also with the reader. Stake also offers an organizational template for the qualitative case study that I have followed (more or less).

Evaluation Designs

Research designs have been designated as quantitative, qualitative, or both (mixed methods) (e.g., Gall, Gall, & Borg, 2003; Fitzpatrick, et al., 2004). These quite different methods have been seen as complimentary in evaluation research, and there appears to be an increase in the integration of the two (mixed methods), especially in educational evaluation (Fitzpatrick, et al., 2004). Greene and Caracelli (1997) note that "All methods have limitations and biases; using multiple methods can help to counteract some of these biases" (p. 7). As stated earlier, this is a mixed methods case study.

Evaluation Models

Because of the nature of evaluation and the multitude of disciplines in which it has become an integral part of, not only the processes but also the decision-making, there

is no “one size fits all,” or universal evaluation model. In 1987 Worthen and Sanders noted that the field was too young to be restricted by uniform evaluation methods and that “moving toward one omnibus model at this time could bring premature closure to expansion and refinement within the field” (p. 148). They further questioned whether one or two models could be generalized enough to be made relevant to all possible situations. Fourteen years later they had not changed their minds in this regard (Fitzpatrick, et al., 2004). Besides, they note, “integrating all [models] would be a philosophical impossibility” (p. 155).

With that in mind, students of both ID and program evaluation are encouraged to create their own models or feel free to adapt existing models to fit their needs. In 1987 Worthen and Sanders reported that more than 50 different evaluation models had been developed over the prior two decades. One can only imagine the number of models constructed since that time. M. C. Alkin (1985) explains:

> Evaluation models either describe what evaluators do or prescribe what they should do. Generally, evaluators are concerned with determining the value or current status of objects or states of affairs. The term ‘model’ is used in two general ways. (a) A prescriptive model, the most common type, is a set of rules, prescriptions, prohibitions, and guiding frameworks which specify what a good or proper evaluation is and how evaluation should be carried out. Such models serve as exemplars. (b) A descriptive model is a set of statements and generalizations which describes, predicts, or explains evaluation activities. Such models are designed to offer an empirical theory.

> … Prescriptive models provide consistent of frameworks and strategies for performing evaluations, and descriptive models present a range of validated possibilities for conducting evaluation. (pp. 1760-1761)

The modified Gerlach and Ely ID model (1980) (Fig. 2.2) was adapted as a prescriptive model for this for this program evaluation.

Evaluation Tools

"Evaluation tools are instruments that aid in planning or implementation of an evaluation without serious time investments in research and without serious potential for errors or reinventing the wheel" (Ogle, 2002, p. 11). The purpose of evaluation tools is to expedite the process while maintaining consistency and thoroughness. While there are many guides available, because of its ease of use and my familiarity with it I chose the evaluation guide developed by my mentor in program evaluation, Larry Weber, Ph.D., and others (Lucas, Miles, & Weber, 1973; Weber, Worner, & Harris, 2000) (see Table 2.2, p. 109). The evaluation guide is considered a suggestive template of a matrix that may be modified to fit the evaluation parameters. It is meant to be suggestive of areas evaluators should consider important as they develop their own, perhaps more specific guides. It has two main components: the *Decision Components* (shown as column headings), and the *Program Components* (shown as row headings). The *Design Components* are those elements that illustrate the format for evaluating program components. The *Program Components* are those elements of the program being evaluated. Table 2.2 shows the evaluation guide matrix as Weber presents it initially. Table 2.3 (p. 109) is the adapted evaluation guide matrix used in this evaluation.

Limitations of Evaluation

Evaluation of programs cannot be construed as a panacea for solving all the problems of sport psychology, much less society as a whole. Evaluations may be limited by inadequacies in conceptualization and/or the conduct of an evaluation. Studies that are well conceived and well conducted may not understand other factors that affect the use of the evaluation information. Similar problems may exist by those served by the evaluation that it is a magic wand that corrects all inadequacies and malfunctions in a given program or project. It is hoped that I have addressed these issues by noting the *Limitations and Biases* (p. 252, Ch. V) affecting this evaluation and by the rigor of the preparation of the instructional design, the program evaluation parameters, the data collection and analysis, and finally the interpretation and discussion of the data.

Summary ~ Review of the Literature

Psychological perspectives and mental skills constructs. There are four forces in American psychology: behavioral, cognitive, humanistic, and transpersonal. For this study, the perspectives behaviorism and cognitivism and their influence on learning are of interest. The mental skills in the core curriculum (goal setting, visualization, feelazation, energy management, effective thinking, and mental toughness) are considered psychological constructs and are generally taught within a cognitive behavioral framework. The introduction of the energy component contained in the WMMSTP/MSTP requires a learning theory beyond the cognitive-behavioral paradigms. This learning theory is constructivism. It has evolved from behaviorism and cognitivism, and its main premise is that each individual mentally constructs his/her own reality. The broad constructivist viewpoint appeals not only to my personal view of the world, it

encourages the eclectic nature of this intervention, instructional design, and program evaluation.

Performance enhancement. Performance enhancement is often thought of as peak performance, a peak moment, a peak event, flow state or the zone. In the MSTP, peak performance is not limited to a peak moment, or a peak event, or a peak experience in time; instead peak performance is a *process*. This process includes a *mindset* in which athletes identify their personal best performances and strive to make those everyday or average performances. When referred to in this light, peak performance promotes the constant and consistent enhancing of performance. Performance can be enhanced by the intervention of the MSTP consisting of six core mental skills.

Mental skills. When mental skills are combined into a mental skills training package, they become more effective than when they are utilized individually. The WMMSTP consists of six core mental skills that are deemed essential for attaining consistent peak performance and enduring success. The core mental skills are goal setting, visualization, feelazation, energy management, effective thinking, and, which when integrated, encourage mental toughness. Integrating these core mental skills encourages a mind-set known as the Winner's Mentality. Developing mental toughness results in acquiring the Winner's Mentality which, in turn, should enable athletes to attain peak performance consistently. Competency, as opposed to mastery, and regular practice of the core mental skills are the necessary tools to promote individual and team performance enhancement.

One of the constructs of the WMMSTP that distinguishes it from other mental skills training packages is the mental skill of feelazation. Feelazation occurs when

energetic emotional content is added to the visualization process to create a felt sense in the athlete's body. This felt sense is then anchored, so that it may be accessed on command. It is the felt sense that makes feelazation exceed the standard notion of emotive imagery. When feelazation is employed, it becomes a catalyst for accessing the desired mental state of the athlete.

A second distinguishing feature of the WMMSTP is its treatment of energy. The awareness of personal energy and the quantum nature of energy are critical to the synergy of integrating four of the core mental skills – goal setting, feelazation, energy management, and effective thinking. A premise of the WMMSTP is that humans are energetic beings (energy management), their thoughts have energy (effective thinking), and because of these two constructs, individuals move toward and become like what they think about (goal setting).

The intervention utilized is the MSTP which is a condensed version of the WMMSTP. In addition to evaluating this educational intervention for team and individual performance enhancement, individual improvement in mental toughness it also examined. Both the WMMSTP and the MSTP presume integrating and then habituating the other core mental skills can encourage mental toughness. The core mental skills require awareness, mindfulness, and then need to be habituated to develop the Winner's Mentality, which is synonymous with mental toughness. The Winner's Mentality will allow the athlete to perform consistently at a higher level than before.

Instructional design. In this study instructional design (ID) is a critical component of the program evaluation. ID is an intellectual process in which the needs of learners are systematically analyzed and addressed. Behaviorism, cognitivism, and constructivism all

have a role in the eclectic development of the ID and pragmatic delivery of the instruction. The curriculum was designed as a semester long course and then modified for this intervention. Comparable coursework, supporting literature, and multiple interviews with practitioners and clients support the efficacy of the program. The Gerlach and Ely ID model was modified to allow for more immediate feedback and to enhance both formative and summative evaluation.

Program evaluation. Evaluation of the case study program evaluation of the educational intervention was done to determine its worth or value to the team and its impact on individual and team performance. Research evaluation is a transdisciplinary. The standards for program evaluation are utility, feasibility, propriety, and accuracy. The Gerlach and Ely ID model was also utilized as a prescriptive program evaluation model. The participant-oriented approach was utilized in the mixed methods case study evaluation.

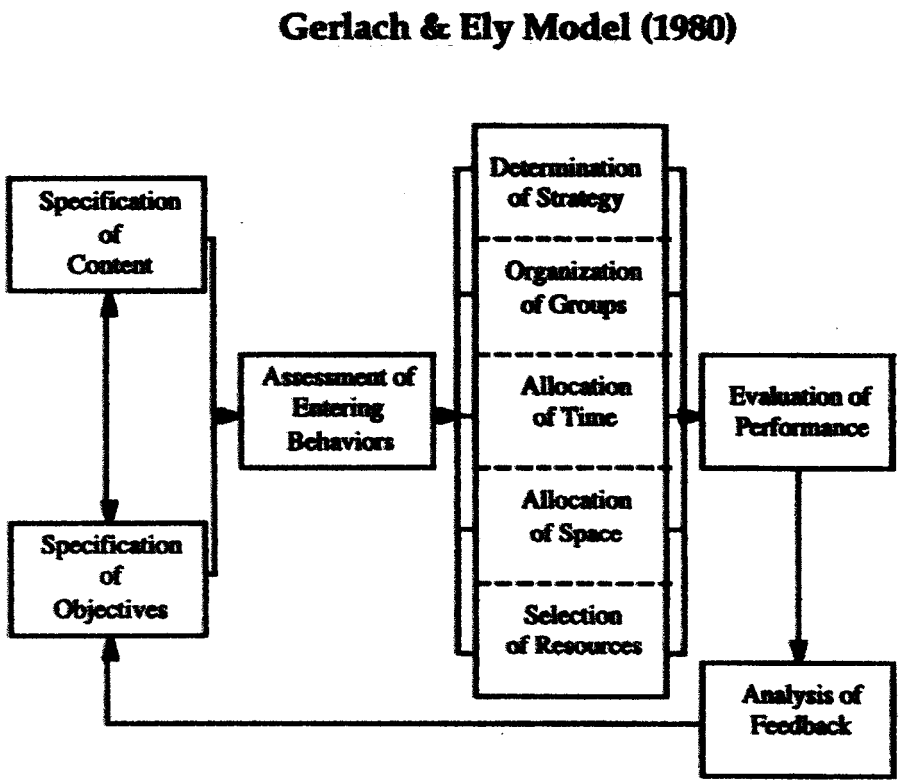

Fig. 2.1 The Gerlach & Ely Model

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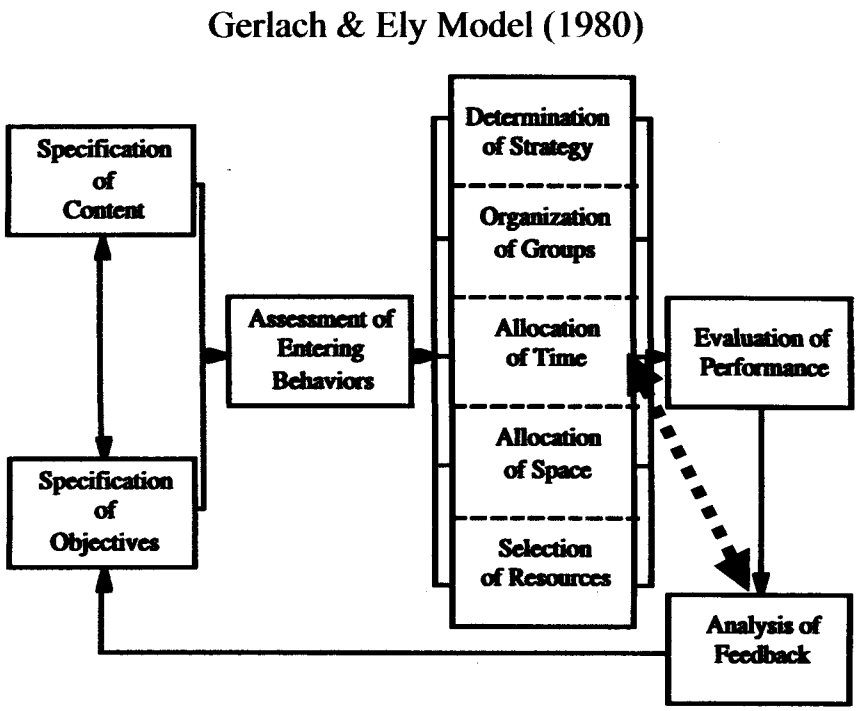

Fig. 2.2 The Modified Gerlach & Ely Model

Table 2.1 Flagg's Four Phases of Formative Evaluation (Flagg, 1990, p. 4)

	Phases of Program Development	Phases of Evaluation
Phase 1:	Planning	Needs Assessment
Phase 2:	Designing	Pre-production formative evaluation
Phase 3:	Production	Production formative evaluation
Phase 4:	Implementation	Implementation formative evaluation Summative evaluation

Table 2.2 Format of an Evaluation Guide Matrix (Weber)

PROGRAM COMPONENTS	DECISION COMPONENTS					
	Program Goals	Operationalized Outcome	Data Collection Format	Criteria	Judgment Alternatives	Decision
Students						
Adminis-tration						
Material						
Economics						
Personnel						

Table 2.3 Evaluation Guide Matrix Adapted for MSTP

PROGRAM COMPONENTS	DECISION COMPONENTS					Evaluation Rating
	Program Goals	Operationalized Outcomes (Evaluation Questions)	Data Collection Format Quantitative: Surveys Qualitative: Interviews, Observation, Member Checks	Criteria	Findings	
Curriculum						
Student-athletes						
Coaches						
Sport Psychologist						
Mental Skills Trainer						
Resources/ Budget & Materials						

CHAPTER III METHODOLOGY

This chapter will examine the methods of evaluation research utilized to determine the impact (effectiveness, efficiency, and worth) of the case study program evaluation of a specific educational intervention known as the Mental Skills Training Program (MSTP). The evaluation research methodological format utilizes a mixed methods approach in an embedded case study design.

Purpose of study. The purpose of this study was to conduct a case study program evaluation of the educational intervention of the MSTP and its impact on performance of individuals and the team as it was implemented with a NCAA Division I volleyball team for the 2004 season.

Objective of the program evaluation. The objective of this case study program evaluation is to determine the effectiveness, efficiency, and worth of the educational intervention of the MSTP on the student-athletes of the volleyball team and their individual and team performance so that decisions might be made to continue mental skills training with the team and for future educational interventions with other sports teams at the university. In the case of this intervention, the main foci were on the instructional product (MSTP) and its impact on the performance of individuals in particular and the team in general.

Instructional design (ID). An ID (see Appendix D) for the MSTP was developed as a component of the program evaluation for the educational intervention utilizing the modified curriculum of the Winner's Mentality Mental Skills Training Program (WMMSTP). The modified curriculum is referred to as the MSTP and the curriculum

consists of six core mental skills: goal setting, visualization, feelazation, energy management, effective thinking, and mental toughness.

Evaluation Research

This evaluation research of the above-mentioned educational intervention is to determine the effectiveness, efficiency, and worth of the program intervention in keeping with the evaluation research questions listed below. That is, its *impact*. This methodology provides a holistic macro-view of the impact of the intervention on the performance of individual volleyball players in particular and on the team in general. It also provides a micro-view of formative and summative feedback to the MST/author/evaluation researcher on instructional design and curriculum delivery.

Evaluation research questions are segregated into a primary category, which is of foremost importance to the major stakeholders; and secondary categories, which are of interest to the evaluator and minor stakeholders but are significantly less important to the major stakeholders.

Primary Evaluation Questions:

1. Was individual and/or team performance enhanced during the season?
2. How did the intervention of the MSTP impact individual and team mental toughness?
3. How did the intervention of the MSTP impact team communication and team chemistry?
4. How did the coaches and student-athletes view the investment of time and effort (value/worth)?
5. Was the program delivered effectively and efficiently?

Secondary Evaluation Questions:

1. In what ways can the MSTP be modified or improved to better service stakeholders at the collegiate level?
2. For those student-athletes who enhanced individual performance, which mental skills were utilized or integrated to achieve this improvement?
3. For those student-athletes who enhanced individual mental toughness, which mental skills were utilized or integrated to achieve this improvement?
4. Which mental skills were student-athletes able to transfer to other areas of their lives beyond volleyball (i.e., academics, relationships, etc.)?
5. To what extent have athletic department administrators and other team coaches become interested in incorporating mental skills training as an educational intervention with their teams?

Needs Analysis

To initiate this study, an analysis of needs of an intervention of mental skills training was undertaken. The needs analysis for the use of a mental skills training package by university athletic teams was obtained initially by an interview with the university sport psychologist (SP). An interview with the SP and the head volleyball coach (HC) ensued, followed by two more interviews with the HC and his assistant coaches in which needs were defined and the format of the intervention was agreed upon.

Needs Assessment

Coaching and student-athlete needs. At the conclusion of a “disappointing” 2003 volleyball season, the HC surveyed his student-athletes. The survey (see Appendix E) showed that the student-athletes felt that they had problems concerning motivation,

communication, accepting criticism, and a tendency to create cliques; the HC agreed with the survey's findings. The student-athletes and the HC also agreed that some type of sport psychology or mental skills training intervention might be helpful for the 2004 season. (*While I was given copies of the anonymous questionnaires to increase my knowledge base of the team chemistry and attitudes, this was not part of my study and did not fall under the context of the informed consent, and therefore the data were not incorporated into this study*.)

These problems exhibited themselves in several ways regarding performance outcomes – or lack thereof. The HC repeatedly referred to this and other team traits as a lack of mental toughness by the student-athletes, and he felt that an increase in mental toughness would increase overall performance. The HC expressed his main concern as his athletes "could play on par with the best teams in the conference but had trouble beating the teams they should be able to beat" (HC, personal communication, April, 2004). This concern was amplified because the university changed conference affiliations for the Fall 2004 season, and the new conference, the Atlantic Coast Conference (ACC), was traditionally considered more competitive in volleyball than the former conference, the Big East.

Sport psychology needs. The university sport psychologist (SP) has felt a need for some time to incorporate mental skills training for performance enhancement into the varsity teams at the university. This has been hampered by his ever-increasing duties handling the clinical issues affecting the student-athletes (e.g., drugs and alcohol issues, eating disorders, and depression). This has resulted in coaches, administrators, and student-athletes generally perceiving him as only a clinical psychologist who is there to

"fix problems" and not as a sport psychologist who can possibly prevent problems by the introduction of performance enhancement interventions such as mental skills training (SP, personal communication, Spring, 2004). Also, on a personal level as a fan of the athletic programs and the student-athletes, he feels the teams are missing out on tools that can effectively enhance personal and team performance.

Evaluator needs. A competitive sports team was necessary for the MST's proposed educational intervention so as to evaluate the efficacy of his instructional program, the MSTP. The team needed to be of a manageable size (approximately 15 athletes) for the evaluation researcher to perform an in-depth program evaluation as required by a rigorous evaluation research study. It must also have a coach who is enthusiastic about such an intervention and who is willing to allot time for the education of the athletes.

Conclusion ~ needs assessment. The confluence components fulfilling the MSTs research needs for his doctoral dissertation – the coaches' and student-athletes' desires; the goals of the SP, and the requirements of the MST necessary for an effective program evaluation – presented themselves, and an educational intervention utilizing the MSTP was implemented during the Fall 2004 Varsity Volleyball Season at the designated Division I University.

Program Evaluation Methodology

The methodology of the evaluation can best be described by following the ten elements contained in the Gerlach and Ely Model that was modified for use as both the model for the ID and the program evaluation (see Fig. 2.2, p. 107). The ten elements are (1) *Specification of Objectives*; (2) *Specification of Content*; (3) *Assessment of Entering*

Behaviors; (4) *Determination of Strategy*; (5) *Organization of Groups*; (6) *Allocation of Time*; (7) *Allocation of Space*; (8) *Selection of Resources*; (9) *Evaluation of Performance*; and (10) the *Analysis of Feedback*.

Assessment of Entering Behaviors

The knowledge and usage of the behaviors associated with competency of the core essential mental skills was assessed by an initial written intake (see Appendix F), by informal polls in the initial learning events (e.g., "How many of you know how to visualize?"), and by Socratic and facilitative questioning during educational events. The written intake was given to the participants as a "take home" form. It was completed leisurely and thoroughly overnight and returned two days later at the following meeting.

Participants

The participants for this study are the three members of the coaching staff and the 13 student-athletes of the NCAA Division I University varsity volleyball team for the Fall 2004 intercollegiate volleyball season. An additional participant/co-researcher is the SP. The university is a large public university located in southwest Virginia and athletically is a member of the ACC.

Student-athletes as learners. The student-athletes consisted of 13 females with ages ranging from 18 to 21 with a mean age of 19.7, There were three seniors, two of whom were co-captains. There were two juniors, four sophomores, and four freshmen. Their academic workload ranged from a high of 17 credit hours to a low of 12. The mean academic workload was 14.4 credit hours.

Heights ranged from 5'7" to 6'1" with a mean height of 5'10.5." Racially, one student-athlete was of Hispanic heritage, while the remainder were all of Western

European descent. All but one senior and one freshman were on full athletic scholarships. All but two student-athletes had some experience, if not formal training, with the mental skill of visualization and were familiar with goal setting. However, none had knowledge of any formal training in the application of mental skills or sport psychology for performance enhancement.

Coaching staff as passive learners. The coaching staff consisted of one male head coach (HC) age 38, in his fourth year as head coach of the team. There were two female assistant coaches (AC1 and AC2) ages 29 and 24, respectively, both in their first year as assistant coaches for the team. College coaching experience is 10, 6, and 1 years respectively with a mean college coaching experience of 5.7 years. Both assistants played NCAA collegiate volleyball and were standouts. AC2 played on one national championship team while in college. AC1 has coached at two Division I universities, while AC2 coached one season at her alma mater before joining the university staff.

The coaching staff were also at least passive learners. It was considered critical for the efficacy of the intervention that the coaches both desire the program and that they participate, at least as observers, in order to demonstrate to the student-athletes their commitment to the intervention. While it was not the purpose of the intervention to enhance coaching efficacy and communication, these were considered hopeful by-products.

Sport psychologist. The university sport psychologist (SP), age 45, has a Masters Degree in Rehabilitation Counseling and a Ph.D. in Counseling Psychology. He is a Licensed Clinical Psychologist, and he has worked at the university since 1995. His professional memberships include the Association for the Advancement of Applied Sport

Psychology (AAASP). He divides his time between the university counseling center and the athletic department.

Team selection. This team was selected because of interest expressed to the SP by the HC in the value and need of overall mental skills training for his athletes. (see *Needs Assessment* above).

Stakeholders

As noted in the Introduction, the primary stakeholders in this evaluation are the student-athlete members of the volleyball team, the coaches, the SP, and myself (the MST and evaluation researcher). Secondary stakeholders include the athletic department and university, other university athletic teams, and the sport psychology community and the national community at large.

Determination of Strategy

The determination of instructional strategy while structured remained flexible – even fluid. The instructional strategy itself consisted of short lectures, facilitated discussions, demonstrations, and group participation. These areas are pre-conceived and noted in the learning units (see Appendix D3, Proposed Instructional Sequence: MSTP).

IRB Permission

Institutional Review Board (IRB) permission was granted by the National Collegiate Athletic Association (NCAA) Division I University IRB. All participants signed informed consent forms (see Appendix G). As part of the informed consent, all participants were made aware that they could opt out of the study at any point. Similarly, all interactions with student-athletes followed the rules and regulations involving the

university athletic department and NCAA, were approved by the university NCAA compliance officer, and were adhered to by the MST.

Confidentiality. Confidentiality of personal issues was assured, and it was explained that overall confidentiality could not be guaranteed because of the visibility of the volleyball team as an NCAA Division I intercollegiate sport. An attempt to protect the student-athletes' confidentiality was made by coding them randomly with self-chosen pseudonyms. Coaches are referred to as HC (head coach), AC1 (assistant coach 1) and AC2 (assistant coach 2), and the university sport psychologist is referred to as SP (sport psychologist). (see Appendix G for all IRB forms)

Format of the Intervention

The format that was agreed to initially consisted of 30-minute mental skills educational sessions conducted weekly with the team. These educational events were to take place at the beginning of the practice session, that is, made a part of the regular practice, so as not to be an additional burden to the student-athletes. During the pre-season training camp period that occurred for two weeks prior to the opening of classes for the university Fall semester, two 90-minute learning sessions were scheduled. This was an option because the student-athletes had no other obligations except as directly related to volleyball (i.e., practice, strength training, skull sessions). Student-athletes were asked to keep a reflective journal with weekly mental skills and performance goals, and could meet one-to-one with the MST if they chose to do so. As MST, I sought to create a safe environment so that individuals could speak about performance issues without fear of embarrassment or damage to self-confidence, self-image, or self-efficacy.

While the learning events were primarily scheduled for Thursdays, the schedule had to remain flexible to accommodate matches (competition), travel, and last minute practice time changes. The MST checked several times a week with the HC for changes in the schedule or travel arrangements.

Organization of Groups

This phase of the Gerlach and Ely Model was minimally useful, at least during this inaugural intervention. The team is small enough that creating groups was unnecessary. There were times when the coaches were engaged without the athletes, but the opposite circumstance was undesirable. It was deemed imperative by the MST that the coaches endorse and encourage the learning and this could best be demonstrated by their regular presence at all educational sessions.

Assuming a successful intervention and the desire of the team to continue mental skills training during the following season, the grouping of athletes will become a significant consideration. At that time, it will most likely be necessary to teach newcomers (freshman and transfers) the basics of the MSTP without the veteran players having to endure repetition of all the basics. Flexibility in facilitation remains a key component, and creativity in delivery of the learning units will be an ongoing challenge for whoever assumes the role of the MST – most likely the SP. Another challenge will be keeping the coaches engaged the second season once they are aware of the MSTP. While their presence is not necessary for learning by the student-athletes, mental skills training could be interpreted as unimportant if the coaches, especially the head coach, are not in attendance.

Allocation of Time

The educational intervention took place throughout the varsity volleyball season from mid-August until mid-December, 2004. It consisted of nine hours of direct instruction to the team and several hours of instruction to individuals. The intervention was constrained by the time allotted for practice, conditioning, strategy, and, of course, matches.

Allocation of Space

The volleyball team generally meets in the cozy confines of their locker room for skull sessions where they view videotapes and discuss strategy. It is equipped with a white board and a TV-VCR, and student athletes either sit on stools or semi-recline on the floor. They do not have a specified meeting room. When more room is desired, they use the more spacious student-athletes lounge for a team meeting room. It is equipped with chairs and tables that can serve as desks. However, other sports teams at the university also share this space, so it must be reserved in advance.

The venues for the education sessions were determined by the time of the event, the location of practice, and the availability of the student-athletes lounge. Education sessions took place on the floor of the practice court, the floor of the main gymnasium (which provided an echo effect that could be somewhat distracting), the student-athletes lounge, and the intimacy of the volleyball team locker room.

Context Analysis

The context analysis examines the two categories of physical factors and use factors (Tessmer, 1990) in the instructional and support environments. “The physical factors address how your design creates and supports your instructional setting, while the

use factors deal with how the setting is used for instructional purposes" (Shambaugh & Magliaro, 1997, p. 74).

Instructional environment. The instructional environment was the practice gym, the main gym, the student-athletes lounge, and/or the volleyball team locker room. Students had access to computers at various university computer labs, and all have either their own laptops or personal computers in their dorm room or apartments.

Facilities and equipment. As mentioned above, educational sessions conducted on campus were in either gym, the team locker room, or the student-athletes lounge. The student-athletes had access to Blackboard through their internet connection available on campus. The Blackboard site was hosted by the college where the MST is a full time assistant professor, not the university where the research took place. This allowed the MST total access and control over the content and delivery of site materials, and avoided the extensive bureaucratic red tape involved with using the university Blackboard site. To ensure privacy, the Blackboard site was password protected with access only for student-athletes and coaches and the SP. A small spiral notebook was also provided for the student-athletes for journaling. When the MST chose to use multi-media presentations (e.g. PowerPoint), I had access to a multi-media projector (MMP) and laptop computer provided through my home college.

Selection of Resources

It was imperative that the MST knew the material well enough to facilitate without the use of standard audio-visual aids including a chalk/white board or flip chart. Educational props such as paper clips and strings, rubber bands, spoons, and videotapes were carried with the MST for use at appropriate times. Most learning units consisted of a

brief review of previously presented material, a succinct and concise explanatory lecture, a demonstration (if called for), participation in the skill by the group, and discussion and facilitation – not necessarily in this order.

Resources. The coaching staff through the athletic department provided blank spiral notebooks for student-athlete goal setting and reflection. As mentioned, every team member had their own PC or laptop computer as did the coaches and SP. Forms and written descriptions of techniques employed were handed out in educational sessions and/or mounted on Blackboard. The curriculum was complete and had been taught in various formats as both classes and seminars and used with many athletes and corporate personnel as a component of individual performance and success coaching.

Constraints. Time was the major constraint. While the curriculum was complete, it required re-formatting for a flexible and fluid intervention. Expenses were a minimal constraint. The only initial out-of-pocket expense was the MST's time and travel. There was no loss of wages due to the intervention, as it was considered part of my doctoral pursuit, which is fully supported (time wise) by my home college. Regarding travel, on Tuesdays and Wednesdays I had to be on-campus for classes, so the only extra travel was for the Thursday educational sessions. The only other out of pocket expense is the cost of the book, *Develop the Winner's Mentality* (Reese, 2005). It was promised to all participants as a small enticement to participate. Upon publication in the Fall 2005, the books (17) cost the MST $11.95 each plus shipping and handling.

Support environment. The coaching staff acting on behalf of the university athletic department provided most of the support environment. This included, but was not limited to the moral support, team meeting space, and the time to conduct the

intervention. The SP was present for half (7/14) of the educational sessions, and he had regular debriefing sessions with the MST either in person or by e-mail. On Thursday afternoons, when he was engaged at another campus facility, the SP also provided his athletic department office for use by the MST. While conducting this project, the MST was also supported by the college administration where I teach. They provided me with schedule flexibility, a Blackboard platform, and, when needed, use of a MMP and laptop.

Evaluation of Performance

The assessment environment of this intervention posed a challenge since there was no formal classroom, no exams, and no accountability requirements and because the intervention was strictly voluntary. Formative evaluation consisted mainly of Socratic questioning and member checks with student-athletes in which both their subjective observations and those of the MST are discussed and noted regarding their progress in the mental skills training. These observations were entered into the MST's field notes, or into the particular student-athlete's folder. Member checks with the coaches were also an integral and on-going process. The observations and intuitions of the coaches were critically important because, whether they were accurate or not, they represented the coaches' perception regarding the particular student-athlete and, in turn, may have influenced how they treated, coached, and responded to that particular athlete. These observations and perceptions were also recorded in my field notes.

During the member checks the following areas were addressed regularly. This listing is not to be considered a menu that was covered in every conversation, but shows what areas might be addressed and how one direct question may lead to many more (i.e., Socratic questioning for problem based learning [Paul & Elder, 2002]) while homing in

on a specific problem or need. In this way, assessment and evaluation of effectiveness of the learning and of the program can be gauged qualitatively if not quantitatively.

- Goal setting ~ Have they created their outcome goal for the season? Have they created weekly performance goals to achieve the outcome goal? Are they struggling in any area? Can they identify the obstacle to success? What goal setting techniques are they utilizing to overcome these obstacles?
- Visualization ~ When, where, and how often are they using visualization techniques? How comfortable and confident do they feel with their visualization abilities? Are they adding all the senses (sight, sound, smell, taste, touch, and kinesthetic) to their visualizations? Are they using visualization with their goal setting; stress and/or energy management; and to assist focus and concentration (effective thinking)? Do they always finish with the positive end-result in their minds' eye?
- Feelazation ~ Are they able to add the emotional component – feelazation – when appropriate? If not, why not? Do they understand the importance and power of feelazation?
- Energy management ~ Which stress management technique(s) are they practicing and utilizing regularly? Does it work? When does it fail? What needs to be done about it? Are they integrating visualization and goal setting with stress management? What is causing them the most stress at this time? How are their overall energy levels? If they are low, what is causing it (physical, emotional, nutritional)? Are they managing their emotions?

- Effective thinking ~ How is their self-talk in the performance areas they have targeted for improvement? Are they having any problems focusing and concentrating? When? Where? What are the circumstances? Are they able to enhance their focus and concentration? Are they using key words and/or anchors? Are they utilizing techniques such as the rubber band and the Circle of Excellence?
- Mental toughness ~ Are they able to maintain focus when competitive or life distractions occur? Are they able to re-focus after concentration has been broken? Are they able to overcome and bounce back after setbacks (persistence and resilience)? Do they thrive on pressure? Can they switch off their sports focus so that they can enjoy other areas of their lives? Are they affected by other's performances? If so, how?
- Motivation ~ Do they feel they are staying motivated – especially when the going gets tough? Are they experiencing boredom at practice? If their performance is flat, what do they think the reason might be? Does the attitude of others negatively affect them?
- Communication ~ Are they able to communicate with each other on and off the court? Are they able to communicate with the coaches on and off the court? If there are problems communicating, what are possible solutions?

Data Collection

For student-athletes, the effectiveness, efficiency, and worth of the program were modeled after the evaluation research questions and examined in the six areas listed

below. The program goals used in the program evaluation are in parentheses (see Table P, p. 360, Evaluation Guide Matrix):

1. Increased knowledge and use of mental skills and mental skills training. (Outcome)
2. Enhanced individual performance. (Outcome)
3. Enhanced team performance. (Outcome)
4. Enhanced mental toughness. (Outcome)
5. Improved team chemistry and communication. (Outcome, Process)
6. Integration and transfer of mental skills for life skills. (Outcome, Process)

Coaches were queried for their views on

1. The efficiency and efficacy of delivery of educational sessions by the MST. (Input, Design)
2. The effectiveness of the program on individual and team enhanced performance. (Outcome)
3. The effectiveness of the program on individual and team and mental toughness. (Outcome)
4. The impact on team communication and team chemistry. (Outcome, Process)
5. If the program addressed the current yet changing needs of the team. (Process)

The SP was polled regarding

1. Program efficiency. (Input)
2. Overall effectiveness of the program. (Outcome)

The MST was evaluated for:

1. Efficiency of delivery of educational sessions. (Process)
2. Efficacy of delivery of educational sessions. (Process)
3. Flexibility of scheduling. (Process)
4. Overall effectiveness of the program. (Outcome)

Additional areas of evaluation included

1. Scheduling. (Process)
2. Cooperation of coaches, SP, and student-athletes. (Process)
3. Flexibility of curriculum. (Input, process)
4. Resources/Budget. (Input)
5. Materials. (Input)

Analysis of Feedback

While the *Analysis of Feedback* in the Gerlach and Ely Model (1980) (Fig. 2.2, p. 107) appears graphically after the *Evaluation of Performance* box, feedback was actually taking place constantly and consistently. Feedback was persistently analyzed for adjustment and modification of the content and delivery. That is, feedback not only takes place after the *Evaluation of Performance*, but also during each phase of the instructional intervention after the *Assessment of Entering Behaviors*, and without having to go back through the entire model before adjustments can be made.

Data Collection Instruments

Quantitative data consisted of periodic evaluation surveys (4) to determine mental skills knowledge and usage by student-athletes, a mental toughness questionnaire, season's end program impact surveys, educational session delivery assessments, and team and individual performance statistics that were compared with the previous year's

statistics for correlation. Qualitative data collection took the form of semi-structured interviews, observations, member checks, and peer debriefing that were included in copious field notes. Qualitative analysis from interview and survey results further elucidates the quantitative data for a more complete and holistic interpretation and combinding of the data for both formative and summative evaluation of the program intervention. All data was collected and transcribed by the MST/evaluation researcher.

Quantitative Instruments

Surveys and Questionnaires

Several surveys in the form of questionnaires and self-assessments were employed. Most surveys were constructed to not only measure data, but just as importantly to act as an awareness tool to cause the respondent to metacognate about the constructs or techniques that were being surveyed. That is, they were also learning tools. They included:

- Initial Intake Questionnaire (Intake)
- Mental Skills Knowledge and Usage Survey (KU)
- Mental Skills Training Impact Survey (IMP)
- Season's End Survey (SE/S-A, SE/C)
- Mental Toughness Questionnaire (MTQ)
- Education Session Evaluations (EDS)

Initial Intake Questionnaire (Intake)

The Intake was completed by the student-athletes after the first meeting to provide the MST with an overview of each individuals' current knowledge and use of mental skills and to provide an overview of training camp and season goals and areas where the

student-athlete felt she needed assistance. Included in the initial intake (Appendix F) is the first Knowledge/Use Survey (KU-1), which has been excerpted for inclusion with the remaining three Knowledge/Use Surveys (see below).

Mental Skills Knowledge and Usage Survey (KU)

The KU surveys were completed by the student-athletes during the pre-season (Intake KU-1), twice during the season (KU-2, KU-3), at season's end (KU-4), and in the Spring of 2005 (KU-5). These surveys were used to determine their knowledge, usage, and desired usage of particular mental skills and constructs from the beginning to the end of the season. The two in-season surveys were used by the MST as formative evaluation to adjust the focus of subsequent educational sessions. This survey consists of a 6-point Likert-like scale: 0 (*No Knowledge/No Use*), 1 (*Very Little Knowledge/Use*), and so on up to 5 (*Excellent Knowledge/Use*). This same 6-point Likert-like scale was utilized on each of the KU surveys.

KU-1. The preliminary Knowledge and Use of Mental Skills Survey (KU-1) was included in the initial Intake form (see Appendix H-1) that was distributed to the student-athletes at the second educational session (8/19/2004) and was returned completed two days later at the conclusion of the second session (2b). In the KU-1 survey only six basic mental skills categories were listed and then subdivided into six more concepts. The 12 categories were Performance Goal Setting and Outcome Goal Setting; Visualization and Feelazation, Stress Management, which included Energy Management, Relaxation Techniques, Meditation, and Moods; Self-talk and Decision-making Tools; and Flow State (The Zone). The level of knowledge and the current usage of each mental skill were

requested with a third column provided to indicate whether any of these areas constituted an issue (problem) for the student-athlete.

It should be noted that the initial intake form was originally designed by the MST to be completed by an athlete prior to or during the first one-to-one mental skills coaching session in which they participate. The KU portion of the initial intake is a formative evaluation tool to enlighten the MST to the general level of knowledge and use of mental skills by the athlete and was not created as formal program evaluation instrument or assessment of entering knowledge and usage.

KU-2. The second KU survey (KU-2) (see Appendix H-2) was designed as an evaluation instrument and was administered toward the end of the learning session #3. The reason for this close proximity to the distribution of the KU-1 to KU-2 was to act not only for formative evaluation of a broader spectrum of mental skills constructs and exercises, but also as a tool to reinforce the learning that had occurred in the three intensive education sessions that took place the preceding week (#1, 2, 2b; see Appendix I, p. 331, Education Session and MST Effectiveness & Efficiency Mean Grades [EDS] & Curriculum Sequencing). KU-2 was also a more substantial survey repeating 29 items of importance that had been discussed during the prior educational sessions plus four topics on pre-practice and pre-competition routines facilitated during that particular session. In addition to the *Level of Knowledge* and the *Usage Now* categories contained in KU-1, KU-2 also included a category for the *Level of Importance for My Performance* to stimulate metacognition and a category to encourage goal setting (*Usage in 1 Month*). On all subsequent KU surveys items were scrambled so that student-athletes would have to

think about each item and where it fit and not fall into any response set patterns of rote answering.

During the administration of the survey, the MST instructed the student-athletes to pay particular attention to the *Level of Importance* category and how it compared to the *Usage Now* category. For example, if the student-athlete determined a particular mental skill was important on a 4 or 5 level, and their use of that skill was only at a 1 or 2, then they should address that discrepancy and determine why they were not using it if they felt it was important. They were advised to ask the MST for individual assistance in applying the skill if there was a discrepancy of more than one grade point. Individual assistance, they were told, could be a brief meeting after the session, on-line in their journaling or by specific e-mail, or in a scheduled one-to-one mental skills coaching session. Only one student-athlete sought express assistance with an area in which she was struggling – the trusting mindset.

KU-3. The third KU survey (KU-3) (see Appendix H-3) was administered approximately one month later on 9/21/2004. KU-3 had 36 items, 15 of which addressed new learning. KU-3 included the same four categories as KU-2: *Level of Knowledge; Level of Importance; Usage Now;* and *Usage in 1 Month.* Student-athletes were again reminded to pay attention to differentials between *Level of Importance* and *Usage Now* and to seek assistance with any areas they deemed a problem.

KU-4. Initially, I anticipated distributing KU surveys once a month for a total of five surveys during the season. During October, however, immediate problems the team was experiencing took precedence over planned curriculum topics and evaluation surveys. By the fourth week in October – when the survey was to be administered – the

formative information for education sessions was being determined by member checks with the HC and the team captains. Also, because the regular season extended only two weeks into November, there was no real need to force a KU survey in the precious little time remaining. The fourth KU survey (KU-4) (see Appendix H-4) was contained in the *season's end packet* distributed to each of the student-athletes. It contained 50 items, including only three items that were considered new learning. KU-4 contained the first three of the standard categories (*Level of Knowledge; Level of Importance;* and *Usage Now*), but the fourth category (*Usage in 1 Month*) was replaced with a category to assist in summative evaluation: *Usage TC* (Usage in Training Camp).

KU-5. The fifth and final KU survey (KU-5) (see Appendix H-5) was distributed after a practice session near the end of the spring training season that occurred during the second half of the Spring semester 2005. KU-5 was not originally planned as part of the MSTP program evaluation, but the opportunity presented itself for a look at the retention and/or assimilation of the learning materials presented in the Fall, and how much they were still being utilized – if at all.

KU-5 incorporated the standard categories of *Level of Knowledge, Level of Importance*, and *Usage Now (Spring)*. A final category, *Planned Usage (in Fall)*, was added to encourage goal setting and metacognition. There were 37 items listed that the MST considered representative of the more than 50 constructs and exercises facilitated during the Fall 2004. Some items such as the affirmations "Fast, hard, and strong!" and "Have Fun!" were included simply as reminders of the mindset(s) that they had agreed were important during the season. Measurement and evaluation were still considered secondary to the opportunity to promote mental skills usage.

KU Grading Criteria. Grading criteria for the KU surveys proved to be a challenge. Because I had no experience with this type of survey, and could not be sure of the amount of compliance by the participants, it was suggested that I set relatively low thresholds for consideration as positive evaluation components (L. Weber, personal communication, August 2004). Also, it is important to keep in mind that while the KU surveys were developed as data collection instruments, they were primarily metacognitive tools to encourage learning. Because of the primary use, the surveys were not constructed with the continuity that is found in instruments dedicated solely to quantitative measurement. Further, since there was no pre-test for knowledge and I had no way of knowing what level of mental skills knowledge was already possessed, it was decided that if 30% of the student-athletes reported an increase in overall knowledge of mental skills training and constructs, that would suffice as a positive evaluation grade. Regarding *use* of the mental skills, there was less trepidation on the part of the research evaluator. It was decided that a 50% increase in use of mental skills should be the minimum for a positive evaluation grade.

Mean Hi-Scores. Because of a lack of compliance in reporting for KU-4 (see *Season's End Packets*, p. 222) there was a lack of information regarding some of the item scores. In order to develop a better perception of the use of the mental skills employed by the student-athletes *Mean Hi-Scores* (MH-S) were calculated and reviewed. The *Mean Hi-Scores* were calculated by taking the highest score reported by a student-athlete, regardless of which of the three main KU surveys it appeared (KU-2, KU-3, KU-4), and calculating means for each of the 36 items being examined. Using the *Mean Hi-Scores*, there were 18 items reflecting a usage level of 4.0 or higher. Because there was no formal

pre-test to determine usage in the past, it would be presumptuous to think that many of these skills were not utilized at all prior to the intervention. For example, during the course of the intervention student-athletes often reported they practiced a certain skill like *Mental Practice Visualization*, but did not realize that it had a name. Utilizing the *Mean Hi-Scores*, however, does give an indication of the level of use of specific mental skills by the student-athletes.

KU-5 Grading Criterion. Determining an acceptable criterion for the KU-5 survey provided another challenging task. The KU-5 survey had not been an original component of the evaluation, so criterion had to be established after the survey was administered. It could be expected that the student-athletes would have a decrease in retention of the materials due to the decay of memory over the five months since the season's end (Gerrig & Zimbardo, 2002). Also, after only 14 weeks of mental skills training, none of the student-athletes would qualify as experts which would again predict a decrement of the knowledge base (Bransford, Brown, & Cocking, 2000). The question remains, how much?

On the other hand, if they had truly learned and assimilated much of the material, and had been reinforcing it by using it over the four weeks of Spring training, then there should not be a large drop in their *Level of Knowledge*. It was decided that if they retained 90% of their knowledge base, that would be acceptable. That is, anything greater than a 10% decrease (>10%🡻) in reported *Level of Knowledge* would earn a negative evaluation score. Any increase reported would not only be unexpected, but add to the trustworthiness that not only had a considerable amount of learning taken place, but that the student-athletes must also be continuing to use the mental skills.

Regarding the KU-5 and the *Usage Now* category, if one assumes that the student-athletes had learned the material, and also thought it was important, they should be continuing to use it. However, since there was no competition against other teams during this Spring training season, there were items directly related to formal competition – *Pre-Competition Routine, Pre-Competition Mental Practice,* and to a lesser extent *Trusting Mindset* – that could negatively impact the level of *Usage Now*. When including the competition items it was decided that up to a 5% decrease in use would be acceptable. That is, greater than 5% decrease (>5%🡻) would result in a negative evaluation grade. Without the three competition items, no decrease in use (0%) would be the line of demarcation for a positive evaluation grade (>0%🡻).

Mental Skills Training Impact Survey (IMP)

The Mental Skills Training Impact Survey (IMP) (see Appendix J1) evaluated the impact that specific mental skills had on individual student-athletes. It consists of the same 50 items employed in KU-4 and utilized a 5-point Likert-like scale: –2-*Very Negative Impact*; -1-*Slightly Negative Impact*; 0-*No Impact*; +1-*Slightly Positive Impact*; and +2-*Very Positive Impact*. It is contained as part of the season's end MS Knowledge/Use Survey (KU-4) in Appendix H4 and was dispensed in that format.

IMP Grading Criteria. Obviously, any mental skill having a negative impact on performance would be unacceptable and would receive a negative evaluation grade that would weigh more heavily than any positive impact. While I did not anticipate any negative impact, I felt it judicious to include it in the instrument. The least acceptable impact is *No Impact*. Since 70% is considered a passing grade in most classroom educational interventions, it was determined that a grade of 70% would be the cut score

for the combination of the *Slightly Positive* and *Very Positive Impact* designations. That would mean that the remaining items of *No Impact* or *Negative Impact* would necessarily be below 30% in order to receive a positive evaluation grade.

Season's End Survey (SE/S-A, SE/C)

Separate questionnaires completed by the student-athletes (SE/S-A) and coaches (SE/C) were concerned specifically with the program evaluation of the educational intervention.

Student-athlete Season's End Survey (SE/S-A). The SE/S-A (see Appendix K1) consisted of 36 statements scored on a 4-point Likert scale: 4-*Strongly Agree* (SA), 3-*Agree* (A), 2-*Disagree* (D), and 1-*Strongly Disagree* (SD). In order to enhance consistency across categories, statements were presented both in a positive and negative fashion. For example one question posed was "I feel like the mental skills trainer had the team's best interest in mind throughout the season." And, its opposite or negative presentation: "The mental skills trainer treated us like lab-rats and cared only about his study." Statements were placed in random order to avoid a response set by the participants. In Table K2 (p. 339, SE/S-A Summary), statements are arranged with the opposing questions paired for comparative analysis. The positive statement is listed first with the negative statement immediately below it. The negative statements were then reverse coded for evaluation purposes. Statements that were reverse coded are also designated with an "R" below the item number. The overall statement earns a positive attribution (+) with scores of 4 or 3 and a negative attribution (-) when scores of 2 or 1 are noted. Percentages were then derived and a positive or negative evaluation grade assigned. Statements in Table K2 (SE/S-A) are also segregated into the Program Goals

categories utilized in the evaluation matrix: *Individual Performance, Team Performance, Learning, Value, Team Communication, Team Chemistry, Application,* and *Use*. Some statements appear in two categories.

SE/S-A Grading Criterion. Like the IMP survey, minimum criteria for a designation as positive evaluation grade was set at 70%, which is considered a passing grade in most classroom educational interventions.

Coaches Season's End Survey (SE/C). The SE/C (see Appendix K3) consisted of 38 statements scored on a 4-point Likert scale just as the SE/S-A survey was scaled and scored. Statements in the SE/C (see Table K4, p. 346) are also divided by into the eight criteria utilized in the evaluation matrix: *Individual Performance, Team Performance, Learning, Value, Team Communication, Team Chemistry, Application,* and *Use*. Some statements also appear in two categories.

SE/C Grading Criterion. Minimum criterion for a designation as positive evaluation grade was set at 51%, which represents a majority. Because of the small number of respondents (3), 51% was chosen to reflect the majority of the coaches' perceptions; a majority in this case indicates two of the three coaches. All three of the coaches (100%) responded to all 38 statements.

Mental Toughness Questionnaire (MTQ)

The perceived mental toughness questionnaire scale was developed from the 12 components of mental toughness described by Jones, et al. (2002) (Appendix C1). It was distributed at a critical juncture just before mid-season for use as an awareness tool by the student-athletes. They did not complete the survey at that time. It was administered again at season's end as a survey for the athletes to denote where they thought they scored at

the beginning of the season and where they were at season's end. Each student-athlete completed a survey, and each coach completed one for each student-athlete. Scoring was recorded on a 10-point Likert-like scale where 1 = *Not like me* and 10 = *Exactly like me*. While a large scale is not generally preferred by program evaluators (L. Weber, personal communication, September 22, 2004), the large scale was necessary to provide room for perceived improvement from the beginning of the season until the end of the season. That is, each of the 12 items was to be scored twice: (1) where the student-athlete perceived they were at the end of the training camp period in August, and (2) where they saw themselves at season's end in November. In this way, a perceived increase in mental toughness could be evaluated if it existed. These differences were recorded and cross-tabulated for comparisons (see Table L1, p. 351, MTQ Summary). The large scale also acted as a metacognitive awareness tool by having the student-athlete consider exactly where they were and how much they improved over the course of the season. While a smaller scale would simplify quantitative data gathering and interpretation, it would not have provided any in depth critical thinking or metacognition for the learner.

Each of the three coaches also completed a questionnaire (MTQ/C, Appendix C2) for each of the 13 student-athletes, giving their perception of where that student-athlete fell on the scale and if there was any improvement in mental toughness. Recording the training camp score for each of the 12 items for each student-athlete, recording the season's end score, and then calculating the difference between the two accomplished scoring. That total was then divided by the number of points available on the questionnaire (120) to arrive at the percent increase (see Table L1, p. 351, MTQ Summary). To arrive at a singular score for the coaching staff, the mean score for each

item was calculated and then the difference in means between training camp and season's end was calculated. This collective mean total was also divided by the number of items present (120) to arrive at the percent of increase in mental toughness for each student-athlete by the coaching staff.

MTQ Grading Criterion. The MTQ posed yet another challenge for establishing a grading criterion. The questionnaire itself was created by this evaluation researcher from the Jones, et al (2002) study described in the review of the literature, and had never been used in this manner before. The student-athletes were given a copy of the survey to review at mid-season (Education Session #7, 9/30/2004) when they were struggling after a series of losses. They did not complete the survey at that time, but each of the 12 items was discussed in its relation to *competing* which was the theme of the education session, and they were also asked to reflect on the areas on their own time. All of the coaching staff was present at this session, and for the remainder of the year the student-athletes were referred to this session in times of difficulty by the coaches and myself.

Because there was no base-line and no previous experience, it was determined that the expectations should be kept reasonably low. As evaluation researcher, I had to be mindful that if the student-athletes scored themselves highly in the pre-season period, there would not be much room left for improvement. Furthermore, anecdotal experience had shown me that while an individual's mental toughness could be enhanced by mental skills training, it usually took six months to a year before it was noticed and had mainly been associated with weekly one-to-one mental skills coaching over several months. Also, conversations with the coaching staff during the previous Spring had indicated that mental toughness was considered lacking, and their expectations were low as to

improving mental toughness. Early interviews with the coaching staff indicated that *any* improvement in mental toughness would be considered a success by them, and that a 10% increase would be considered a "huge improvement." I settled on a 5% improvement as the demarcation for a positive evaluation score.

Education Session Evaluations (EDS)

Education Session Evaluation for Effectiveness and Efficiency (EDS) forms were completed by the coaches and SP when in attendance at the mental skills education sessions presented by the MST to the student-athletes. These were reviewed by the MST after each session and used to improve and enhance the effectiveness of future sessions (Appendix M1).

There were 13 educational sessions during the Fall 2005 volleyball season. The first two were scheduled for 90-minutes each on Tuesday and Thursday of the second week of training camp. The second session was terminated after 60 minutes because the meeting room was uncomfortably hot and it was negatively affecting the learning environment. It was agreed that an additional session would be facilitated the following Saturday after the morning practice for 30 minutes (#2b). The final session of the year was scheduled for 60 minutes. All the other sessions were for 30 minutes for a total of nine hours of direct education. (see Appendix I: Education Session & MST Effectiveness & Efficiency Mean Grades with Curriculum Sequencing)

The 13 sessions with their primary and secondary learning objectives are also listed in Appendix I. The topic line includes the session number, the date and length of the session, the topic, which evaluators observed the session (HC, AC1, AC2, and SP), and the mean grade in the efficiency and effectiveness of the educational session as

reported by the evaluators. The evaluators in attendance graded each education session for the effectiveness and efficiency of the delivery and facilitation by the MST. The grading was on a 5-point Likert-like scale: 1 (*Strongly Disagree/Unsatisfactory*), 2 (*Disagree*), 3 (*Neither Agree Nor Disagree*), 4 (*Agree*), and 5 (*Strongly Agree/Excellent*). Evaluators could also choose *NA* for *Not Applicable*, but this was not considered part of the scale.

EDS Grading Criterion. A minimum passing grade for a positive evaluation of the delivery and facilitation of the education sessions was established initially at 70%. This was chosen because it is the accepted passing grade for most college courses. Since, however, I am a college professor and have also had corporate training in facilitative presentations, in this area I expect more from myself than just a passing grade. So, for this evaluation, anything below 80% was considered unacceptable.

Individual and Team Statistics

Wins and losses. Statistically, wins and losses are the most common way used to judge the success or failure of a sports team. Wins and losses, however, are not always an accurate measure of individual and team performance or how much that performance improved or decreed over the course of a season. Experientially and anecdotally I have been associated with teams that had poor records but enjoyed immense improvement in the quality of play as the season progressed, for instance the 1980 NY Jets who went 4-12, but jelled as a team and went to the playoffs and then the NFL Championship Game in the succeeding years. On the other hand, the 1986 NY Jets posted an excellent record of 10-6, but performance declined over the duration of the season, as they won 10 of the first 11 games but then dropped the last five games in a row. With this in mind, the

qualitative data regarding the won-loss record and the impressions of the team members on the impact of the MSTP on team and individual performance takes on a larger significance than the actual won-loss record regarding the impact of the intervention.

Team records. In 2002 the volleyball team went 20-11 (10-3 in conference) and finished 2nd in the Big East. In 2003 they posted a 13-14 (7-5) record and finished in a tie for 4th place in the Big East (see Table N1, p. 357). With a comparison of these records, which included 15 common opponents, it might seem reason enough as to why the team felt they needed outside assistance in the form of mental skills training. Additionally, in 2004 the university changed conference affiliations from the Big East to the ACC. The ACC is regarded as a stronger volleyball conference in which many of the weaker teams were considered better than the top teams in the Big East. This is another reason outside assistance was sought. With this change in conferences also came a change in scheduled opponents and from a research perspective that dramatically reduced a potential comparison to common opponents from the previous year. From 2002 to 2003 there were 15 common opponents. For the 2004 season, there were only five common opponents from 2003. Also, the ACC is recognized throughout the NCAA volleyball community as a stronger conference than the Big East, therefore, as you examine the won-loss record that must also be considered. The question then becomes “how?”

Power ratings. The difference in the level of competition between different conferences and teams within those conferences is established through what is popularly referred to as *power ratings*. In these rankings, through a statistical formula known as the *ratings percentage index* (RPI), teams and then conferences are ranked by comparison of items such as common opponents, strength of schedules, and tournament play. The

formulas for these indexes are closely guarded secrets, so validity and reliability studies are not available – except as the authors of the RPIs attest that they are statistically reliable and valid.

In NCAA volleyball, Rich Kern (n.d.) of RichKern.com provides a RPI known in 2004 as the RKPI (Rich Kern Percentage Index) that is widely accepted by coaches (HC, AC1, personal conversations, May, 2005) (see Table N2, p. 357, Stats ~ Volleyball Power Ratings). A comparison of the conferences and pre-season rankings verses season-ending rankings was conducted in this study to see primarily if there was an improvement regarding won-loss records. If so, then could any inferences be drawn correlating this improvement to the MSTP intervention?

Volleyball statistics. Beyond game and match wins and losses, individual and team statistics kept in NCAA volleyball are separated into two main groupings of offense and defense, and a stand-alone category called Ball Handling Errors, which can occur on either offense or defense and results in the loss of a point. Offensive categories are divided into Attack, Set, and Serve; defensive categories include Dig and Blocking. Attack is subdivided into kills (K), kills per game (K/G), errors (E), total attacks (TA), and attack percentage (Pct). The Set category consists of only assists (A) and assists per game (A/G). Serves consist of service aces (SA), service errors (SE), service aces per game (SA/G). Defensive Digs are counted as digs (DIG), and digs per game (D/G). Blocking is tallied by block solo (BS), block assist (BA), total blocks (Total), blocks per game (B/G), and block errors (BE). Ball handling errors (BHE), as mentioned above, is a stand-alone category.

Most of the above statistics are complex in the sense that they are directly influenced by the caliber and performance of the opposing team. That is, interpretation of the statistics can be challenged at almost every stage due to the level of competition presented by the opponents. Both offensive (Attack, Set, and Serve) and defensive statistics (Digs and Blocking) are dependent on the opportunities to touch the ball, and that opportunity is directly correlated to the ability and performance of opponents. For example, if an individual enjoyed three solo blocks (BS) in one game, was this due to her being in the right place and having the right timing, or was it because her opponent was unskilled and continually allowed herself to be "tooled" by hitting directly out of bounds? The same could be said for service aces (SA), which would seem like a relatively solo endeavor. A case, however, could be made less for the servers' ability than the ineptness of those receiving the serve. As you can see, the confounding variables in interpreting and correlating volleyball statistics are many. Statistics within a sport may become valuable from a summative viewpoint, that is, when a macro view is taken over time a picture of individual and/or team consistency (or inconsistency) and performance levels may be developed. An attempt to discern what role a performance enhancement intervention played in this macro view would be an immense statistical interpretative task requiring the researcher to look microscopically at each athlete in each game scenario. This statistical mélange will be left to others who are so inclined. After several conversations with coaches and sports information department personnel who keep statistics, it was determined that service errors (SE) were the only individual category that might readily show a correlation between mental skills training and performance enhancement.

Service errors. According to the NCAA Volleyball Statisticians' Manual (Senappe, 2005), a service error (SE) is charged to a player:

> (1) if the serve fails to go over the net and lands on the side of the team serving; (2) if the serve is out of bounds or hits the antenna; (3) if the server foot-faults or takes too much time; (4) If the server tosses more than once for service; or (5) if a player serves out of rotation. (pp. 7-8)

It seems apparent that if there is a service error, that error rests solely on the shoulders of the server. The error is compounded because within the group of athletes who serve often, there is an assumed capability to serve accurately. That is, as part of the coaching strategy player rotation and substitutions are regularly employed to place specific people in the serving positions. It is not unusual for some players to never serve during the season.

With this in mind, service errors (SE) were examined for individuals who regularly served (see Table N3, p. 358, Stats ~ Individual & Team Statistics ~ SE). There are no statistics kept on service attempts, so comparison of SE or SA to the number of attempts is impossible. Finally in this category, there was an educational session (#11, 10/26/2004) devoted to focus and concentration, and the serve was used as the example to explain the importance of routine, cue words, and anchors in maintaining or reestablishing focus. SE are also compared from that point forward to earlier in the season.

Quantitative Data Analysis

Quantitative data was examined mainly utilizing percentages for comparisons and/or correlations. Measures of central tendency and standard normative data – ranges and means – were reported when appropriate.

Qualitative Instruments

Qualitative data collection instruments included:

- Interviews
- Descriptive narratives (journaling by student-athletes)
- Observations (field notes)
- Member checks (field notes)
- Peer debriefing (field notes)

Interviews

Coaches. Semi-structured group interviews with the coaches (HC and assistants) took a phenomenological approach (Fontana & Frey, 2003; Giorgi & Giorgi, 2003; Seidman, 1998; Smith & Osborn, 2003). There were two interviews: one following the preseason and one at season's end. All interviews were conducted and transcribed by the MST. Interviews followed the format guidelines suggested by Seidman (1998) and Fontana and Frey (2003). These interviews focused on the content of the mental skills training program and its appropriateness to the context; the initial, current, and future expectations of the coaches; and the effectiveness of the intervention, i.e., are the student-athletes demonstrating enhanced performance and/or enhanced mental toughness. Other goals of the interviews were to record and code their observations on the impact on team

communication and team chemistry, and also how the program affected them as coaches. For example, did it impact their coaching methods or their coaching philosophy? More specifically, did they change their approach to situations or athletes due to the mental skills training?

The first interview was one and one-half (1.5) hours in length, but because of illness to AC2, only the HC and AC1 were present. A separate interview with AC2 took place several days later and its duration was approximately one (1) hour. The post-season group interview included all three coaches and lasted almost two (2) hours.

Student-athletes. The student-athletes were interviewed at season's end, and these were also phenomenological in nature. Interview sessions were no longer than 30-minutes in length. Brevity was important for the student-athlete interviews to ensure compliance because many of them had make-up work to complete due to frequent absences from classes due to travel – they were away from campus 30 days including 17 class days – and the proximity of the final exam period. Interviews for all but two of the student-athletes took place on *Reading Day*, a day set-aside by the university separating the official end of classes and the beginning of final examinations. The brevity of the student-athlete interviews was to be facilitated by review of the previously completed season's end and mental toughness surveys in order to allow the interviewer to focus my questions, but problems in distribution prevented this (see *Season's End Packets*, p. 222). Information regarding knowledge, use, integration and effects of mental skills training were coded for the impact on individual and team performance, mental toughness, team communication and chemistry, and transference to life skills. Cumulatively, the interviews provided a summative overview of the processes and constructs involved and

the impressions of the student-athletes of the overall efficacy of the intervention on both a personal and team level.

Sport psychologist. Interviews with the SP were also phenomenological and were conducted shortly after preseason and at season's end. They lasted approximately one (1) hour each. Because the SP is an expert in the field of applied sport psychology for performance enhancement, they satisfied three areas as he reported his observations: (1) subjective overview of the effectiveness of the overall intervention; (2) specific individual student-athlete performance; and (3) mental toughness enhancement. The latter two areas were limited to athletes he had personal contact with during the season. The interviews also focused on the effectiveness of the delivery of the curriculum, appropriateness of the content of the educational events, and perceived ease of application and integration of particular mental skills by the student-athletes. These interviews further served as peer debriefing for the MST.

Descriptive Narratives ~ Journaling

Student-athletes. Initially, weekly reflective journals (see Appendix O) were completed by a majority of student-athletes prompting them to review practice and game performance to determine which mental skills were working, which were not, and also the areas in which they needed assistance. These journals were generally transmitted electronically, and feedback was given by the MST and returned via e-mail. Occasionally a student-athlete would bring a completed weekly journal sheet to a one-to-one mental skills coaching session. Consistency of compliance became an issue as the season progressed due to demands of time on the student-athletes. The information in these journals provided descriptive narratives that were coded, analyzed, and triangulated (see

Qualitative Data Analysis below) with their personal interviews and those of the coaches, and with the observations and summarized member checks recorded in my field notes.

Member Checks

Member checks consisted of weekly conversations that took place between myself and one or more of the coaches, especially the HC, regarding athletes who were doing well and those who may need a specific mental skills intervention to enhance performance or manage stress. Likewise, I conversed with individual and small groups of players for usage, techniques, specific and potential applications, and integration of particular mental skills. These conversations were informal and unscheduled and took place in coaches' offices, on the practice court before, during, and after practice or after matches, in the athletic training room while student-athletes received treatment for injuries, and occasionally in hallways or on campus when there was a chance meeting. Summaries of member check conversations were recorded in my field notes or on audiotape for later transcription into field notes. Member checks provided immediate and sometimes critical information for the adjustment of the mental skills intervention to meet current needs (formative evaluation) and for cumulative data necessary for summative evaluation.

One-to-one sessions. Included in the member checks was pertinent information from the one-to-one mental skills training sessions conducted by the MST with individual athletes. Handwritten notes were taken during and after theses sessions and placed in the individual student-athlete's folder. Only relevant information was transferred to the field notes, that is, no information of a confidential nature was transferred.

Observation

Observation included my surveillance of individual performance(s) of student-athletes in both practice and competition; interaction with their teammates, coaches, the SP, and myself in practice, competitive, and educational environments; and coaches interactions with each other and with the student-athletes, the SP, and myself in the above mentioned settings. Being considered as part of the team, I was able to observe the *half-times* (the break after the second game in a volleyball match when the team goes to the locker room) of the five of thirteen home matches I attended. Primary areas of interest were for application of self-talk; stress management including the handling of anxiety, frustration, and aggression; team communication and chemistry; and to develop a general sense of coaching style. These observations were audiotape recorded or placed directly into my field notes for later transcription.

Peer Debriefing

Peer debriefing with the SP took place immediately after six of the seven educational sessions that the SP attended and during several volleyball matches that we both attended. There was occasional debriefing and member checking with the SP utilizing e-mail and during the two interview sessions.

Field Notes

Field notes were comprised of member checks, observations, and peer debriefing. They were either hand written, typed directly into a personal digital assistant (*Palm* PDA), or audiotape recorded for later transcription. Along with the interviews, all were later transcribed into a word processing program (MS Word) and transferred into qualitative data analysis software (*NVivo*) where they were coded for evaluation (see

Coding Methodology below). A data collection schedule along with a topic calendar are contained within the Education Session & MST Effectiveness & Efficiency Mean Grades with Curriculum Sequencing Appendix I.

Coding Methodology

NVivo. The qualitative research computer software *QSR NVivo 2.0* was utilized to assist in analyzing the qualitative data. *NVivo* is one of the more popular qualitative research and analysis software programs and includes most of abilities of its partner software *N6* (formerly *NUD*IST* – Non-numerical Unstructured Data Indexing Searching and Theorizing) (Tappe, 2002). It has the ability to combine "subtle coding with qualitative linking, shaping, searching and modeling" (*NVivo*, n.d., ¶ 4). *NVivo* incorporates the concepts of "meaning units" outlined in Patton (1990) and places them in nodes for indexing and retrieval. *NVivo* refers to the nodes utilized in this study as *trees*, *branches*, and *cases. NVivo* allows the researcher to create various types of reports. From these reports the researcher can observe patterns that develop within individuals, between individuals and groups (i.e., coaches and student-athletes), and overall within the program.

Interviews (which were transcribed verbatim) and field notes that included observations, member checks, and peer debriefing were transcribed into word processing software. They were coded initially for the following general themes (*trees*): Performance, Mental Skills Training Application, Mental Skills Training Program, Communication, and Problems. *NVivo* allows for emerging data to be placed in temporary or *free* nodes until it is decided where it might fit in the node categories. When emergent data becomes a theme, it is subsequently recoded into subcategories (*branches*).

The *branches* can also be subcoded into *children*. Below are the *trees*, *branches*, and *children* utilized in this research. They appear in the following format:

- Tree: Branch – child; Branch; Branch – child

The coding in *NVivo* for this evaluation study is as follows:

- Performance: Consistency; Poor performance – Diminution; Enhanced performance
- Mental Skills Training Application: Goal Setting – Expectations; Visualization; Feelazation; Energy – Stress, Spoon-Bending; Effective thinking – Concentration, Focus; Confidence – Self-efficacy; Mental Toughness; Zone; Motivation; Life Skills; Team building
- Mental Skills Training Program: Worth; Needs assessment
- Communication: MST; Technology; Journaling; Season's End Packet; Coaching; Flexibility
- Problems: Scheduling – Time allocation, Space; Mental Skills Training – Perfectionism; Next Time; Road Trips; Injuries; Support; Communication – One shot deal

The stakeholders were arranged in the *cases* nodes as Coaches, Student-athletes, and SP.

Qualitative Data Analysis

Constant phenomenological coding, comparative analysis and triangulation to interpret the data were examined (Rossman & Rallis, 2003). The analysis consisted of reports regarding the text of specific nodes, relationships between nodes, and reports on each interview, member checks, and observations. This allowed for analysis, cross

analysis, and triangulation of themes by individuals and/or groups. The triangulation process included the comparison of data from interviews, observations, member checks, field notes, athletes' journal entries, one-to-one mental skills training sessions, and questionnaires/surveys. These multiple sources of data over multiple points in time assisted in clarifying the constructs being examined. Triangulation in this manner helped ensure credibility, dependability, and confirmability (Anfara, Brown, & Mangione, 2002; Rossman & Rallis, 2003).

The four quantitative reports on each athlete (Mental Skills Knowledge and Usage Surveys KU], Mental Toughness Questionnaire [MTQ], Mental Skills Impact Survey [IMP] and Season's End Surveys [SE/S-A, SE/C]) were compared qualitatively for levels of improvement over the duration of the season. The constructs in these self-assessments were also coded and triangulated among the HC, AC1, AC2, and the student-athletes for comparison with the member checks, interviews, and journal entries. The combination of the triangulation methods confirms the credibility of the study (Creswell, 1998; Rossman & Rallis, 2003).

The code-recode strategy encouraged dependability (Ryan & Bernard, 2003). Confirmability was ensured not only by the triangulation methods but also by the practice of reflexivity during those triangulations and in the keeping of my field notes as described by Ellis and Bochner (2003) and Rossman and Rallis (2003). Reflexivity was further achieved by reviewing field notes and audiotape recordings as part of the metacognitive process of reflection. Recurring member checks with the coaching staff, SP, and the student-athletes also contributed to the reflexive process. To ensure transferability (Anfara, Brown, & Mangione, 2002), thick, rich description of the

processes and environment and details on the key informants are provided (see Chapter V Discussion).

Creswell and Miller (2000) identify eight verification procedures to ensure what in quantitative research is referred to as validity. They are (1) prolonged engagement and persistent observation; (2) triangulation; (3) peer review and debriefing; (4) negative case analysis; (5) clarifying researcher bias; (6) member checks; (7) thick description, and (8) external audits (pp. 126-127). They recommend that qualitative researchers engage in a minimum of two of these verification procedures. In this study, as evaluation researcher I engage in five (2, 3, 5, 6, & 7), and a case could be made for prolonged engagement and persistent observation depending on what definition of prolonged is used.

All the above strategies ensure credibility, dependability, confirmability, transferability, and rigor in research of this study. The reporting of the analysis of data was extracted from these reports and appears in Chapter IV Results section.

Mixed Methods

Employing the multiple methods of interview, observation, member checks, and quantitative surveys in this case study program evaluation is consistent with my holistic methodological approach. Quantitative research in sport psychology often involves measuring the improvement (or lack thereof) in performance when one or more mental skills are employed utilizing an experimental or quasi-experimental design. Because this study was conducted in real life and real time, it was not feasible (nor desirable) to create a true experimental or quasi-experimental condition (Gall, Gall, & Borg, 2003; Rossman & Rallis, 2003). There could be no random assignment or control group.

Quantitative measurement tools for evaluation of particular portions of the program have been designed to help provide information on (1) the knowledge and usage of mental skills by the student-athletes (KU 1-5 surveys, Appendixes H1-9); (2) on the impact of the mental skills training (IMP survey, Appendix J1-2); (3) the efficiency, effectiveness, and worth of the MSTP (SE/S-A and SE/C surveys, Appendixes K1-5); (4) on the enhancement of the mental toughness of the student-athletes (MTQ, Appendixes L1-4); and (5) the effectiveness and efficiency of the delivery of the intervention education sessions (EDS surveys, Appendix I and Appendixes M1-3). Team statistics consisting of a comparison of won-loss records and individual statistics regarding service errors (SE) were also examined (Appendix Tables N1-3). Qualitative data regarding individual and team performance enhancement and overall program efficacy and worth was gleaned from interviews, journals, and field notes comprised of member checks, observations, and peer debriefing.

Both sets of data were examined, triangulated, compared, and correlated. For example, increases in student-athletes' mental toughness efficacy is reported in the context of the sport's season and subjectively compared to past experiences (pre-season) by both the coaches and the athletes (Interviews, field notes, and MTQ). Student-athletes' perceptions of their individual and team performance enhancement are compared with the perceptions of the coaches (Interviews, field notes, and SE/C, SE/S-A). Holistic observations were recorded within this context and reported for interpretation by readers of the evaluation research (Belgrave, Zablotsky, & Guadagno, 2002; Creswell, 1998; Rossman & Rallis, 2003). Quantitative and qualitative data results are summarized in the program evaluation matrix (Appendix Table P, p. 360).

Program Evaluation

The program evaluation was initiated and conducted utilizing the Evaluation Guide Matrix (Lucas, Miles, & Weber, 1973; Weber, Worner, & Harris, 2000) designed to assist in accomplishing an evaluative task as described in the Review of the Literature (see Evaluation Guide Matrix Adapted for MSTP, Appendix Table P, p. 360) The evaluation guide matrix lists the program components consisting of the curriculum, the stakeholders, and resources and materials. As noted earlier, the primary stakeholders are the student-athletes, the coaches, the SP, and the MST (myself). The decision/program components consist of the *Program Goals*, *Operationalized Outcomes* (which are the *Evaluation Questions*), *Data Collection Format*, the *Criteria* for earning a positive evaluation rating, and the *Findings.*

Program Evaluation Guide Matrix

The program evaluation guide matrix (evaluation matrix) and its purpose were described in Ch. II Review of the Literature (*Evaluation tools*, p. 102). Appendix Table P (p. 360) contains the completed evaluation matrix. The evaluation matrix contains a summary of each *Program* and *Decision Component* and a summary of the analysis for each item.

Legend. The legend provides a summary of the abbreviations utilized throughout the matrix for both the quantitative and qualitative data.

Program Components. The *Program Components* represent the major stakeholders, the curriculum, and the resources needed as well as their costs. They consist of the *Curriculum*, the *Student-athletes* (S-A), the *Coaches* (C), the *Sport Psychologist* (SP), the *Mental Skills Trainer* (MST), and *Resources/ Budget & Materials*.

Decision Components. The *Decision Components* consist of five items on which the decisions regarding evaluation are based: *Program Goals, Operationalized Outcomes, Data Collection Format, Criteria,* and the *Findings*.

- *Program Goals* – The Program Goals are set to determine the effectiveness and/or efficiency of eight major areas of concern: *Individual Performance* enhancement, *Team Performance* enhancement, the *Learning* of the mental skills the *Value* of the program, *Team Communication* enhancement, *Team Chemistry* enhancement, the *Application* of the mental skills, and the *Use* of the mental skills by both the student-athletes and the coaches.
- *Operationalized Outcomes* – The Operationalized Outcomes consist of the evaluation questions asked regarding each of the six categories contained in the *Program Goals*. For example, one of the evaluation questions is, "Student-athletes (S-A) increased their knowledge of mental skills and mental skills training." The data collection instruments utilized to determine a positive (+) or negative (-) evaluation score follow across the matrix.
- *Data Collection Format* – The Data Collection Format contains the specific section of the different instruments utilized to gather data. The quantitative data utilized surveys and volleyball statistics. The qualitative instruments consisted of the interviews with the coaches, SP, and the student-athletes; and the observations, member checks and peer debriefing conducted by the MST/evaluation researcher. The legend at the top of the matrix contains the meanings for each of the abbreviations utilized in the matrix. Each of these is examined separately below.

- *Criteria* – Criterion was established for each of the quantitative surveys and applicable statistics. It is represented usually by a minimum percentage of improvement or lack thereof. Qualitative criterion is simply a positive evaluation of the data. Each criterion is explained in its respective section.
- *Findings* – Findings for each of the instruments is summarily recorded in this column. The findings for each data collection instrument are explained in detail in their respective sections below.
- *Evaluation Rating.* The Evaluation Rating is the positive (+) or negative (-) score awarded to each data collection instrument utilized to evaluate each Program Goal. The overall program evaluation rating is computed by comparing the percentage of number of positives (+) to the percentage of number of negatives (-). To earn an overall positive evaluation rating, the positives (+) must make up a minimum of 70% of the evaluation marks. The positive evaluation mark of 70% was decided upon because it is the usual passing mark for most college courses and was thought to be a realistically achievable grade. Conversely, more than 30% negative marks would not have constituted a successful intervention.

Summary

This methodology section contains the content incorporated into the program evaluation of the educational intervention of the MSTP for performance enhancement, which takes the methodological format of an embedded mixed methods case study program evaluation. The primary and secondary evaluation research questions are considered throughout. This evaluation research of the above-mentioned educational

intervention is to determine the effectiveness, efficiency, and worth of the program intervention in keeping with those evaluation research questions, that is, its *impact*. This methodology provides a holistic macro-view of the impact of the intervention on the performance of individual volleyball players in particular and on the team in general. It also provides a micro-view of formative and summative feedback to the MST/author/evaluation researcher on instructional design and curriculum delivery.

The participants included 13 student-athletes who made up the varsity volleyball team at a Division 1 NCAA university, three coaches, the SP (who may be considered a co-researcher), and myself as MST/evaluation researcher. These participants also formulate the principal stakeholders. Minor stakeholders include other sports teams of the university athletic department, the university, the sport psychology community, and the local and national community as a whole.

The Gerlach and Ely ID model was modified for the ID and adapted also as the program evaluation prescriptive model. Methodology was explained for each of the ten components of the model: (1) *Specification of Objectives*; (2) *Specification of Content*; (3) *Assessment of Entering Behaviors*; (4) *Determination of Strategy*; (5) *Organization of Groups*; (6) *Allocation of Time*; (7) *Allocation of Space*; (8) *Selection of Resources*; (9) *Evaluation of Performance*; and (10) the *Analysis of Feedback*. The program evaluation includes an instructional design of the intervention with a flexible curriculum in addition to the components of the evaluation itself.

The quantitative data includes four categories of surveys: (1) mental skills knowledge and use surveys (KU 1-5); (2) the mental skills training impact survey (IMP); (3) a mental toughness questionnaire for the student athletes (MTQ/S-A) and for the

coaches (MTQ/C); (4) and season's end surveys for both the student-athletes (SE/S-A) and coaches (SE/C) to assess the impact of the intervention. The delivery of the education sessions was also surveyed (EDS) to gauge the effectiveness of the intervention delivery. Criteria for grading were established individually for each survey/questionnaire. Finally, along with won-loss records, a look at individual and team statistics for services errors (SE) were examined to determine if any correlation with enhanced performance existed.

Quantitative surveys and assessments contribute to the holistic précis developed by the qualitative data that includes interviews, descriptive narratives, and field notes consisting of observations, member checks, and peer debriefing. A code-recode strategy of the qualitative data was employed. This was facilitated through the use of the qualitative research computer program *NVivo*, which enabled a thorough examination, cross referencing, and triangulation of the data.

Constant phenomenological coding and recoding, comparative analysis, reflexivity, and triangulation to interpret the data were employed throughout the data analysis. The triangulation process included the comparison of data from interviews, observations, member checks, athletes' journal entries, one-to-one mental skills training sessions, and questionnaires/surveys. Thick, rich description of the processes and environment and details on the key informants are provided. All the above strategies ensure credibility, dependability, confirmability, transferability, and rigor in research of this evaluation study.

The program evaluation was initiated and conducted utilizing the adapted Weber Program Evaluation Guide Matrix (evaluation matrix). The data were analyzed and the results incorporated into the evaluation matrix containing both program and decision

components. The program components include *Curriculum*, the *Student-athletes* (S-A), the *Coaches* (C), the *Sport Psychologist* (SP), the *Mental Skills Trainer* (MST), and *Resources/ Budget & Materials*. The decision components consist of the *program goals*, *operationalized outcomes*, *data collection procedures*, and the *findings.* Criteria were established for each decision component and from that an evaluation rating was assigned and entered into the evaluation matrix. The results of this endeavor are found in the next section: Chapter IV Results.

CHAPTER IV EVALUATION RESULTS

In this chapter the outcome results of the program evaluation are presented. The outcome evaluation describes the positive or negative impact of the educational intervention of the mental skills training program (MSTP) on the university volleyball team. The impact is described as the effectiveness, efficiency, and worth of the intervention; and is inclusive of the primary evaluation research questions which include the following categories: perceived enhancement of individual and team performance, focus and concentration, communication and chemistry, mental toughness, and the investment of time and effort. The results were obtained by analysis of both the quantitative and qualitative data that were gathered and a comparison and correlation of the two methods of analysis.

In this section, the results are presented for each quantitative instrument described in Chapter III Methodology, and include the qualitative results applicable for that instrument. A summary of these results appears in the Program Evaluation Guide Matrix (evaluation matrix).

Program Evaluation Guide Matrix

The evaluation matrix adapted for this evaluation was utilized to chart and track evaluation results for analysis and interpretation as they apply to the evaluation research questions. The completed evaluation matrix can be found on p. 360 (Appendix P). Pertinent tables containing data from the various program and decision components follow the evaluation matrix at the end of this chapter.

Quantitative and Qualitative Data Results

The instruments used for quantitative data analysis include four categories of surveys: (1) mental skills knowledge and use surveys (KU 1-5); (2) the mental skills training impact survey (IMP); (3) season's end surveys for both the student-athletes (SE/S-A) and coaches (SE/C); and (4) a mental toughness questionnaire for the student athletes (MTQ/S-A) and for the coaches (MTQ/C). The effectiveness and efficiency of the delivery of the educational sessions by the MST was assessed by education evaluation session assessments (EDS) completed by the coaches (HC, AC1, and AC2) and the SP. Volleyball statistics including won-loss records and service errors (SE) were also examined.

Qualitative data consists of the interviews, descriptive narratives, and the components of my field notes: observations, member checks, and peer debriefing. Results of the qualitative data analysis appear appropriately throughout each quantitative instrument result sections.

Knowledge and Use Surveys (KU)

These five surveys (KU 1-5) utilized a 6-point Likert-like scale: 0 (*No Knowledge/No Use*), 1 (*Very Little Knowledge/Use*), and so on up to 5 (*Excellent Knowledge/Use*). This same 6-point Likert-like scale was utilized on each of the KU surveys.

KU-1. KU-1 (see Appendix H1 for the survey) was distributed to the student-athletes at the second educational session (8/19/2004) and was returned completed two days later at the conclusion of the second session (2b). There was 100% compliance (13/13). This survey was mainly utilized as a formative tool by the MST to determine

how much exposure to mental skills training each of the 13 respondents had. It was examined holistically and had little impact gauging summative increases in performance enhancement.

KU-2. The second KU survey (KU-2) (see Appendix H2) was administered toward the end of the learning session #3 on 8/26/2004. There was 100% (13/13) compliance in completing the survey. Initial analysis of KU-2 and the remaining KU surveys (KU 3-5) consisted of examining discrepancies between reported levels of importance (*LOI*) and levels of use (U*sage Now*). A difference of two points constituted a discrepancy and a difference of three or more points was considered a major discrepancy. Also, if three or more athletes reported a disagreement or a major discrepancy, this was also considered a major incongruity.

The only item that showed a widespread discrepancy between perceived importance and use was the *Rubber-Band Exercise*, which is a self-talk awareness exercise in which they wore a rubber band around their wrist and snapped it when they became cognizant of negative self-talk. This problem came to light only after the MST reviewed the KU-2 surveys. While the student-athletes universally categorized the exercise as important or extremely important (4 or 5), *Usage Now* was down two or more points for 8 of the 13 student-athletes. Three student-athletes who had described the rubber band exercise as extremely important (5) had abandoned it altogether (0). Investigative member checks illuminated that at the first match a referee told them they could not wear the rubber bands on the court because it constituted *jewelry*, and the wearing of jewelry is against NCAA volleyball rules. As a result, many student-athletes curtailed their use of the exercise after the initial trial, three abandoning it altogether.

KU-3. The third KU survey (KU-3) (see Appendix H3) was administered on 9/21/2004. There was a 92% (12/13) compliance rate. One student-athlete had an evening class that, of course, took precedence over the mental skills education session. There were few discrepancies between *LOI* and *Usage Now* on this survey, and they were scattered throughout the team. No one requested assistance that was not already receiving regular mental skills coaching in person or on-line.

KU-4. The fourth KU survey (KU-4) (see Appendix H4) was contained in the *Season's End Packet* distributed to each of the student-athletes. Compliance was a problem with KU-4 because of the distribution difficulties (see *Season's End Packets*, p. 222). Only 7 of 13 (54%) completed the KU-4 surveys.

KU-5. The fifth and final KU survey (KU-5) (see Appendix H5) was distributed after a practice session near the end of the spring training season that occurred during the second half of the Spring semester 2005. There was 100% compliance, but the team at that point consisted of only eight student-athletes. The attrition rate was caused by several factors: (a) the three seniors were no longer members of the team, (b) the non-scholarship freshman "walk-on" had not been invited back, and (c) one scholarship student-athlete had been dismissed from the team (discussed in context in Chapter V).

KU-3 & KU-5. Since little new learning took place after the completion of the KU-3 survey, the items it shared with KU-5 were compared. KU-3 was also chosen because 4 of 8 current team members did not complete the KU-4 survey. There were 27 shared items between KU-3 and KU-5 (see Table H8, p. 328, Mental Skill Increases ~ KU-3 vs. KU-5).

Content Comparison. For a complete list of all mental skills and techniques taught and the surveys in which they appeared, see Table H9 (p.329), KU Surveys ~ Content Comparison.

KU Scoring and the Evaluation Matrix

On the 36 common items measured between KU-1 through KU-4, a 53.4% increase in knowledge was reported, well exceeding the threshold of 30% (see Table H6, p. 326, Mental Skills Increases ~ Knowledge Summary). Student-athletes reported a 73.4% increase in use (see Table H7, p. 327, Mental Skills Increases ~ Usage Summary).

KU Surveys & Level of Knowledge

In the evaluation matrix (see Appendix P, p. 360), there are two program components where the knowledge criteria of the KU surveys are utilized: *Curriculum* and *Student-Athletes*. The *Program Goal* for *Curriculum* is *Effective: Learning*; and the *Operationalized Outcome* is "Athletes increased their knowledge of mental skills and mental skills training." The S-A component also has *Effective: Learning* as a *Program Goal* and adds *Effective: Use*. Operationalized Outcomes are "% S-A who increased their knowledge of mental skills and mental skills training" and "% S-A who increased their use of mental skills."

It is worthy of note that even though a substantial amount of the curricula had been presented by the time the student-athletes completed KU-1 and KU-2, 53.4% of the respondents reported an increase in their level of knowledge after their first report (see Table H6, p. 326, Mental Skills Increases ~ Knowledge Summary). Within this, 26.3% reported increases in level of knowledge of two or more points on the 6-point (0-5) Likert-like scale. Of the 12 student-athletes who responded at least twice to the 29 items

that appeared on those multiple surveys, they reported a mean increase in level of knowledge of 9.8 (33.8%) skills. The range went from the largest number reported of 14 to the least of 5 (see Table H6). It should be noted that the student-athlete reporting the 5 was previously exposed to *informal* mental skills training. That is, during one-to-one sessions with this athlete it was determined that her coach had incorporated a significant amount of mental skills training into his regular coaching practice. It was, however, never remarked that the team was receiving mental skills training.

Mental skills reported as having a 75% or greater increase in level of knowledge included *Outcome Goal Setting/End-result Thinking* (84.6%), *Performance Goal Setting* (84.6%), *Feelazation* (83.3%), *Bodily "Felt Sense"* (90%), *Energy Management* (85.7%), *Self-talk* (84.6%), *Trusting Mindset* (75%), *Pre-competition Mental Practice* (75%), and *Flow State/The Zone* (76.9%). Items reflecting the lowest percentage increase (14.3%) included *Attitude is a Decision*, the affirmation/motto *"Fast, Hard, Strong!" Mental Toughness*, and mental toughness components *Thrive on pressure*, and *Recover from mistakes*. One should not conclude from this low percentage of increase in level of knowledge that these items were not learned, however. If you examine the *Mean Hi-Score*, which is the mean of the highest score reported for each of the 36 items by each of the student-athletes, you see that the reported level of knowledge for each of those items was over 4.2 MH-S when 5 was the highest score reportable: *Attitude is a Decision* (4.67), *"Fast, Hard, Strong!"* (4.58), *Mental Toughness* (4.23), *Thrive on pressure* (4.75), and *Recover from mistakes* (4.75). These high scores leave little room for an increase in knowledge. The only item to score below 3.0 was the *3 Head-Butt Rule* (1.92).

Level of Knowledge ~ Qualitative Data

In the introductory education session, the athletes were questioned regarding their prior knowledge of mental skills training in general and the six core mental skills particularly. Overall, they reported at least a conceptual knowledge of all the core mental skills except feelazation – which was to be expected since I had invented the term. Regarding goal setting, when polled by raised hands, they all reported that they knew what goal setting was and how to do it. After the two introductory education sessions, Kelly remarked that she had a new appreciation for goal setting and "realized that I haven't been getting the most out of my goal setting."

When queried about visualization, everyone conveyed they knew how to visualize. Gail reported that her coach "had them use visualization as part of our regular routine for swimming – when I swam competitively." Several other former swimmers echoed this experience. Several student-athletes stated their coaches had also taught them how to visualize. After further facilitated discussion and education, Betsy reported that she was not quite sure anymore what constituted visualization, so she "wasn't sure if she used it or not."

When the topic of energy management came up, most student-athletes had some concept of the construct, but were not certain what it encompassed until I informed them that for the most part we would focus on the stress management element of energy management. They all knew expressed knowledge of what stress was, and most declared some knowledge of stress management. Cora inquired, "You mean, like meditation?" Kelsey stated she liked to run to relieve her stress, wherein mostly everyone agreed that exercise helped reduce her stress.

Regarding the topic of effective thinking, as a group, they were less sure of what that mental skill comprised. When informed that part of effective thinking consisted of focus and concentration, the majority expressed a desire to increase their ability to do so. When questioned about self-talk, however, only two freshmen, Nicole and Cindy, seemed to know precisely what I was referring to. Mental toughness was a concept they were all familiar with, but not surprisingly, those who participated in the discussion all had different descriptions of what they thought constituted mental toughness.

Overall, the 13 student-athletes had a passable foundation in goal setting and visualization, but as they would reveal in conversations throughout the year, they thought they knew more than they actually did, especially on how to apply the mental skills to enhance their performance. For instance, Kelly observed in season's end interview, "I kind of knew about them [mental skills], like self-talk, and visualization, but never really thought in depth about them and thought that really they could play a factor in performance. Obviously, they can."

Level of Knowledge Results. For program evaluation purposes, the knowledge portion of KU surveys 1 through 4 (KU-1-4) received positive marks for exceeding its thresholds (30% increase). In both *Program Components* of *Curriculum* and *Student-athletes* 53.4% of respondents reported an increase in knowledge of the 36 items polled. The KU-5 comparison to KU-3 also indicates an increase in Level of Knowledge categories by exceeding its threshold of not more than a 10% decrease (>10%🡻) by posting an actual increase of 1.18%. Qualitative analysis showed an increase in knowledge of mental skills and mental skills training throughout the season.

KU Surveys & Usage Now

Since mental skills training is applied sport psychology, application, or use, is the main focal evaluative construct. The *Level of Usage* was only used in the *Student-athlete* program component. On KU-4 the addition of the *Usage TC* (Use in Training Camp) category was compared to the *Usage Now* category to determine the perceived increase or decrease in use of a particular mental skill since the training camp period. Only 7 of the 13 (53.8%) student-athletes complied by completing KU-4. Overall in this sample there was a 73.4% increase reported in use of mental skills since training camp with 48.4% reporting increases of two or more points. Their mean increase in usage of the 50 mental skills items listed was +1.40 on the 6-point Likert-like scale, which is a 23% mean increase. When examining the 29 common items extending through KU-2, KU-3, and KU-4, the 12 student athletes responding reported a mean increase in 12.6 (43.4%) skills each. The largest individual's increase in use was 18 skills and the least increase in use was for 7 skills (see Table H7, p. 327, Mental Skill Increases ~ Usage Summary).

Level of Usage ~ Qualitative Data

Universally the student-athletes qualitatively reported an increase in use of at least several core mental skills, if not all six. For example Victoria commented,

> Um, I don't think it changed the way I visualized. I probably use it more. I mean, I know I definitely did use it more. Like if things weren't going the right way, I would visualize on something to do right. Before every game, during the National Anthem, I visualized (chuckle).

Betsy remarking on her usage:

> Goal setting. I don't know if I was always aware of it, but talking about it just makes you more aware of it. Also, pre-game habits and rituals and that kind of stuff - and [then] try to make it as consistent as possible. And, what else ... Visualization, it's getting there. A little skeptical of it still, but I was getting there. (chuckle)

Kelsey became effusive when describing how her knowledge and use increased:

> Well, in the beginning of the season when I was still playing [she was injured later], I know I learned about and used quite of few of the visualizations and relaxation, the cues, and the mental pictures and feelazation. I think from what I understand feelazation to be, it's something that I really used. … So I know there's value to it, for sure. And I know visualization is something that I use a lot. I really like the Circle of Excellence, too. That was one thing that I really liked. My anchor was to press my toes down into the bottom of my shoes and when we would do the (National) Anthem, I would stand there and for the first half of it I would picture myself doing the right things with my toes pressed down getting my arm up, and [paused while she closed her eyes and visualized herself before a game] … I'd be staring at the flag and then once it got to a certain part of the song then I was like "OK, let's go". So that was just a way to get myself focused.

Cora observed that she knew how to visualize in the past but her usage was inconsistent:

> I did [use visualization], but not all the time. I think I used to do it sometimes before big matches. But this year I did it all the time, before every game and the night before. … At night I would visualize the games and what I wanted to do.

> Even, not in volleyball, it helped me when I was a little stressed. I would visualize a little bit and go to my "happy place." (Giggles)

Nicole described how not only herself, but she and other team members would use goal setting to stay focused:

> [I] just [used goal setting] more and more throughout the year. I make little goals with games and with myself. And, I know as a team, we set little goals like first team to five, so there was like a little competition inside each game. Like, we have to get to 5 before they do, and then to 10, to 15. So we felt like we were accomplishing something throughout the match. So, I would kind of do the same thing, like going and getting this many digs, or see how many perfect passes in a row I could have, or not making any service errors. So, I just set little goals within each game and it would kind of help motivate me, and made me feel good. And, after a while, I'd just start playing and not think about my goals. They were something to kind of get me going. And, if I kind of get off focus, then I would think about one of the goals and say I need to refocus on that.

Level of Usage Results. The Level of Usage received positive evaluation marks for both the KU-1-4 and the KU-3 vs. KU-5 data collection formats. KU-1-4 exceeded its minimum threshold of 50% increase by reporting a 73% increase in use with a *Mean Hi-Score* of 3.67 out of 5. The KU-3 vs. the KU-5 category also received a positive mark by showing only a decrease of –1.8% when including the competition items (#15, 17, 18). The threshold was a greater than 5% decrease (>5%🡻). Without the competition items, there was an increase in use of 1.18%. This was again higher than the demarcation threshold of 0.0% decrease. The qualitative data reflected a universal increase in usage of

mental skills, especially goal setting, visualization, feelazation, and self-talk (effective thinking).

Mental Skills Increases ~ Use

Items showing more than 75% increase in use included: *Visualization, Focusing (guided visualization), Self-Image, Changing Self-Image, Trusting Mindset,* and "*Fast, Hard, Strong!*" at 100%; *Performance Goal Setting, End-Result Visualization, Circle of Excellence, Feelazation, Energy Management, Stress Management, Stress (my stress), Self-Talk, Training Mindset, Flow State/The Zone,* and *Mental toughness* at 85.7%.

Mean Hi-Scores (MH-S)

The *Mean Hi-Scores* were calculated by taking the highest score reported by a student-athlete, regardless of which of the three main KU surveys it appeared (KU-2, KU-3, KU-4), and calculating means for each of the 36 common items being examined. Using the *Mean Hi-Scores*, there were 18 items reflecting a usage level of 4.0 or higher.

Regarding the lower reported usages by *Mean Hi-Score*, the *3 Head-Butt Rule* (1.85 MH-S) was the lowest reported used construct. It was also low on the knowledge scale (1.92 MH-S). It is logical that if a student-athlete does not know what the *3 Head-Butt Rule* is, they would be hard pressed to utilize it. Other constructs with usage MH-S values (followed by knowledge MH-S) below 3.0 include: *Feelazation* (2.77/3.60) and its counterpart *Bodily "Felt Sense"* (2.62/3.23), the *Rubber Band Exercise* (2.69/4.77), *Scotomas* (2.31/3.85), and the mental toughness component *Train Your Brain* (2.62/3.58).

Results – KU Surveys

The KU Surveys supplied much information about the amount of knowledge and use of the mental skills learned by the student-athletes. They show that effective learning

occurred and that it increased. Along with that the use of mental skills increased, and it was also effective. The qualitative data supports and compliments the quantitative survey information contained in the KU surveys.

Mental Skills Training Impact Survey (IMP)

In the evaluation matrix (see Appendix P, p. 360), there are two program components where the IMP survey is utilized: *Curriculum* and *Student-Athletes*. The *Program Goal* for *Curriculum* is *Effective: Value* and the *Operationalized Outcome* is "Information was appropriate and valuable." The *Program Goals* for *Student-Athletes* are *Effective: Application* (% S-A who applied mental skills to performance); *Effective: Use* (% S-A who increased their use of mental skills); and *Effective: Mental Toughness* (% S-A who reported increase in mental toughness).

The IMP was contained as part of the season's end MS Knowledge/Use Survey (KU-4) (see Appendix J1). Compliance consisted of the same eight student-athletes (62%) who completed the KU-4 survey. One student-athlete who was injured in week 9 left several of the items blank since she was not playing the final weeks of the season, as did the non-scholarship "walk-on" mentioned above. A grade of 70% was the passing criterion for the combination of the *Slightly Positive* and *Very Positive Impact* designations.

Of the 50 items listed none were reported having a *Slightly Negative* or *Very Negative Impact* (see Table J2, p. 336, Mental Skills Impact Survey Summary). Respondents reported 29 items receiving at least one scoring of *No Impact*. Of these, 10 had only one respondent reporting a lack of impact. The item having the most *No Impact* responses was Feelazation (5-*No Impact* / 1-*Slightly Positive Impact* / 2-*Very Positive*

Impact) at 62%. This was followed closely by *Bodily Felt Sense* (4/1/0), which, because of the low compliance in reporting for that item, is at 80% *No Impact*.

All but four items *(5 Mental Obstacles to Success, Scotomas, Bodily Felt Sense,* and *Mental Practice Visualization*) received points as *Very Positive Impact*. The two items that enjoyed the most *Very Positive Impact* scores were *Self-talk* (0/0/5; 100%) and the affirmation *"Have Fun!"* (0/1/5; 83%). The following items also had a high percentage of *Very Positive Impact* responses: *Maintaining Focus* (0/1/4; 80%); *Recovering from mistakes* (0/2/4; 66%); *Mental Toughness* (0/2/4; 66%); *Self-Image* (0/2/4; 66%); *Outcome Goal Setting* (0/2/4; 66%); *Visualization* (0/3/4; 57%); and *Performance Goal Setting* (0/3/4; 57%).

Mental Skills Impact ~ Qualitative Data

The IMP survey examined the impact of the mental skills training on individual student-athletes. Qualitatively, there was no negative feedback regarding the program impact on individuals. For example, Nicole pronounced:

> I liked the program. I thought it helped us as a team, but I think more than anything it really did help me more individually. I think the thing it helped me the most on was not necessarily learning how to focus, or learning how to do certain things, but learning how to maintain that. That was a big thing for me, being able to maintain that focus.

Cindy felt positively impacted in particular by feelazation.

> I know I did a lot of visualization, but I really like the feelazation. I know, before games, like some games when I played really good, I would picture them mentally, but also feel it. And, it helped me go out and play a lot stronger.

> Especially, when you are a player [like me] who comes out and goes back in, it's hard to get back into the game, and I think that [feelazation] helped a lot.

One of the captains, Betsy, declared that the weekly reflections with feedback from the MST helped her, "I liked the program. I thought it was helpful. For me, individually, the sheets [reflections] after the game helped me to reflect on what had gone on that week and address issues that needed to be addressed."

Results – IMP Survey. Overall, the MSTP was perceived by the student-athletes as having a positive impact on their performance. *Slightly Positive Impact* was reported 38% of the time and *Very Positive Impact* 41% for a total of 79%. This is above the 70% demarcation and therefore earns a positive evaluation score.

Areas where this instrument was considered in the student-athlete section of the evaluation matrix (Appendix P, p. 360) included *S-A Effective: Value; S-A Effective: Application;* and *S-A Effective: Use*. It stands to reason that if a student-athlete considered a mental skill impactful, it would then also have value. Likewise, a mental skill could not have had a positive impact unless it was applied. Furthermore, without its effective use, it would not have been impactful. The qualitative data analysis confirms this.

Student-athlete Season's End Survey (SE/S-A)

The SE/S-A (Appendix K1) is one of the most used survey tools in the evaluation matrix (see Appendix P, p. 360). While it can be found in only two program components: *Curriculum* and *Student-Athletes*, its use throughout the *Program Goals* (Operationalized Outcomes) is extensive. *Program Goals* for the *Curriculum* component include: *Effective: Learning* (S-A increased their knowledge of mental skills and mental skills

training); *Effective: Applicable* (Information was applicable for enhancing performance; *Efficient: Timely* (Education sessions did not run over scheduled time limits); *Efficient: Flexibility* (MST adjusted his schedule to meet the needs of the team).

In the *Student-Athletes* component, *Program Goals* are comprised of *Effective: Learning* (% S-A increased their knowledge of mental skills and mental skills training); *Effective: Value* (% S-A who thought program was valuable); *Effective: Application* (% S-A who applied mental skills to performance); *Effective: Use* (% S-A who increased their use of mental skills); *Effective: Enhanced individual performance* (% S-A improved individual performance / % S-A who perceived individual performance was enhanced); *Effective: Enhanced team performance* (Team performance improved / % S-A who perceived team performance was enhanced); *Effective: Team communication* (S-A: MSTP improved team communication); *Effective: Team chemistry* (S-A: MSTP improved team chemistry).

The SE/S-A survey was also contained as part of the *Season's End Packet*, and because of that compliance suffered. Only 8 of 13 (61.54%) student-athletes responded. In the SE/S-A Survey 5 of the 6 categories received a positive evaluation grade of 70% or higher. This resulted in an overall grade for this segment of the evaluation of 83.58% positive response (see Table K2, p. 339, SE/S-A Summary).

Because the paired questions contained in the SE/S-A are utilized in two *Program Components* and a multitude of *Program Goals*, the Summary Table K5 (p. 350) is arranged in the following order to reduce redundancy:

- Individual Performance
- Team Performance

- Learning
- Value
- Team Communication
- Team Chemistry
- Application
- Use

Individual Performance (Quantitative [Qt] 87.5% +; Qualitative [Qa]+). Individual performance was enhanced by the addition of mental skills training. There were two pairs of statements in this category (#2/16, 27/10). These almost identical paired statements were answered consistently by the student-athletes revealing they perceived their individual performance was enhanced by the mental skills program (87.5%). Only one student-athlete reported that mental skills training did not contribute to any improvement in her performance (#10, 12.5%).

Qualitatively, in the interviews and the member checks, all the student-athletes reported that the mental skills training helped their performance in some way. That is, there was no indication as to who the one student-athlete might be that reported that the mental skills training did not contribute to any improvement in her performance. Comments usually reflected those of Marie, who stated, “I think it [mental skills training] did. I played definitely better this year than I did last year. … So, not good enough, but much better than last year.” Victoria remarked, “I think it definitely had an impact. I can’t really say exactly like how much, but I’ve definitely improved this year from last year.”

Team Performance (Qt 50% -; Qa -). Team performance was not improved according to the student-athletes. There was only one pair of statements representing

team performance (#12/3), and half (50%) of the respondents believed that the overall team performance had not been impacted in a positive manner. From an optimistic perspective, half of the respondents perceived that overall team performance had been enhanced because of the mental skills training. Since this is below the 70% passing criteria for this survey tool, however, it earns a negative evaluation rating.

Regarding the team, reports generally focused on a specific exercise, like the rubber band exercise and the affirmation, “Fast, hard, strong!” For example, Cheri observed, “I think the negative rubber band thing you did in the beginning was very good for our team.” And, even as the walk-on freshman, Cassidy observed,

> I think it helped people be more positive. Like when we did the rubber band thing and then people noticed that they had been negative a lot. And, it helped us realize that this isn’t helping anything to be negative and just being positive had a better effect.

Victoria added, “I think that it helped us to focus on a lot of things that we probably would have never even thought about focusing on. Like, letting things go, and ‘Fast, hard, strong!’ which was our motto.”

In response to team performance, Nicole provided more insight,

> I think there were definitely certain things that helped us more than others as a team, maybe things that were easier, I guess, for people to do. Like the goal setting was a big thing and staying focused and trying to get in the zone. But there were a lot of things that you would point out before matches or during matches that were part of the program and I think they helped. Obviously the biggest thing was “Fast, hard, strong!” It was kind of our focus for the year. And, even though

> we didn't always do it (chuckle) [start fast, play hard, finish strong], I think it definitely did help us a lot as far as getting into the mind-set of "you can do this" and having confidence as a team and having confidence with each other. I think that's probably the biggest thing, focus and confidence.

Conversely, Nicole also noticed that the program was not helpful to everyone, "I'm sorry that our team wasn't as cooperative as a group. … It's more just you get [out of it] what you put into it." Another young player rejoined,

> I think some of them could have taken it a little more seriously and it would have helped them. Some of them kind of came at it with closed minds at times. But, if they hadn't, it would have helped more. I think it helped the people who did take it seriously.

When quantifying the qualitative data, it seems there were five student-athletes who expressed the perception that at least some portion of team performance was improved. Upon closer examination, however, these positive sentiments dealt more with team chemistry and attitudes as opposed to actual performance. With that in mind, there were more reports reflecting the quantitative data, that is, about half the team thought team performance was not improved by the MSTP.

Learning (Qt 97.50% +; Qa +). Learning took place. There were five pairs of statements regarding learning (#5/28, 8/21, 32/13, 21/18, 33/30). Student-athletes perceived that the mental skills were easy to learn (items #5/28, 93.75%) and to understand (#21/18, 100%) because of the way they were presented. They believed the mental skills trainer had the teams' best interest in mind (#8/31, 93.75%), and that the education sessions were delivered in a timely, entertaining, and educational fashion

(#32/13, 100%). All respondents were able to transfer one or more mental skills to other areas of their lives beyond volleyball and found them helpful (#33/30, 100%).

Universally, the qualitative data supports that learning took place. Student-athletes express this more in the context of *Use* and *Application* than in direct correlation to *Learning* as an individual topic.

Value (Qt 89.06% +; Qa +). The MSTP was valuable, or worthwhile. There were four pairs of statements representing the value of the program (#4/26, 22/9, 29/15, 36/34). Student-athletes believed that mental skills training should be a regular part of volleyball training regimen (#29/15, 87.5%), was well worth the extra time spent (#4/26, 81.25%), and should be continued next year (#22/9, 87.5%), and all respondents will recommend mental skills training to other athletes (#36/34, 100%). Value achieved a positive evaluation ranking at 89.06%.

Team Communication (Qt 93.75% -; Qa+/ -). Team communication was not perceived improved by the student-athletes between themselves and the coaches (#35/20, 93.75% negative). This was confirmed by the qualitative data. Inter-squad communication, however, was described as improving because of the MSTP and while it does not change the negative rating of this *Program Goal*, it is noteworthy.

Team Chemistry (Qt 87.5% +; Qa +). The student-athletes perceived that team chemistry was enhanced by the mental skills training program (#17/24, 87.5%).

The qualitative analysis can best be summed up by Victoria when she was asked if she thought staying extra time for the program was worthwhile, she exclaimed emphatically, “Oh, Yeah!” Comments ranged from simple statements like Betsy’s “I liked the program. I thought it was helpful.” Megan was more thoughtful, “I thought it

[the program] was beneficial. Everything we did was interesting and new and fun to do with the team." Gail commented, "I thought the program was really pretty interesting. I'm a psych major so I thought it would be interesting." Cora offered some reasons why she thought it was beneficial,

> Well, as a team I thought it helped a lot. I think it brought us together in several aspects. It made us think about our goals more. It made us more aware of our goals and what we were there for and what we were working for, so I think that helped a lot.

Application (Qt 84.13% +; Qa +). Student-athletes applied the mental skills they learned. There were four pairs of statements regarding application (#25/6, 7/23, 14/19, 33/30). Regarding journaling, they found the weekly reflective journaling helpful in applying specific mental skills (#25/6, 87.5%). Of the eight respondents, two did not participate in the journaling at all, which is reflected in the responses to the positive statement "I found weekly reflective journaling helpful in applying specific mental skills." Seven of the eight student-athletes, however, reported that the journaling was not a waste of time. Interestingly, only two of these respondents participated in the reflected journaling throughout the season with the other four journaling only twice each. Additionally, one of the non-respondents to the SE/S-A survey participated in the weekly reflective journaling in all but one week and reported it (interview) most helpful.

The student-athletes also found the one-to-one mental skills training sessions to be helpful (#7/23, 73.33%). While this item barely receives a passing mark, the fact that it receives a passing mark at all makes it interesting since only 3 (37.5%) of the 8 respondents made use of the one-to-one mental skills training sessions. One of the non-

participants left this item blank in the positive statement, but she disagreed that it "would not be worth the time" in the negatively phrased statement. Application of mental skills into practice and competitive performance was considered easy (#14/19, 81.25%), and, application of specific mental skills into other areas of life was accomplished and helpful (#33/30, 100%).

From the qualitative perspective, student-athletes reported application of the mental skills on many levels. For example, Cora mentioned, "I think when we would have our meetings with you, just as a team we incorporated a lot of stuff like 'Fast, hard, strong!' and I think we got a lot out of it …" Victoria commented on her use of the Circle of Excellence, letting go (moving on), and reflection:

> In the beginning I was doing it before every game, and then … I didn't do it before every game. But, I still used it throughout the year. And, I really focus a lot on the getting "moving on" when I made mistakes, and then after the game, like looking back on it.

Victoria also made some transfer to her academic life:

> This one class that I'm taking (chuckle), I was not doing well in the beginning at all and I was thinking about dropping it but then I used the self-talk [and told myself I could do it]. Now, I'm doing OK [in that class]. Last year I was in the same situation, and I dropped the class.

Cassidy commented on how she modified the Circle of Excellence exercise:

> Um, I actually did something like that in high school. You went in more detail with it this year, but the concept wasn't as new. I think, like the Circle of

> Excellence, I had never done that before. … [Later on] I didn't go through the whole entire thing, but l think the concept of it - I used the concept.

Nicole recounted how she applied a stress management technique to her studies:

> Like before, when I got a bad grade on a test, I let it ruin my whole day and it would stress me out more when I dwelled on it. Now, I just kind of mimic a mistake in volleyball, I guess, and it's kind of like "all right, instead of worrying about this one, I just need to get a good grade on the next test." And, I may need to do more study on the subject, and I have other stuff to do … It just happens, so I'm not going to get stressed out about that stuff. And, I let it go [and say] "it's just a part of my grade." And, somehow they [my grades] get better.

Betsy, again, describes some of her main application as it applies to visualization, "And, what else … visualization, it's getting there. A little skeptical of it still, but I was getting there." (chuckle) When questioned further about the skeptical use of visualization, Betsy further observed:

> I did [use it], but not knowing it, kind of thing. Like, picturing me if I've been hitting into the block a lot, then like thinking to myself [how to avoid it]. Obviously if you're thinking about it you're picturing it in your head.

Use (Qt 85.42% +; Qa +). Mental skills were utilized by the student-athletes. There were three pairs of statements referring to use of mental skills (14/19, 33/30, 1 & 11). Student-athletes used mental skills in other areas of their lives (#33/30, 100%), and most found it was easy to use the mental skills in practice and competitions (#14/19, 81.25%).

Not surprisingly, the student-athletes were more effective in their use of mental skills at season's end than prior to the 2004 volleyball season (#1 & 11, 75%). Statement #1 and #11 are both positive and do not oppose one another. Statement #1, "Prior to the 2004 volleyball season I utilized mental skills effectively" was meant to be informational. Half (50%) of the respondents stated they used mental skills effectively, with the other half reporting ineffectiveness which could also be interpreted as a lack of use or knowledge. Statement #11 reported their perceived improvement in the use of mental skills: "I am more effective now in my use of mental skills training than prior to the 2004 volleyball season." All respondents reported improvement (100%).

Application, the previous category, obviously implies use of the mental skills, so many of the student-athletes' comments would be redundant. The qualitative data supports and confirms the quantitative results. Qualitatively, one also notices the integration of the skills as use and application evolve. For example, you can see from this exchange with Nicole that there is overlap between self-talk, visualization, end-result thinking, and positive mental attitude:

> And the things I used the most were probably visualization was my biggest one; and self-talk helped me a lot, too. Telling myself not like I "can do" something, but like that "I'm going to; I will do this." And, visualizing like you said, seeing myself do something like when I make a mistake and then fixing it in my head so that I'm always getting the positive result. So, that was probably my biggest thing. And then, as far as like keeping a positive attitude and not getting down on myself …

Results - SE/S-A Survey

The quantitative data for the SE/S-A survey includes the categories of *Individual* (87.5% positive) and *Team Performance* (50%, which is negative), *Learning* (97.5% positive), *Value* (89.06% positive), *Team Communication* (-93.75%, negative), *Team Chemistry* (87.5% positive), *Application* (84.13% positive), and *Use* (85.42% positive). The composite total for the quantitative data of the SE/S-A survey is 73.42% positive, which results in an overall positive evaluation grade for these program goals. The qualitative data supports and confirms this finding, including the negative team performance and the negative team communication data.

Coaches Season's End Survey (SE/C)

The SE/C (see Appendix K3) is similar to the SE/S-A in that it is utilized extensively in the evaluation matrix (see Appendix P, p. 360). There are two program components where the SE/C is utilized: *Curriculum* and *Coaches*. There are five categories within *Program Goals* for *Curriculum*. They include: *Effective: Learning* (S-A increased their knowledge of mental skills training / Learners were attentive / and Learners questions were answered clearly); *Efficient: Timely* (Education Sessions did not run over scheduled time limits); and *Efficient: Flexibility* (MST adjusted his schedule to meet the needs of the team).

Within the *Coaches* component area, there are 12 *Program Goals* with their *Operationalized Outcomes* affected. These include: *Effective: Learning* (Coaches: athletes learned mental skills / Coaches increased their knowledge of mental skills and mental skills training / Coaches: topics were relevant – [addressed current team needs]); *Effective: Value* (Coaches: mental skills training was worth time spent and should be

continued); *Effective: Application* (% Coaches who applied mental skills to their coaching/life); *Effective: Use* (% Coaches who use mental skills to enhance their coaching/life); *Effective: Enhanced individual performance* (Coaches: individual S-A improved performance); *Effective: Enhanced team performance* (Coaches: overall team performance was improved); *Effective: Mental toughness* (Coaches perceive S-A enhanced mental toughness); *Effective: Team communication* (% Coaches who perceive communication enhanced); *Effective: Team chemistry* (% Coaches who perceive team chemistry enhanced); *Efficient: Delivery* (Ed sessions delivered in a timely manner); and, *Efficient: Flexibility* (Ed sessions/MST did not interfere w/ coaches schedule; accommodated coaches schedules).

The SE/C consisted of 38 statements scored on a 4-point Likert scale just as the SE/S-A survey was scaled and scored. Statements in the SE/C (Table K4, p. 346, SE/C Survey Summary) are also divided into the eight criteria utilized in the evaluation matrix: *Individual Performance, Team Performance, Learning, Value, Team Communication, Team Chemistry, Application,* and *Use,* and appear below in that order. Some statements also appear in two categories.

Minimum criterion for a designation as positive evaluation grade was set at 51%, which represents a majority of the coaches. In the Coaches Season's End Survey 5 of the 6 categories received a positive evaluation grade of 5% or higher. This resulted in an overall grade for this segment of the evaluation of 68.67% positive response (see Table K4, p. 346, SE/C Summary)

Individual Performance (Qt 66.67% -; Qa +). Individual performance was *not* improved because of mental skills training according to the coaches. There was one pair

of statements regarding improvement of individual performance (#11/10, -66.67%). Two of the three coaches (66.67%) perceived on the court performance was not enhanced by mental skills training. Interestingly, there was not consistency in this perception by the coaches. That is, while the HC perceived that individual performance did not improve because of the mental skills training (#11), he also perceived that if there were improvement on the court, it may have been caused by the mental skills training (#10).

The qualitative data also reflects the inconsistency in opinion and reveals a universal notion that some athletes were helped. AC2 stated in the season's end interview:

> I think as far as it helping the team, I think it helped individuals. I think it definitely helped some individuals, which, I would think in turn, would help the team. … you could definitely tell that some people really focused on "forget about what just happened, go on to the next point."

The HC mirrored his inconsistency of opinion in the qualitative data:

> Going back to what AC2 was asking compared last year to this year, I felt that they prepared a little bit better [than last year]. Also, some of the individuals that we talked about that really took this to heart weren't here last year, either.

In the first interview, AC2 described the impact on Kelly, who she feels she has embraced the program:

> Yeah, she's [Kelly] hitting better, but she's also taking better shots. She's seeing how to evade blocks and seeing high hands. She's not just taking the same swing and going and blasting into the blocker. … I think now she is just more relaxed and patient. … I think she was almost putting too much pressure on herself. So

> yeah, I think she's definitely hitting harder, but she's also hitting smarter and doing what we expect her to do or ask her to do for our team. … But, I definitely think some of this [MSTP] is related to her performance.

In another account, AC2 discusses one of the self-described perfectionistic student-athletes:

> I know Kelsey is like life and death with that because she e-mails her goals and her goal is to stay in her trusting mind-set and keep working on that and when she gets in a game, don't be so much in the training mindset. So, I think some of them are taking it in, and I really do think it is helping.

Team Performance (Qt 66.67% +; Qa +). From the coaches' perspective, team performance was improved by mental skills training (#30/3, 8/17; 66.67%). Two paired statements reflected the coaches' perceptions regarding team performance, and there was consistency within the coaching staff regarding their opinions. It is curious that two of the three coaches perceived that although team performance improved, individual performance was not positively impacted.

Just as in *Individual Performance*, the qualitative data suggests something quite different than the quantitative data. AC2 remarked, "I think individually it helped some people, but it's hard to tell whether it improved the team performance." The HC further elaborated on the lack of improvement on team performance:

> The dynamics that you can see is a whole team effect. … The other thing is that in three to four short months, it's really hard to change a team attitude, the team thought process. I think it has to go through a longer period of time to know whether the philosophies, or the training things [MSTP] were effective. But, I do

> think there were some positive things because there were a couple of people we did see changes in.

AC1 was more specific:

> I think they tried to incorporate the "Fast start, strong finish," that was like their saying. So, I think they were trying to implement that. I don't know if it always worked, but I think it would for a few points, and then they would kind of drift away from it and then try to get back to it. … It's funny that they would say fast start, because for the most part, we started pretty slow. So, they were trying to implement that and say it, but it was kind of like the opposite was happening. It just wasn't coming out in their play. I think they were trying to, I just think they, maybe, didn't know how to actually do it.

Learning (Qt 86.67% +; Qa +). In the coaches' perception, learning took place. There were five paired questions in the learning category (#6/24, 9/37, 25/13, 14/16, 31/21). Four of the five paired statements were entirely positive (100%). The coaches perceived that the mental skills education sessions were delivered in timely, entertaining, and educational presentations (#6/24, 100%), that they were presented in an easy to understand manner by the MST (#9/37, 100%), and that the MST had the team's best interest in mind throughout the season (#14/16, 100%). The coaches also thought it was easy for the student-athletes to learn the mental skills because of the way they were presented (#31/21, 100%). The paired set of questions regarding perceived acceptance of the program by the team (#25/13, -100%) is also included in this category because it was thought that if student-athletes did not accept the program, they would not learn. The

coaches' perception of lack of acceptance by the student-athletes is somewhat incongruent with the perception of other learning items.

Qualitatively, there are few direct statements regarding learning. While conducting member checks, however, there was a universal perception that *some* of the athletes were learning *some* of the skills throughout the season. The qualitative analysis of the learning that took place shows up more in the *Application* and *Use* categories in the SE/S-A section where it is presumed that the mental skills must have been learned in order to be used and applied. Regarding specific learning by the coaches, they all seemed to have a base of knowledge about different mental skills and mental skills techniques. Both the assistant coaches expressed an increase in knowledge due to the depth of the information contained in the MSTP curriculum. The concept of feelazation was new to all of them.

Value (Qt 73.33% +; Qa +). Like the student-athletes, the coaches perceived that the mental skills training program was valuable. Ten paired statements reflected an overall positive perception of value or worth (#2/28, 4/32, 23/5, 8/17, 12/34, 25/13, 19/15, 36/18, 26/22, 38/27).

Coaches perceived that the techniques were easily applied (#12/34, 100%), and were able to transfer them to other areas of their own lives (# 26/22, 100%). They all were happy with the program (#38/27, 100%) and believe mental skills training should be a regular part of the volleyball training regimen (#2/28, 100%). The coaches further perceived that the MSTP was worth the extra effort (#4/32, 83.3%), want to continue mental skills training in the future (#19/15, 83.33%), and will recommend the program to other coaches (#36/18, 83.33%). As mentioned in team performance, "the mental skills

training program delivered what I expected in overall team performance" for 2 of the 3 coaches (#8/17, 66.67%). The HC apparently had higher expectations than the assistants because it was his expectations that were not met.

The qualitative data is consistent with the quantitative data in this category. For example, The HC pronounced, "I think it definitely is [worthwhile]. I think that it's always worthwhile, because everybody is different in how they prepare." The coaching staff also perceived the team did not embrace (#23/5, -83.33%) or accept the program (#25/13, -100%). Said another way, the coaches were disappointed because of their perception that the student-athletes thought that the program was a waste of their time. Noted by the HC,

> So, in comparison, it's kind of hard to know where the team could have been if more people were more involved. … It would have been nice to see what the team would have done if the whole team [actually] did it.

Team communication (Qt 100% -; Qa -). Coaches felt communication between the student-athletes and themselves was not improved (#29/35, -100%). This was reflected in the member checks throughout the season. It was often expressed by the HC and both assistants qualitatively that "they just don't listen."

Team chemistry (Qt 100% - ; Qa -). While team chemistry was *not* enhanced (#33, -100%) according to the coaching staff, neither was it negatively impacted (#20, 100%). This presents a 50% +/- scoring which earns it a negative rating because it is below the 51% positive criteria demarcation.

The qualitative data confirms the negative rating as the HC expounded on this area:

> The thing about it is the fact that we had so many issues. I mean we have issues on the team. It's hard to say one way or the other whether it affected them. The reason I say that is because I don't think, with the mental [skills] training sessions, I don't think the things that were the actual issues were a part of the curriculum as far as team chemistry. You [MST] dealt with them on how do you get yourself prepared, become mentally tough, and stuff like that, versus this is the issue of the team which has nothing to do with what your [MST] objective was in … mental training. But, I think the issue for us was just the chemistry. The bickering that went on, which you can say it helped a couple of people, but it's hard to say whether or not it helped as a whole. … In the spring we said this was a huge issue. As the season went on, it went on the back burner versus this is really the issue at hand that's preventing us from performing.

Application (Qt 77.78% +; Qa +). Mental skills were applied by the coaches. This category contained three paired statements regarding the application of mental skills training by the coaches to their coaching practices (#1/7, 12/34, 26/22). While this was not a stated objective, it was a hoped for side-effect by the MST and therefore queried. The coaches reported that it "was easy to apply the mental skills into my coaching techniques and practices" (#12/34, 100%) and that they were able to transfer mental skills to other areas of their life (26/22, 100%). Statements #1 and #7 are similar to #1 and #11 in the SE/S-A in that they are both positive statements. What is different is the negative response to #7, "I am much more effective now in my use of mental skills for coaching than prior to the 2001 volleyball season. While 2 of the 3 reported that they utilized mental skills other than goal setting prior to the 2004 volleyball season (#1, 66.67%), all

three reported that they were *not* much more effective in their use of the mental skills (#7, -100%).

The coaches were also aware of the student-athletes' application of some of the mental skills techniques as is apparent in this exchange from their first interview: AC1, "They definitely mention Bob [MST]." HC, "Yeah, they talk about it." AC1, "[They say] 'Remember to let things go' and 'let's focus on each play' and their self-talk. They mention some things you say to them."

Use (Qt 66.67% +; Qa +). The coaches used mental skills for their coaching techniques and practices. There were two pairs of statements for reporting use (#1/7, 12/34). These were also both questions involving application of mental skills. It was reasoned that if coaches applied mental skills to their "coaching techniques and practices" (#12/34, 100%), they had to, in fact, use them. The same challenge with pre 2004 season use and the effectiveness of use by the end of the season (#1/7, -66.67%) occurs in the *Use* category as occurred in the *Application* category. Regardless of their reported use, however, the fact remains that they universally report no increase in effectiveness of use.

AC2 offered,

> … I can't speak for everyone, but for myself, I get prepared for a match, and having been an athlete, and now as a coach, I think it's kind of instilled in you that you do some of those things [mental skills] that, whether I really thought about the fact that I was doing them, I don't really know. But I think definitely in coaching you definitely use those things.

Results ~ SE/C Survey

Overall the results of the SE/C survey and qualitative data were positive. There were some contradictory results between the quantitative data and the qualitative data regarding enhancement of team and individual performance. Quantitatively, the coaches indicated there was no improvement of individual performance. Conversely, the qualitative data suggests just the opposite – an improvement in some individuals' performance with no remarkable enhancement of team performance. In the other categories of Learning, Value, Application, and Use, the results were overall positive, and the qualitative data supports the quantitative data in this perception.

Regarding the category of Team Communication, both the quantitative and qualitative data suggest that this area was not improved. Team Chemistry was seen as unimproved by the coaches. Also, the coaches shared a perception that the student-athletes did not accept or embrace the program as a whole. That is, only a segment of the team "got into the program." Again the qualitative data is consistent with the quantitative data regarding these categories.

Comparison: Season's End Surveys – SE/S-A vs. SE/C

There are three main opposing perceptions when comparing the Student-Athletes Season's End Survey to the Coaches Season's End Survey (SE/C) (see Table K5, p. 350, SE/S-A vs. SE/C Summary): *Individual Performance* versus *Team Performance*, and *Team Chemistry*.

Individual Performance. The student-athletes perceived that their individual performance was enhanced by the mental skills training, and the coaches thought otherwise. A closer inspection at SE/C reveals that on statement #10 ("If individual play

on the court improved, it was NOT due to mental skills training"). AC-2 circled A (Agree), but on the side, she made the notation "some." One could argue that because she did not agree with the statement completely, then it should become a D (Disagree). Even though this changes the statistic dramatically from a –66.67% to 50%, it still remains under the cut-off of 51% and would not change the overall negative rating. With the addition of the qualitative data analysis, however, the two perceptions are more in keeping with each other.

Team Performance. In opposite fashion, the coaches perceived team performance as having improved because of the mental skills training (66.67%), while the student-athletes were ambivalent (50%). A review of the qualitative data analysis again has the coaches more in agreement with the student-athletes. That is, individual performers enhanced certain areas of their performance, but the team, as a whole, did not.

Team Chemistry. Also, there was a difference of opinion regarding the improvement of team chemistry between the student-athletes and the coaches. 87.5% of the student-athletes reported team chemistry improved. The coaches were split (50%) in their assessment. All three coaches reported no enhancement of team chemistry (#33; 100%), but they also did not feel that team chemistry was negatively impacted because of the MSTP (#20; 100%). The qualitative data is consistent with these results.

Team Communication. This is the only category receiving negative ratings by both the coaches (100% negative) and the student-athletes (93.75% negative). The remaining categories of *Learning, Value, Application,* and *Use* received positive ratings by both the coaches and the student-athletes. The coaches, however, consistently reported

lower scores than the student-athletes (see Table K5, p. 350,). This is again replicated in the qualitative data.

Mental Toughness Questionnaire (MTQ)

In the evaluation matrix (Appendix P, p.360), there are two program components where the mental toughness criteria are utilized: *Student-Athletes* and *Coaches*. The *Program Goal* for both is *Effective: Mental Toughness.* For the student-athletes the Operationalized outcome was % S-A reported increase in mental toughness. For the coaches: Coaches perceive individual S-A enhanced mental toughness.

The Mental Toughness Questionnaire (MTQ) (see Appendix C1) was completed by 9 of the 13 student-athletes (69.23%). Scoring was recorded on a 10-point Likert-like scale where 1 = *Not like me* and 10 = *Exactly like me*. Each of the 12 items was scored twice: (1) where the student-athlete perceived they were at the end of the training camp period in August, and (2) where they saw themselves at season's end. In this way, a perceived increase (or decrease) in mental toughness could be evaluated if it existed. Scoring was accomplished by recording the training camp score for each of the 12 items for each student-athlete, recording the season's end score, and then calculating the difference between the two. That total was then divided by the number of points available on the questionnaire (120) to arrive at the percent increase (see Table L1, p. 351, MTQ Summary). A 5% increase was considered a positive score.

Each of the three coaches also completed a similar questionnaire (see Appendix C2) for each of the 13 student-athletes, giving their perception of where that student-athlete fell on the scale and if there were any improvements over the duration of the season in mental toughness. To arrive at a singular score for the coaching staff, the mean

score for each item was calculated, and the difference in means between training camp and season's end was calculated. This collective mean total was also divided by the number of items present (120) to arrive at the percent of increase in mental toughness for each student-athlete by the coaching staff (see Table L1). Again, a 5% increase constituted a positive score on the evaluation matrix. It should be noted that AC1 reported no scores for the preseason period. She cited that she did not have enough knowledge of the student-athletes at that time to make a determination. The mean score for the preseason, then, was the average of the HC and AC2 scores.

Results ~ MTQ Survey

Both student-athletes and coaches reported an overall increase in mental toughness for individuals and for the team (see Table L1, p. 351, MTQ Summary; see also Table L2, p. 352, MTQ Worksheet). The 7 of 13 student-athlete respondents reported a 7.4% increase in overall mental toughness. For those same seven respondents, the coaches reported an 11.13% increase. It is curious that the coaches reported a higher percent increase in mental toughness than the student-athletes's did of themselves. Six of those 9 student-athletes reported lower percentage increases than the coaches awarded them. When examining all 13 student-athletes graded by the coaches, the percentage dropped only slightly to a 10.99% increase. For the purpose of this evaluation, this increase by both student-athletes and coaches represents a positive evaluation score.

While the coaches indicated a higher increase in the percentage of improvement, when isolating the raw scores of the MTQ at season's end one notices that the coaching staff overwhelmingly perceives the level of mental toughness considerably less than that perception held by the student-athletes. Student-athletes reported a composite season's

end (SE) raw mean score of 7.94; the coaches reported 6.3, or an 18.22% deficit. In only one case did the coaches grade a student-athlete higher (#4: 4.25 vs. 4.86) than the student-athlete graded herself. She reported no change in any of the 12 areas during the season. Without this outlier the difference in the student-athletes' and coaches' perceptions widens appreciably (from 18.22% to 24.12%) (see Table 4.10).

With the exception of Kelsey, the outlier, all student-athletes were qualitatively consistent with their survey reports. In her season's end interview, Kelsey did report an increase in her mental toughness over the season until she was injured. She confessed that she "lost focus on volleyball" and tried to concentrate on "getting well." For that reason, she felt she went back to "square-one" regarding mental toughness and, therefore, reported no improvement.

At the season's end interview with the coaches, the mental toughness each of the student-athletes was discussed in the context of the season. In quantifying the qualitative data, the coaches agreed that no student-athlete got less mentally tough, and, in their opinion, they all had room for improvement. There were three student-athletes they considered already "mentally strong." The room for improvement was one or two specific areas like "she was really mentally strong unless some of her teammates got on her, then she let that bother her." Another mentally tough player has a tendency to "shut down if she's not playing well," and that keeps her from being "totally mentally tough." There were three more who they just did not see as mentally tough, and if they improved, it was so minimal as to not make a difference. Everyone else, they felt showed improvement in several areas of mental toughness. This is relatively consistent with their quantitative survey Mean % Increases, though admittedly, not as specific.

Education Session Evaluation for Effectiveness and Efficiency (EDS)

As one would expect, the EDS is a critical element in the *Curriculum Program Component* (see evaluation matrix, Appendix P, p. 360). It also appears in the *Coaches Component* three times. Under *Curriculum*, the *Program Goals* with their Operationalized Outcomes are as follows: *Effective: Learning* (Primary & Secondary objectives of education sessions were addressed and met); *Effective: Learning – Coaches/SP* (Information enhanced coaches understanding of topic); *Effective: Value* (Information was appropriate and valuable); *Effective: Applicable* (Information was applicable for enhancing performance); *Effective: Organized* (Information was well organized and easy to understand); and, *Efficient: Timely* (Education Sessions did not run over the scheduled time limits). In the *Coaches Component* the *Program Goals* are: *Effective: Learning* (Coaches increased their knowledge of mental skills and mental skills training); *Effective: Value* (Coaches: mental skills training was worth time spent and should be continued); and, *Efficient: Delivery* (Ed sessions delivered in a timely manner).

There were a total of 13 educational sessions during the Fall 2004 volleyball season. The 13 sessions with their primary and secondary learning objectives are listed in the Appendix I, (p.331, EDS & MST Effectiveness & Efficiency Mean Grades w/ Curriculum Sequencing). The topic line includes the session number, the date and length of the session, the topic, which evaluators observed the session (HC, AC1, AC2, and SP), and the mean grade in the efficiency and effectiveness of the educational session as reported by the evaluators. The evaluators in attendance graded each education session for the effectiveness and efficiency of the delivery and facilitation by the MST on a 5-point Likert-like scale: 1 (*Strongly Disagree/Unsatisfactory*), to 5(*Strongly*

Agree/Excellent). Evaluators could also choose *NA* for *Not Applicable*, but this was not considered part of the scale. The 5 *NA*s reported out of the 363 responses were not counted as part of the mean scores. Sessions 2 and 2b were graded as one session (#2) by the evaluators because they were initially intended to be one session and only one session evaluation sheet was distributed. This made a total of 13 evaluations completed. The mean grades from the four evaluators of the 13 education sessions for the 11education session evaluation categories are listed in Table M2, Education Session Mean Score by Evaluator (p. 356).

Results – EDS. The cumulative mean grade for the effectiveness and efficiency of the delivery and facilitation of the education sessions was 4.5 (90%) on the 5-point scale (Table M3, p. 356, EDS Delivery & Facilitation Effectiveness & Efficiency Rating), indicating an overall effective and efficient delivery of the intervention education and earning a positive grade on the evaluation matrix. Individual session grade mean scores were also well above the acceptable level at 4.5 (90%). When examined individually, the mean score for effectiveness was at the 4.4 (88%) level, indicating an effective delivery of educational material. When isolated, the efficiency score jumped to 4.7 (95%), indicating an extremely efficient delivery of education materials.

When examining the mean grades for each of the evaluators, the SP was consistently the least demanding grader (4.9, 98%) with the HC being slightly more demanding (4.6, 92%). Both assistant coaches were similarly stringent in their grading (4.4, 88%). One reason for this could be that both the assistant coaches are closer to the educational experience of college with AC2 being a recent graduate in 2003 and AC1

graduating in 1997. Regardless, evaluators' grades are well above the 80% demarcation at a cumulative 92%.

Qualitative data supports the positive quantitative grade. Coaches and the SP were all in agreement that the materials were appropriate, well presented, and remained within the pre-defined time limits. When asked if the program was flexible enough, all three coaches nodded in agreement. Similar enthusiastic responses accompanied questions regarding the appropriateness of the information.

Team and Individual Statistics

In the evaluation matrix (see Appendix P, p. 360), there are again two Program Components where the Team and Individual statistics appear: *Student-Athletes* and *Coaches*. Within *Student-Athletes* the *Program Goals* are: *Effective: Enhanced individual performance* (% S-A that showed enhanced individual performance); and *Effective: Enhanced team performance* (Team performance improved). The same grades appear in the same areas in the *Coaches* Component in the evaluation matrix. While they are redundant, like some of the questions in the SE/S-A and SE/C, they apply to both categories.

Won-Loss Records

The Fall 2004 volleyball season ran for 15 weeks. This included the two-week training camp that began August 9. The first match was September 1 and the last of the 28 scheduled matches was November 13. Conference tournament play commenced on November 18. The season for the participant team ended November 19 with a first round loss in tournament play.

The won-loss record for the 2004 season was 7-9 (.438 winning percentage) in the conference and 13-16 (.448) overall (see Table N1, p. 357, Volleyball Year-By-Year Results). This was the first year in the new conference (ACC), and in the preseason they were predicted to finish 10th out of 11 teams. The team finished in 8th place for an 18% enhancement of the preseason ranking.

For a historical perspective, 2001 was the first year in the former conference (Big East) and the second year of the HCs' tenure. The team went 5-7 (.417) in conference, 13-16 (.448) overall, and finished tied for 8th place out of 13 teams (T8th/13). The next year, 2002, they showed considerable improvement as they went 10-3 (.769) in conference, 20-11 (.645) overall, and finished 2nd/14. The next season, 2003, was disappointing with a 7-5 (.583) conference record, 13-14 (.482) overall record, and placed T4th/14 (see Table 4.15). It was after this disappointing season that a mental skills intervention was sought.

While the winning percentage in 2004 for both conference (7-9; .145) and overall (13-16; .034) records is slightly worse than in 2003, it should be noted that the change in conference affiliation had an impact on the record. For example, the tie for 4th place finish in 2003 in the Big East was only good enough for a pre-season prediction of 10th place out of the 11 teams ranked in the ACC.

Power Ratings. In NCAA volleyball, Rich Kern (n.d.) of RichKern.com provides conference and team ranking percentage indexes (RPI) known in 2004 as the RKPI. The RPI and the RKPI are considered comparable for these rankings (HC; J. Holenka; B. Frederickson, personal conversations, May, 2005). In 2003 the RPI rankings for conference placement for the ACC was 0.5624 and for the Big East 0.5224 (see Table

N2, p. 357, Volleyball Power Ratings). These rankings place the ACC as the 5th best conference out of the 32 conferences ranked. The Big East was ranked 11th. To gain perspective, the top conference in 2003 had a 0.6026 RPI. In 2004 the ACC was ranked as the 6th best conference with an RKPI of 0.5637, while the number one conference enjoyed a 0.6101 RKPI. The conference rankings influence the team rank as part of the RPI/RKPI ratings.

National ranking. In looking at the team RPI ranking, in 2003 the university volleyball team finished with a national ranking of 153 out of 311 teams ranked for a ranking percentage of 49.19. In 2004 they increased their national ranking 54 places and finished 99 out of 315 teams ranked for a ranking percentage of 31.43. When comparing the ranking percentages, the lower the better as the number one team in 2004 enjoyed a 0.32 percentage ranking. (1/315) Therefore, this shows an improvement in the ranking of 17.76%. That is, one could say that even though the actual won-loss record was worse in 2004 than in 2003, the team's performance calculated by wins and losses actually improved by 17.76% (see Table N2, p. 357, Volleyball Power Ratings).

Service Errors (SE)

Statistically, improvement or decrement in SE was calculated by comparing the number of games played (GP) to the number of SE to determine the average number of SE per game (Avg./Game). Team SE increased by 29 from 2003 to 2004 (225 - 196 = 29), or a 14.8% increase (see Table N3, p. 358, Individual & Team Statistics ~ Service Errors). The SE Avg./Game also increased from 1.90 in 2003 to 2.04 in 2004 for an increase of 0.14 SE per game, or a 7.4% increase. When one examines the team SE in comparison to SE before the specific educational intervention (#11) regarding focus and

concentration for serving, however, there was an overall reduction in team SE Avg./Game of 0.44, or a 25.6% decrease, which seems remarkable.

Upon closer examination, there were only six student-athletes who served regularly in 2004 and two of them were not on the team in 2003. Of the four who were on the team both years, there was an even split as to improvement: two improved from 2003 and two did not (see Table N3, p. 358,). The two that improved reduced their SE Avg./Game 0.12 and 0.07 respectively. The two who showed a decline demonstrated an increase of 0.04 and 0.14 respectively.

Of further interest was the comparison of individual SE before the specific educational intervention (#11) regarding focus and concentration for serving. Three student-athletes showed slight improvement (0.06, 0.04, and 0.01) after the intervention with two servers showing a slight diminution of serving performance (+0.04 and +0.06). The only student-athlete showing marked improvement was Betsy. She reduced her SE Avg./Game from 0.54 pre-intervention to 0.24 post-intervention for a 44.44% improvement. Clearly, the 25.6% decrease in team SE Avg./Game was due mainly to Betsy's improvement. Qualitatively, she determined at that educational session to incorporate the end-result visualization of picking the spot where she wanted the ball to land into her service routine – something she had not done before (see *Statistics [SE]*, p. 211).

Summary

A summary of the results of the data analysis is best reflected in the evaluation matrix totals (see Appendix P Totals, p. 374). Both quantitative and qualitative data are analyzed in relationship to the *Program Components* (*Curriculum, Student-Athletes,*

Coaches, *SP*, *MST*, and *Resources*) and the effectiveness and efficiency of the *Program Goals*. Each program goal has an *Operationalized Outcome* that explains the measure, and then the *Data Collection Format* shows which instrument(s) and what portion of each instrument supplied the data. *Criteria* for each program goal are generally listed quantitatively as a percentage that serves as the minimum for a positive evaluation rating; triangulated qualitative data requires a positive outcome of the analysis for a positive evaluation rating. The *Findings* are briefly listed in a column following the *Criteria* and are explained more fully in Chapter V Discussion.

Quantitative data analysis examines five categories of surveys: Knowledge and use of mental skills (KU); mental skills impact (IMP); season's end surveys (SE/S-A, SE/C); mental toughness questionnaires (MTQ/S-A, MTQ/C); and educational session effectiveness and efficiency (EDS). Two volleyball statistical items (wins-losses and service errors [SE]) were also analyzed quantitatively. Qualitative data analysis generally confirms the quantitative results except in two specific areas where it contests it effectively. These concern the coach's season's end survey and the inconsistency of their survey results versus what they said in interviews and member checks. In the survey they report that individual performance was not improved while team performance was improved due to the MSTP. This is directly opposed to the qualitative data where all three stated that they perceived some individuals enhanced their performance due to the MSTP, but overall the team performance was not improved due to the intervention. The qualitative view is consistent with both the quantitative and qualitative perceptions of the student-athletes.

Further scrutiny of the evaluation ratings in Appendix P Totals (p.374) demonstrate the MSTP was *Efficient* for all *Program Components* where this *Program Goal* was examined: Curriculum, Coaches, SP, MST, and Resources. Positive ratings were also earned in all four areas of Curriculum Effectiveness: Learning, Value, Applicable, and Organized. The other Program Component receiving 100% positive rating was the MST who earned positive marks for Delivery of the program and Cooperation with the coaches and SP.

The student-athletes gave passing marks for Learning, Value, Communication and Chemistry within the team, Applicable, Use, Increased Individual Performance, and Mental Toughness. They perceived, however, that Team Performance was not enhanced and neither was Communication between the team and the coaches.

Positive ratings were earned from the Coaches in the areas of Learning, Value Applicable, Use, and Mental Toughness. Coaches also perceive both Individual and Team Performance was enhanced. Negative ratings were given for Communication with the team and there was also a perception of a lack of improvement in Team Chemistry.

The SP perceived that the program was valuable, but at this time no new inquiries regarding incorporating a mental skills training program with other teams has occurred as a direct result of the MSTP intervention.

The overall program evaluation rating was positive. There were 98 possible Program Goal points. Of those, 83 received a positive rating while only 15 earned a negative rating. Overall, that is an 84.69% positive rating which well exceeds the 70% demarcation necessary to earn the positive program evaluation rating.

CHAPTER V DISCUSSION

The purpose of this case study program evaluation was to answer the primary and secondary evaluation questions in order to determine the impact (efficacy, efficiency, and value) of the educational intervention known as the Mental Skills Training Program (MSTP) as implemented with the NCAA Division I volleyball team for the 2004 season. The results of the measurement tools were incorporated into the evaluation matrix (see Appendix P, p. 360) along with the criteria for measurement so that an evaluation grade (+ or -) could be assigned for analysis and discussion. These results of the program evaluation indicate a positive grade which translates to a successful intervention of the educational program, MSTP. The discussion of these results will follow the format of the *Primary* and *Secondary Evaluation Research Questions* that determined the *Program Goals* itemized in the evaluation matrix.

Primary Evaluation Questions.

1. Was individual and/or team performance enhanced during the season?
2. How did the intervention of the MSTP impact individual and team mental toughness?
3. How did the intervention of the MSTP impact team communication and team chemistry?
4. How did the coaches and student-athletes view the investment of time and effort (value/worth)?
5. Was the program delivered effectively and efficiently?

Secondary Evaluation Questions.

1. In what ways can the MSTP be modified or improved to better service stakeholders at the collegiate level?
2. For those student-athletes who enhanced individual performance, which mental skills were utilized or integrated to achieve this improvement?
3. For those student-athletes who enhanced individual mental toughness, which mental skills were utilized or integrated to achieve this improvement?
4. Which mental skills were student-athletes able to transfer to other areas of their lives beyond volleyball (i.e., academics, relationships, etc.)?
5. To what extent have athletic department administrators and other team coaches become interested in incorporating mental skills training as an educational intervention with their teams?

Primary Evaluation Questions

1. Was individual and/or team performance enhanced during the season?

Individual Performance

SE/S-A vs. SE/C. As reported in the Results section, the coaches and student-athletes disagreed in their views regarding individual performance enhancement in the season's end survey. When comparing the SE/S-A vs. SE/C surveys (Table K5, p. 350) on the questions regarding individual performance the student-athletes are much more certain that their individual performance improved with 28.13% strongly agreeing and 59.38% agreeing that it was enhanced (87.5% total). The coaches, on the other hand, were 66.67% negative when it came to their perceptions regarding individual

performance enhancement. That is, quantitatively two of the three coaches perceived that individual performance was not enhanced by the MSTP.

It stands to reason that the student-athletes are the individuals involved and that they should have a better perspective than the coaches on whether their performance was enhanced by incorporation of mental skills training. Few coaches, I fear, would consider this an accurate statement. Anecdotal experience has taught me that coaches rarely believe individual athletes play up to their potential, which means they rarely meet the coaches' expectations. Coaches, therefore, are generally harsher in their grading of individual performance than is the individual athlete. This could be the result of the coaches constantly looking for mistakes to correct or weaknesses that need to be overcome.

From a macro perspective that includes the qualitative data, this perception by the coaches of the lack of improvement of individual performance seems to stem more from the coaches' perception of that the student-athletes, as a group, did not embrace the program and therefore, if they improved individually it was not because of the mental skills training. In future evaluations quantitatively there needs to be more than one set of paired questions regarding individual performance in order to obtain a more holistic picture. The qualitative analysis, however, strongly suggests that like the student-athletes the coaches felt the program helped improve some individuals' performances.

IMP. When examining the IMP survey (see Results – IMP Survey, p. 175 and Table J2, p. 336) completed by the student-athletes, they reported a positive impact on their performance because in their perception they were better able to maintain focus, recover from mistakes quicker, and had enhanced their mental toughness. When

examining the qualitative data I was impressed at the high number of student-athletes who credited the MSTP with either increasing their ability to focus or concentrate, or enhance their ability to re-focus after a distraction.

Statistics (SE). While the outcome of the statistical evaluation of service errors (SE) earned a positive evaluation rating, especially after education session #11, this was an extremely narrow category and only involved 6 of the 13 student-athletes. Certainly one individual, Betsy, markedly reduced her SE after the education intervention #11 regarding concentration and serving routine.

In examining my field notes for the #11 session, I was struck by the number of student-athletes who had no real routine when it came to serving. This was more astonishing when you consider that before each serve the HC signals to the server the area in the opponents' court to which they should serve. Apparently, after receiving the direction, most of them just hit the ball in that general direction with no regular routine of their own. After questioning several of them during the session, I sensed this pattern. I then turned to Betsy, one of the captains, to use as an example of focus and concentration before the serve. I had noticed that she took her time and stared at the ball longer than the other servers before she began each serve, and that she did this every time she served. It impressed me as a desired pre-serve ritual.

It should be noted that Betsy was one of the few players who delivered a power serve. That is, she would stand far behind the end line, toss the ball up and forward and take several running steps forward and then leap to strike the ball at its apex. This allows the server to hit the ball much more forcefully and results in an accelerated volleyball coming down across the net at a steeper angle. While it is a difficult serve to master, it is

a much more difficult serve to return than the standard toss and strike serve which resembles a tennis serve without the racquet. Because of this power style of serving, Betsy had the highest number of SE Avg./Game (51/110 = 0.46). On the positive side, she also had the highest number of service aces per game (32/110 = 0.29 SA/G), which presumably compensated for her high number of SE Avg./Game.

After I spent some time describing how well she utilized her service ritual and that this was a model for focus and concentration in serving, Betsy sheepishly confessed to the team that while she did use the time to block out distractions, she really did not aim the ball and was never quite sure where it was going. This pronouncement flabbergasted me. She added that she thought picking a spot to serve to and visualizing it before the serve seemed like a “real good idea” and that she would certainly begin to add this to her routine. She obviously did, reducing her SE by 30%.

Overall, when examining the results of the instruments used to measure if individual performance was enhanced by the addition of the MSTP, the data suggests that it did. Of the six categories between the student-athletes and the coaches that were derived quantitatively, five of them received a positive rating and the qualitative data certainly agrees. Perhaps even more importantly, the perception of the student-athletes’ was that their individual performance was enhanced.

Team Performance

While it is safe to say that individual performance was improved and at least part of that improvement was due to the MSTP, team performance enhancement is not perceived the same. The student-athletes had three positive ratings to four negative ones

resulting in an overall negative grade for this program goal. The coaches responded just the opposite (4+, 3-) for a positive grade.

SE/S-A vs. SE/C. The season's end surveys again showed a disagreement between the student-athletes and the coaches regarding team performance. Half of the student-athletes reported they did not think team performance improved because of the program. From a macro perspective the student-athletes had the same perception of team performance as the coaches had of their individual performance. That is, they perceived many of the student-athletes did not embrace the program, and therefore it did not lift the team as a whole – only individuals.

The coaches, quite contrarily, felt that team performance was enhanced. In this case one would think that coaches should have a better perspective of team play as compared to that of the individual student-athletes. Also, there was a general assumption by the coaches and myself as MST at the initiation of this endeavor that the team performance would necessarily improve if more individuals performed better. The correlation between enhanced individual play positively enhancing team play, however, is not always accurate. Additionally, coaches seem to view team play much more objectively than they do individual play, and this may explain some of the discrepancy in viewpoints. Motivation may also play a role in the differing perspectives. The reality is that the coaches benefit from improved team play because it directly reflects their efficacy as coaches. Athletes just as certainly benefit from their own improved individual play because it mirrors their efficacy as a volleyball player. Coaches generally view decrement in team performance as due to individuals not performing up to standards or potential. Likewise, athletes often feel as if their individual performance has suffered

because they either unselfishly participated as a team player or did not receive support from the team. Such are the dynamics of team. While the comparison of the SE/S-A vs. the SE/C regarding team performance does not demonstrate much of a positive impact on team performance, a discussion of statistics and the qualitative data should help further clarify this difference in perceptions between the student-athletes and the coaches.

Team Statistics. The ACC was a much stronger conference than the Big East had been. This was verified not only by the power ratings but also by the veteran players who commented that, “even the bad teams were good.” About the third week of the season, as they approached conference play, the HC warned the team that there would be “no easy matches” from that point forward. He was accurate. One of the challenges that the student-athletes endured was the lack of an untalented or “bad” team to play for an “easy win” which would have provided some respite from the pressure of the season. This no doubt contributed to their stress levels increasing and energy levels declining as the season progressed, which, in turn, may have negatively impacted their performance. On the positive side, all the returning players will have endured this learning curve and will be better able to pace themselves mentally and physically for the 2005 season.

When examining the statistics as a whole, the SE Avg./Game increased from 2003 to 2004, which earned a negative evaluation rating. However, after education intervention #11, the SE Avg./Game dropped by 25.6%, which is noteworthy. Furthermore, when using the power ratings, statistically the team improved by 17.76% from 2003 to 2004 even though the overall and conference records did not. It is impossible to know how much direct effect the MTSP contributed to that 17.76% improvement, but both the

quantitative and qualitative data suggest that the MSTP was responsible for a portion of the improvement.

Qualitative data. Qualitative data analysis regarding team performance generally confirms the quantitative results except in two specific areas where it contests it effectively. These concern the coach's season's end survey and the inconsistency of their survey results versus what they reported in interviews and member checks. In the survey they report that individual performance was not improved while team performance was improved due to the MSTP. This is directly opposed to the qualitative data where all three coaches stated that they perceived some individuals enhanced their performance due to the MSTP, but overall the team performance was not improved due to the intervention. The qualitative view is consistent with both the quantitative and qualitative perceptions of the student-athletes. When combining the coaches' and students-athletes' quantitative and qualitative program goal ratings (see Appendix P Totals, p. 374), there are a total of 14 items rated. They are split seven positive and seven negative, which seems to approximate the viewpoints of the coaches and student-athletes: it may or may not have helped. This, quite frankly, mirrors my own perception, which is that at least six individual's performances were enhanced by the MSTP and three more student-athletes perceive that a part of their performance was enhanced. If this translated into improved team performance, it was no more than half of the 17.76% improvement (8.88%), if that mark is accepted as the measure of improvement. Regardless, team performance enhancement was less than hoped for.

As a final point, as an evaluation researcher I also notice that for the *Team Performance* the SE/C has two paired statements while the SE/S-A has only one pair.

The opposite is true for *Individual Performance*. In future surveys of this nature that are to be utilized for comparison, not only should an equal amount of paired statements be considered to eliminate this potential bias, more questions in this area need to be formulated.

2. How did the intervention of the MSTP impact individual and team mental toughness?

Impact on Mental Toughness

From the needs assessment meetings with the coaches in the Spring it was apparent that mental toughness was the main psychological construct that needed enhancing the most. Much like performance it was assumed that if the team could enhance their individual mental toughness, then team mental toughness would improve. An improvement in team mental toughness, it was believed, would translate into improved team performance. Not only that, it was thought that any improvement in mental toughness would also overcome current and future challenges in team communication and team chemistry. Because of the importance the coaches, especially the HC, placed on the development of mental toughness, it became one of the main foci of the intervention.

As described in the Review of the Literature, I believe that integrating the five core mental skills of goal setting, visualization, feelazation, energy management, and effective thinking can encourage or enhance mental toughness. My assumption was that if an increase in mental toughness occurred, it was likely affected, at least in some part, by the MSTP intervention. This assumption seems credible in this scenario, because while all three coaches believed that mental toughness could be enhanced in athletes, they

collectively believed that this was a rare occurrence and might occur only in a few individuals who were put in an extremely difficult position and managed to emerge from it successfully. A common example would be an athlete who undergoes major knee surgery and eventually returns to full participation. Because of the perseverance and resilience required for successful rehabilitation, they are generally perceived to be more mentally tough afterward as a result. Beyond this, the perception was that the traditional way to improve mental toughness was to add more mentally tough players to the team and hope it proved contagious.

MTQ. The Mental Toughness Questionnaire developed from the Jones, et al (2002) study proved to be an excellent educational tool for explaining what mental toughness is to both the team and the coaches. It supplied concreteness to an otherwise ethereal concept. At every opportunity the other mental skills and techniques were explained in terms of their role of encouraging mental toughness.

Positive impact. Both coaches and student-athletes agreed that mental toughness had been impacted in a positive manner. The only difference of opinion was how much it may have been improved. As expected, the coaches were more stringent evaluators of mental toughness possessed by the student-athletes than the student-athletes were of themselves.

With a lone exception, Kelsey, student-athletes who responded to the survey perceived their mental toughness as improving. Kelsey is a self-described perfectionist. After her injury, she attempted to keep her attitude positive about volleyball but as the injury proved to be worse than first diagnosed, and the prognosis became eventual surgery, she lost her enthusiasm for volleyball and focused on her studies as a respite.

She continued to come to practice and travel with the team in an effort to be supportive but her “heart was not in it.” Because of her perfectionism, any gains she had made in mental toughness – and there were some that she shared in the season’s end interview – were negated because she was not “perfect” in her support of the team. While this disquieting thought pattern may be understandable, what is more disturbing is that her perception of her mental toughness was so low to begin with (4.25/12.0). As a MST, I would not expect a starter on a NCAA Division I team to have this low opinion of her own mental toughness. I suggested to her that she see the SP regarding this and I brought it to his attention so that, if she wished, he could possibly work with her in the future to improve this self-perception.

The coaches also universally agreed that individual mental toughness had been enhanced. They were less enthusiastic about how much team mental toughness had improved, but conceded that it must have. While as MST and author of the curriculum I enjoy making the correlation between enhanced mental toughness and the MSTP, I am not so presumptuous to assume that it was the only factor in this improvement. I understand that because of maturing process, the modeling of other players’ attitudes, and other ways of learning, young athletes generally become more mentally tough as they gain experience. I am highly satisfied, however, that the data suggest that mental skills training through the MSTP did positively impact mental toughness. More research is needed in this area and it is my hope that I have provided at least a foothold to this endeavor.

3. How did the intervention of the MSTP impact team communication and team chemistry?

Team Communication

Team communication in context is considered the ability to converse and even connect on and off court between the coaches and the student-athletes, and the student-athletes among themselves. Team communication was understood by all involved not to be limited to the normal coach-athlete information giving or swapping during practice or a match intended for strategy or techniques for skills improvement. It is the entire group dynamic and it is not limited to the spoken word. In fact, body language in sport usually speaks volumes and is quite often given more credence than the spoken word.

For student-athletes communication with the coaches is the perception that they are *being heard* both as athletes and as human beings. Being heard also means that there is a certain amount of respect the coach or coaches give the athlete not only for their contribution but also on occasion for their opinion in regard to team matters. Team matters naturally have to do with personnel decisions and strategy and other strictly volleyball matters. They are, however, not limited to the sport and are wide ranging and may include any of the multitude of issues that arise in life. Anything at all that impacts the team is part of the communication issue.

Team communication: Student-athletes. From the student-athletes' perspective communication was less than ideal on the team and did not improve with the MSTP intervention. The student-athletes did report that intra-squad communication was enhanced as the MSTP gave them some collective goals and techniques to discuss and

work with. It was my hope that by supplying a common language for goal setting, energy management, mental toughness, etc., that what the student-athletes experienced between themselves would expand to improve communication between them and the coaches. That is, it would provide a common platform from which to communicate. This occurred to a limited extent at best.

Team communication: Coaches. For the coaches the chief communication concern is also *being heard*, although in a different context. The coaches' main complaint was that the student-athletes "just don't listen" to them when it comes to coaching strategies and techniques. They give the athletes the information and tell them what they need to do, and "then they [the student-athletes] don't do what we tell them." Therefore, "they just don't listen." It should be pointed out that this is not an uncommon scenario on sports teams. In my experience, the only teams that do not suffer from this malady are the chronic winners. Apparently those athletes on winning teams either listen to their coaches, or they are so talented they can overcome not listening to their coaches. In spite of the increases in mental toughness, the coaches also did not perceive that team communication was improved by the MSTP.

Communication: MST. As MST, I also encountered several communication challenges with the team, the first of which occurred as I delivered the education sessions. I have been trained corporately as a facilitator and employ this method along with Socratic questioning as I teach in the classroom. I rarely call on someone unless they indicate that they want to respond because I do not want to embarrass anyone by putting them on the spot. I establish rapport easily with my audiences and generally after the first class have no trouble having students respond to my questioning or facilitation. I noticed

that I had to work very hard in the first two educational sessions to get them engaged, but I thought by the third session (#2b) I had overcome that barrier. During the next several sessions, however, getting responses from team members was like pulling teeth. After about a month I brought this up to the HC and he simply said, “Yeah, that’s the way they are. You have to call on them or they won’t answer.” I took this information to heart and applied it at the next meeting. The student-athletes were not the least put out or embarrassed and answered openly and honestly when I called on them. Throughout the remainder of the season I would occasionally float an open-ended question out in hopes that someone would speak up, but it never happened. Occasionally, someone might raise their hand with a question but they would not speak out unless called on. This was not unnoticed by the student-athletes as Kelly remarked in her season’s end interview:

> I do apologize [for the team] because I feel like a lot of the time after practice, when you were talking to us we were just like tired, or whatever. You were talking to us, but there was no feedback. And, I felt so bad because obviously you can’t help us if there’s no feedback – if you don’t know what we’re thinking.

My communication challenge was comparable to the challenge faced by the HC and his assistants. The student-athletes only responded when called upon and only by prompting did they get feedback. There was no animosity or feeling of negativity on the part of the student-athletes and there was no obvious passive aggressive behavior. It was just difficult to communicate with them as a group because feedback was limited.

As MST I also faced a challenge of communication with the coaching staff. This was never a problem when we were together as they were as open, honest, and as helpful as one could have desired. No, this problem was manifested by lack of communication

when there was a schedule change. Several times I showed up for an educational session to find practice had been shortened or cancelled altogether. Again, because of my experience, this was not unexpected. As scheduled as coaches usually are, when the team is fatigued they often make decisions on the spot regarding the length of practice or whether to practice at all. This is as it should be, except that coaches often neglect to inform anyone connected with the team beyond the student-athletes and assistant coaches. After several of these schedule changes caught me off guard, AC2 finally accepted the responsibility of notifying the SP and me of last minute schedule changes. While this was a nuisance for me, it wrecked havoc with the SP, who operates under a strict scheduling calendar. After one serious miscommunication, I took it upon myself to notify the SP of future schedule changes. If I could get word to him early enough, he could sometimes rearrange his schedule. This, however, was especially bothersome near the end of the season when the HC would end the practices early and ask if I was ready to begin. It was this communication challenge that resulted in the SP attending only seven of the education sessions.

Season's End Packets. Another communication breakdown occurred regarding the dispensation of the *Season's End Packets*. The student-athlete's season's end packets contained the KU-4 survey (see Appendix H4), the student athlete's season's end survey (SE/S-A) (see Appendix K1), the student-athlete's Mental Toughness Questionnaire (MTQ/S-A) (see Appendix C1), the Mental Skills Impact survey (IMP) (see Appendix H4), a form for choosing their pseudonym, a short article that had recently appeared in *ESPN Magazine* regarding the West Point Center for Enhanced Performance (Cramer, 2004) and how mental skills positively impacted the cadets, and several Weekly Mental

Skills Reflection Templates (see Appendix O) for potential use at the conference tournament. The coaches' season's end packet contained the coaches season's end survey (SE/C) (see Appendix K3) and a coaches Mental Toughness Questionnaire (MTQ/C) pre-labeled for each of the 13 student-athletes (see Appendix C2).

After a discussion with the HC it was agreed that the season's end packet would be distributed by AC2 to the student-athletes on the bus as they traveled to the conference tournament. The concept regarding this timing was two-fold: (1) most importantly it would encourage the student-athletes to goal set, reflect, and otherwise metacognate on their mental skills training and encourage them to mentally prepare for the upcoming tournament play. Hopefully, this would also promote positive discussion and positive end-result thinking amongst the student-athletes. (2) It would encourage compliance by the student-athletes in filling out the forms since they would be a captive audience. They could take the time on an otherwise boring bus trip to complete the forms, and have a positive attitude while doing so. Early elimination from the tournament would result in disappointment, and possibly effect not only compliance, but also potentially foster a negative attitude while responding. These concepts were discussed at length with the HC and he also agreed that it would contribute to a positive attitude by the student-athletes as they approached the tournament.

The team was eliminated in the first round of the tournament and for reasons still unclear the season's end packets were not distributed on either leg of the trip. Many student-athletes had not received their packets by the time of their season's end interview, and compliance was definitely affected as only 7 of the 13 student-athletes completed the surveys. Of those who did report, two had been injured and not returned to play (one in

week 8 and the other in week 9). Also complying was the non-scholarship freshman "walk-on" who enjoyed playing time in only one game of one match near the end of the season. During her interview she disclosed that she left many of the items blank because she was not playing and would not use them otherwise.

It should also be noted that at the time of the season's end interviews, it was anticipated that the surveys in the packet would have been completed, providing the MST with information to make the brief interviews more effective. At the time of the interviews with the student-athletes, those that had completed the surveys had turned them in to AC2, so I did not have them available. Those that had not already completed the surveys in their season's end packet universally agreed to do so. As noted earlier, however, this was not the case.

Agreement. Overall, if there is one topic that was agreed upon by the student-athletes, the coaches, the SP, and the MST, it was the enhancement, or more specifically the lack of enhancement of team communication. 93.75% of the student-athletes and 100% of the coaches agreed that communication between them did not improve with the intervention. Even those student-athletes with whom I worked one-to-one specifically regarding communication with the coaching staff reported no improvement. While communication was not directly addressed as part of the curriculum, it was hoped to be a by-product of the intervention that would naturally occur. This lack of clear communication is also noted in the qualitative data and could remain a significant obstacle in the future success of the team. This team has a communication issue that was not remedied by the MSTP intervention. Furthermore, inadequate team communication directly relates to less than ideal team chemistry.

Team Chemistry

Team chemistry is more illusory a construct than team communication and is similar to mental toughness in its difficulty to define. It is a bond between the athletes on a team and includes proficient communication amongst the athletes. Team chemistry does not include the coaches, but it is something coaches look for. For example the HC noted in the seasons' end interview,

> The thing about it is the fact that we had so many issues. I mean we have issues on the team. It's hard to say one way or the other whether it affected them [on the court]. … I don't think the things that were the actual issues were a part of the curriculum as far as team chemistry. … But, I think the issue for us was just the chemistry.

That being said, team chemistry was yet another area of disagreement between the student-athletes and the coaches. The student-athletes reported that the program enhanced team chemistry (#17/24, 87.5%), while the coaches universally (100%) perceived that team chemistry was not enhanced by the MSTP. Qualitative data supports the student-athlete's perspective.

Team chemistry: Student-athletes. The student-athletes credit the MSTP with not only improving communication between themselves, but also enhancing team chemistry by giving them something to share and to talk about when they were together, especially on the road. They really took to and used their team motto, "Fast, hard, strong!" which was short for "Start fast, play hard, finish strong!" Several of them exchanged ways in which they were utilizing anchors and cue words, and also different variations in how they were implementing the Circle of Excellence exercise. They also reported how they

would discuss different aspects of the MSTP in the locker room before and after practice and even before games. Throughout the season they monitored each other's self-talk and pointed out when someone was being negative. This increased shared experience encouraged team chemistry in their perception.

The drinking incident. There were several incidents during the season that had an impact on team chemistry, but none so much as "the drinking incident." To make an extremely long story short, while on the road after a Friday night game, three players (all of legal drinking age) were reported to the HC for drinking, which is against team policy during the season. They were called on the carpet by the HC and while they accepted the consequences of their actions they also blamed another player for "ratting them out." This definitely impacted the team on Sunday while they played another game on the road. Secrets on a small team are non-existent and the team became split as to who was worse, the players who broke the policy or the one who supposedly ratted on them. This dysfunction carried over into the next week and I became involved as sort of an unofficial mediator. Fortunately, those who were directly involved had been on the team together for several seasons and team goals overcame personal egos and they worked to mend the rift. Within two more weeks everything appeared to be back to normal and when questioned in the season's end interview, most everyone agreed that it was "over" after a "couple of weeks." Questioning about other chemistry issues, however, revealed this wound to team unity was easily re-opened.

Team chemistry: Coaches. The coaches did not perceive any improvement in team chemistry. There were attitudinal challenges throughout the season that resulted in breakdowns on and off the court. *The drinking incident* also impacted the coaches a great

deal more than it did the players. They felt betrayed by some of the team leaders and it most certainly contributed to some of the deleterious communication issues mentioned earlier as trust was negatively impacted. In fact, in an effort to change the team chemistry to a more positive amalgamation, within days after the season ended, the HC dropped one of the scholarship players from the team because of her negative attitude. He put one other student-athlete on notice to improve her attitude during Spring training or she would endure a similar fate. (It should be pointed out that these student-athletes were not involved in *the drinking incident*.)

While it was after the season, this action definitely affected team chemistry and team communication. It also impacted how some quantitative aspects were reported in surveys. On one hand the HC made a powerful statement about what type of attitude and behavior would not be tolerated on the team. It was powerful because if the student-athlete involved was not awarded a scholarship at another institution, he would have to "eat" the scholarship and be short one for the following year. On the other hand, student-athletes had mixed emotions regarding the dismissal, several feeling the HC was justified in the action, others less so. One student-athlete reported,

> I mean, I think that will pull us together and force us to work with the coaches. And, I can already tell we're like closer as just the girls, just because of that happening. So, I think that may not help us [win] as far as [her] not being on the team, but I think it's something we can use. Instead of letting it be detrimental we can decide to use it to pull us closer and be able to communicate more with each other and work better as a team on the floor.

My perception of the coaches' viewpoint regarding team chemistry is that they were very negatively influenced by *the drinking incident*, and also by their perception that the student-athletes did not embrace the program. Both these items contributed to the ongoing *issues* the HC speaks of. The student-athletes obviously feel differently, but while they perceive that team chemistry was enhanced by the MSTP, I think they would agree that there is still ample room for improvement. Regardless, much more than the MSTP has impacted team chemistry and only time will tell whether it had a positive or negative effect.

4. How did the coaches and student-athletes view the investment of time and effort?

Another way of asking this question is what was the value or worth of the program? This is the crux of a program evaluation, the value or worth of the program. Regardless of how you ask the question, the answer was gratifyingly positive: it was worth the time and effort. That is, it was valuable and worthwhile. There was only one area of negative response for this category. It had to do with the coaches' perception of whether or not the student-athletes embraced (SE/C #23/5; -83.5%) or accepted (SE/C #25/13; -100%) the MSTP. While there were no comparable statements for the student-athletes to respond to, all the remaining quantitative and qualitative data indicate that they did embrace and accept the program. It may have not been embraced as fully as the coaches would have liked but the amount of use certain techniques enjoyed, member checks throughout the season, and the adoption of the team motto "Fast, hard, strong," robustly support the quantitative data in this category. Student-athletes and coaches reported directly and indirectly that the program was worthwhile, that it should be

continued the next season, and that they would recommend mental skills training to others.

Investment of time. The chief complaint regarding the investment of time was that when the program was first presented to the team, it was proposed as a “part of practice.” That is, other than the two sessions during training camp before classes started, the student-athletes would not have to spend any *extra* time participating in the program; this turned out not to be the case. At the first regular session meeting I immediately recognized there was going to be a problem. Practice was scheduled to begin at 4:00 p.m. and I was to have from 4:00 to 4:30 to work with the team. The student-athletes began arriving dressed for practice at about 3:15 and proceeded to begin their individual and then group warm-ups and specialty practices like blocking or setting with the coaches. Being an athletic trainer, I recognize the value of warm-up in preventing injuries and thought it would be counter-productive to have the student-athletes complete their warm-up, sit on the floor and cool down, and then begin practice without further warm-up. I discussed this potential problem with the HC and he agreed that it would be better to end practice 30 minutes early and conduct the mental skills session at that time. While that sounded reasonable, I had my doubts whether it would actually happen.

The first practice the HC actually did stop 20 minutes early and I was able to conduct a session for about 25 minutes, trying to be careful and not infringe on the student-athletes by adding time on. By the second week I could see that this arrangement was not going to work. The HC was upset with the team about the way they were practicing and kept them 30 minutes later rather than stopping early. The student-athletes then asked to shower before the meeting, which was fine with me because it would allow

them to hopefully change the rather negative mind-set they were in due to the elongated practice. After an abbreviated 20-minute session I explained my dilemma to the team: I could not conduct a session before practice without negating their warm-up; it was not realistic to expect the HC to end practice early (I've never known a coach to willingly give up practice time); therefore, could we approach the program as an *add-on* after practice? With both captains taking the lead, they all surprisingly agreed to spend the extra half an hour a week approximately 30 minutes after practice concluded. This would generally start the session at approximately 6:45 or 7:00 p.m.

While I was delighted that they agreed to the MSTP as an add-on, another challenge arose the following week when practice again ran long. Laura, one of the freshmen, had a meal plan in which she had to eat at a certain cafeteria before 7:00 p.m., which would be about in the middle of my education session. (Being a freshman and on the shy side anyway, she had said nothing the week before and missed dinner.) The team agreed to wait for Laura to eat and come back, so that the session was now beginning around 7:10 or 7:15. While there was some good-natured ribbing about Laura and her need to eat because she needed to keep growing (she was only 6' tall), there was surprisingly little grumbling about the dead time the other student-athletes had to spend waiting for the mental skills sessions. This schedule continued until the latter half of the season when practices became shorter and I was able to fit the session in immediately following practice and still allow Laura time to get to the cafeteria where she could at least take her time eating.

MSTP as add-on. I questioned each of the student-athletes about the MSTP as an add-on during the seasons' end interviews, and remarkably only two said it was an issue

in how they accepted the program. Several more said that it was initially an inconvenience but they knew I was there to help them, so they didn't mind the extra time. Several of the older players suggested that it was "par for the course." Investigating this less than positive remark, I found it was a component of the communication challenge. They said it was not unusual for the HC to say one thing (especially regarding practice time) and then not "keep his word." Regardless, they felt the program was worth the extra time and hoped it continued the following year.

Overall, there is much to suggest that the MSTP was perceived positively and was thought to be both valuable and worthwhile. Even in spite of the lack of positive grades for team communication and from the coaches for team chemistry, all concerned viewed the program as worthwhile and were willing to recommend it to others. The SP summed it up this way:

> I liked the program. I really felt most of them benefited from it. … I thought there was a lot of practical interventions that were helpful for them. I don't really know if I could identify anything as sort of a glaring weakness. … But, you know, they had some incredible matches, and they went on a run, and you could see in the midst of that run that they were using some of the stuff that you were going over with them. To me that's evidence that something was working.

Time and effort: Journals. In the quantitative reporting 87.5% of the student-athletes answered that they found the journaling helpful and not a waste of time (Table K2, p. 341, #25/6). There were, however, only four student-athletes who journaled regularly throughout the season. This makes one wonder regarding those that minimally participated that if they found it helpful and not a waste of time, why didn't they

participate more often? Qualitatively, lack of time was the main excuse given for not participating in the on-line journaling once a week. There was also a challenge created with redundancy, as the coaches required a submission of specific performance goals each week. One of the student-athletes apparently thought the information was shared so there was no need to do it twice.

On the positive side, those that participated in the journaling found it helpful and declared the feedback I provided valuable for performance and stress management issues. Finding ways to improve compliance with reflective journaling will be a focus of future interventions. One obvious improvement that could be made would be to somehow eliminate the redundancy and confusion caused by the coaches' requirements of weekly performance goal setting. This could possibly be accomplished by making the journaling more issue oriented than goal oriented.

Overall, the time challenges the student-athletes experienced negatively impacted the effort expended on areas of the program that were considered additional, like the weekly journaling or the one-to-one mental skills coaching. That being said, all concerned perceived the program to be worth the extra time and effort expended.

5. Was the program delivered effectively and efficiently?

By all accounts the program was delivered in an effective and efficient manner. Both the quantitative and qualitative data reflect this on multiple levels. Categories in which program effectiveness was examined were learning, application, use, and organization. Program efficiency focused on the timeliness, flexibility, and delivery of the curriculum by the MST.

Effective Learning, Application, and Use

Learning the mental skills and how to use them took place. All the data gathering instruments confirm that learning took place. Quantitatively the data was overwhelmingly positive that learning took place and that student-athletes used and applied the knowledge they learned. Qualitative data exceeded expectations as all the student-athletes enjoyed transference of learned skills to other endeavors beyond sport.

No pre-test. As mentioned in the Results section, there was no formal pre-test administered for levels of knowledge or current use. While this is not a recommended strategy for the most effective research evaluation, my primary purpose was to provide a mental skills training intervention with the volleyball team. I considered the best way to achieve a successful intervention was to approach it as I would if there was no evaluation occurring. That is, I did not want the first session to consist primarily of tests and measurements where the student-athletes would forever associate me as a researcher first. In order to begin establishing rapport and stimulate interest and excitement among the participants, and to show that I was there to help them and not just use them for my experiment, I conducted the first session as if there was no measurement occurring. Only near the end of the session did I dispense the IRB forms and discuss how and why the evaluation was being conducted to coincide with the intervention of the MSTP. By that time their primary perception of me was, hopefully, someone who was there to help them and was doing some research on the side. I think this approach paid off when it became necessary to make the program an add-on to practice. Many of the student-athletes remarked that they knew I was there to help them, therefore they didn’t mind investing the extra time.

KU survey inconsistencies. Knowledge of a particular mental skill and familiarity with its techniques for application is, of course, important. Actual measurement of that knowledge, however, was never the primary focus of this intervention. As mentioned earlier there was no pre-test of the level of knowledge the student-athletes possessed of mental skills, so there could be no valid post-test assessment of the knowledge gained. Also, KU-1 and KU-2 were both administered after a significant portion of the curriculum had been presented (1.5 hr and 2.5 hr respectively)

The KU survey analysis is fraught with inconsistencies. For example, one student-athlete labeled her early-season (KU-2) knowledge of *Pre-practice Routine* at a 3 and her usage at that time also as a 3. On KU-4 at season's end she listed her knowledge as a 0 and her usage as a 2. Obviously, if she was using a pre-practice routine at all then she retained some knowledge of it. Limitations also include the decline in usage attributed by the two student-athletes who were injured and therefore not using the skills for competition (although they were both coached on how to apply the mental skills to accelerate healing and rehabilitation). Compliance, especially for KU-4, was also an issue as only 7 of 13 (53.8%) student-athletes complied. (See *Season's End Packets* above)

KU-5 in the Spring showed slightly more consistency, although some student-athletes reported they were utilizing *Pre-competition Routines* and *Pre-competition Mental Practice* when there was no competition during the Spring training because of the low number of student-athletes participating. One might hope that they were imagining practices as competition. The same is also true for the *Trusting Mindset*, a cognitive mindset that precludes flow state or the zone, and which should be employed more often during competition as opposed to practice.

There was a category in KU-5 for *Planned Usage In Fall*. No one planned on using any of the 37 mental skills or exercises less than their current usage. In all instances there was a predicted increase in use for the Fall and for most items the increase seemed appropriate. For example, five of the eight student-athletes reported zero use of *Pre-Competition Mental Practice* with all reporting predicted increases in the Fall (1-3, 1-4, 3-5). On the other hand, the *Training Mindset* showed a projected increase mean use of 0.9, or almost 1 point, for the Fall over the current use. The *Training Mindset* is the mindset preferred for practice so it should have been used at a higher, or at least equal rate, in the Spring. From this, one might surmise that some of the student-athletes were just "going through the motions" during the Spring training period compared to how they worked in practice in the Fall, but it would be another category requiring further study.

Holistically, the KU surveys served as a valuable tool for evaluation. It seems that the KU surveys promoted metacognition and the KU-5 survey showed that not only had the student-athletes remembered what they had learned they were continuing to use the mental skills. This suggests that an instrument like the KU survey could be utilized to enhance knowledge and use in standard mental skills training interventions in which there is no formal program evaluation occurring. This is another area where more research would be helpful. The qualitative data supports and compliments the quantitative survey information contained in the KU surveys.

Learning goals. The mental skills were presented in easy to learn format and the student-athletes, the coaches, and the SP acknowledged this both quantitatively and qualitatively. The data also supports that the learning goals contained in the ID (Appendix D1) were facilitated in such a way and to such an extent that transfer of

knowledge took place. The knowledge and use were integrated into the student-athletes practice, training, and competition protocols, thereby increasing the student-athletes volleyball efficacy – their individual performance. Learning that occurred included:

- Knowledge, integration, application and ability to utilize the core mental skills.
- Understanding the means and having the ability to consistently enhance athletic performance.
- Increase in self-efficacy of learner/student-athlete.
- Additionally, transference of these concepts and skills into their personal, academic, and/or life circumstances to improve or enhance those circumstances.

The KU surveys, the IMP survey, and the SE/S-A survey, along with the qualitative data all demonstrate that the student-athletes learned and utilized mental skills. They also learned, or understood, how the mental skills could be applied to enhance their performance. This transference of knowledge contributed to higher self-efficacy as volleyball players for several of the student-athletes. For example, Betsy reduced her SE Avg./Game by visualizing where she wanted the serve to go; Kelly improved her leadership skills by mental rehearsal; Nicole sharpened her ability to re-gain focus after distraction through use of goal setting and visualization; Laura improved her ability to rebound after poor play and criticism from the coaches by changing her self-talk and focusing on the positive end-result; Cora utilized visualization and feelazation to manage her stress for volleyball and for academics by accessing her “happy place;” and Victoria

reported an overall confidence boost and pre-game focus by utilizing the Circle of Excellence.

The item regarding the transference of mental skills to other areas of life was a secondary evaluation consideration, and one, quite frankly, I did not expect to occur in more than one or two committed mental skills learners. I was pleasantly surprised to hear accounts from nearly all the student-athletes of how they had successfully transferred mental skills to other areas of their life, especially academics. This transference of learning took place with little facilitation or coaching from me as MST, which also indicates that a thorough understanding of the skill and its application had taken place.

Effective Content and Delivery

EDS surveys. The EDS Surveys were completed by the coaches and the SP following the education sessions and focused directly on the content and delivery of the information. Effectiveness in these areas was at 88% and efficiency scored 94%. (see Table M3, p. 356).

Effective organization. Organization of constructs in the curriculum for ease of understanding (see Appendix M1, EDS #6) received a 94% positive rating from the coaches and the SP. While not specifically measured, effective organization of the curriculum contributed to its ability to be delivered effectively and efficiently.

Efficiency

The hallmark of this instructional intervention was the flexibility and adaptability of the MST to the availability of instructional times and locations and to the immediate needs of the team. This also holds true for the curriculum content, as the flexibility of instructional sequence was also imperative. A suggested lesson plan delivery sequence

was designed in preparation of the intervention. Its design called for a 20-25 hour intensive course (Table D3, p. 301) which was approximately half of the materials that would be addressed in the semester long course. The actual nine-hour instructional delivery sequence can be found in Appendix I. Comparison of these two instructional sequences reveals the requisite flexibility employed.

The further condensing of the program from 20-25 hours down to nine hours forced me as MST to essentialize the program and the curriculum. Because I designed the curriculum and had been delivering and facilitating it in part or whole since 1996, I was able to strip away of more than half of what I originally thought necessary for a positive intervention (and evaluation) and it encouraged me to become extremely pragmatic about what the team needed for possible application. On at least three occasions conversations with the HC or the team captains just prior to the learning session changed the curriculum content to a different topic with different learning objectives. My experience and flexibility coupled with the flexibility of the curriculum allowed me to make these last minute changes in order to better meet the immediate needs of the team.

Timeliness. Another consideration in the efficiency of the delivery of the program was timeliness. That is, did I remain within the given time constraints of the sessions, which was generally 30 minutes? I was extremely aware, especially after the program became an add-on, that regardless of how important I thought a concept or technique might be, if I ran overtime the student-athletes would begin to turn me off. Worse, there was a real fear that if I ran over often, the student-athletes would disengage completely and the program would cease. Furthermore, my credibility was at stake. That is, if I could

not deliver what I promised to deliver within the timeframe that I announced why should they believe me when it came to how the mental skills could help them.

Time negotiations. Once the academic school year began, the student-athletes time demands skyrocketed. Early in the season, the semester had just begun, so for the upper-class athletes the time challenge was not that burdensome, as their comfort zones were not significantly challenged. The group, however, that was the most time challenged early in the season was the freshmen. In addition to being away from home for the first time, starting classes in an entirely different format than high school, and participating in volleyball approximately 15-20 hours a week (not counting travel), they had to attend mandatory weekly evening classes the first month of the semester that were sponsored by the NCAA. These classes ran several hours and covered information regarding NCAA rules and regulations (which are voluminous), how to deal with the media, and the expectations of them not only as college students but also as representatives of the university. I was unaware of this extra time challenge by the freshmen until the third week when team travel caused a shift in my schedule to Wednesday night and the freshmen did not attend because of the mandatory nature of the orientation meetings. By mid-season, however, all student-athletes were challenged for time. Travel was the main culprit; it caused them to be away from campus 30 days, 17 of which were class days.

One reason I have constantly referred to the members of the team as student-athletes is that they are students first. They all took their role as students seriously, and as dedicated as they may have been to volleyball, they were as much, if not more dedicated to their studies. This became evident as the season's end drew near and I had to negotiate with the captains for a longer final session.

The final session was a somewhat ceremonious rite of passage – *spoon bending* – that was used as a teambuilding exercise and to help prepare the team mentally for tournament play. In this session, they would use their mental power to assist in bending spoons. This session was sure to take longer than the allotted 30 minutes, and I certainly did not want to have to end it before everyone had successfully bent a spoon. I began to set up expectations for a unique and fun evening about a month before the last week. The next week the captains approached me and told me that while everyone was looking forward to the spoon-bending exercise, some team members were concerned about the extra time because exams were approaching. This final hour-long session was negotiated with the team captains and the HC by agreeing to skip the session in the preceding week. Fortunately the event lived up to the promotional hype I had created and it impacted everyone positively. Unfortunately, the HC did not attend this session, so he missed experiencing how enthusiastic the team was as they approached the tournament. His absence kept him from building on the event and may have later dampened the enthusiasm. It was reported in season's end interviews that the enthusiasm did not carry over into the next week when they were eliminated from the ACC tournament in the first round.

Timeliness and feedback. The constant fear of *running long* contributed to my frustration at the lack of feedback given by the student-athletes during the sessions. As a facilitator one is taught to wait for answers, that is, to be patient until the construct under discussion has time to percolate within the minds of the learners. It is not unusual in a facilitative environment to have silence for several minutes. Knowing that you only have 30 minutes to get across a concept that you might normally teach in a 90-minute class,

this silence can cause quite a bit of dissonance in the facilitator. This was why the switch to calling on the student-athletes, which goes against my ordinary teaching style, was so appreciated by me as MST. It allowed me to focus on what was important, and not worry so much about the time. All told, there was only one session that I ran over by more than five minutes, and most of them were completed with several minutes to spare.

Flexibility and teaching venues. Regarding space in which to teach, as MST I had to once again remain flexible. During the training camp period the student lounge area was reserved for the two 90-minute learning events. A small white-board was scrounged up and I provided a multi-media projector (MMP) for my PowerPoint presentations. A TV and VCR were made available but for some reason they proved to be incompatible for viewing selected video clips. Following training camp it was anticipated that most learning sessions would take place on or near the practice court with seating in the chairs or on the floor of the court. My teaching venue, however, was truly at the whim of the HC or suggestions by the captains. It was not unusual, especially late in the season, for the HC to call the team together to review the practice session and go over strategy and then invite me over to conduct a session in the middle of the gym floor. As mentioned in the Methods section, this was not unexpected. Only in the last month of the season was I able to suggest we retire to the cozy confines of the locker room for the session. Had I realized this was a viable alternative earlier, I could have avoided several sessions in the main gymnasium and the annoying echo that accompanied my every word.

Overall, the content of the MSTP was organized and was delivered in effective, efficient, flexible, and timely manner.

Secondary Evaluation Questions

1. In what ways can the MSTP be modified or improved to better service stakeholders at the collegiate level?

There are several areas in which the program could be improved for future interventions. They include teambuilding, audio aids, “beating a dead horse”, missed opportunities, and lack of office space.

Teambuilding. In future interventions of this nature I would make sure that as MST I could be present for the first week of training camp. The pre-season training camp period was a crucial learning environment for the basics of mental skills development mainly because there were no other diversions to distract the student-athletes from volleyball or the MSTP. In this case no mental skills training took place the first week of training camp because of prior scheduling conflicts of the MST. Without these conflicts three to five more hours of education could have been scheduled and team-building exercises would have been included. In hindsight these would have been extremely valuable to fall back as the team experienced difficulties and dissent later in the season. Given the same time restrictions, I would include at least one teambuilding exercise in the second education session. I feel, again in retrospect, that it would have been more valuable than the explanation of some of the curriculum constructs that took place. In an ideal intervention communication techniques could have been incorporated into one or more of the teambuilding activities.

Audio aids. For future MSTP interventions I would come into the intervention with pre-recorded digital sound files that could be downloaded from the internet for use with an iPod (iPod, n.d.), burned onto CD-ROM, or simply played from a personal

computer. These files would contain generic relaxation, performance enhancement, and competitive preparation visualizations that could be used by the student-athletes from the first class forward. Listening to these files would shorten the learning curve for visualization and feelazation by providing a method of practice and repetition. They would also give the student-athletes a ready-made relaxation exercise to use for stress management.

These types of files can now easily be made with free downloadable software and an inexpensive microphone so cost would not be a consideration. The time to create the audio files is a challenge if one has not gone through the learning curve of using this software. I had not at the beginning of the intervention. During the semester with my own teaching responsibilities I did not have the time to experience the learning curve or even make the sound files if I had known how. In retrospect, however, with prior planning this could have been accomplished and, I feel, would have made the intervention even more effective than it was.

Timing of the intervention. The inclusion of a mental skills training program might be even more efficacious if conducted in the off-season of the sport (i.e., for volleyball in the Spring). There would be less immediate pressure of competing each week and time for the new learning to become habit. Ideally this would occur on an annual basis.

Beating the dead horse. In an ideal situation the mental skills trainer would be an employee of the athletic department and be considered a member of the teams that she or he worked with. As such, it might enhance the program intervention to keep from *beating a dead horse* as described below by Betsy, one of the team captains.

> I know it was an experimental year, and you are doing your own schedule, but if it is a real program and part of any athletic program you might want to think about this. Right after the first weekend or game, like it was a bad weekend. [HC] would talk about it with us and like, he likes to talk a lot about it. And then we'd have you a couple of days later wanting to talk about the weekend again. And like, we just talked about it with [HC] and beat it dead with him. So, we were like, "Oh, I can't believe we go through this all again because we already addressed it." So, if once it becomes a program and it's way more interconnected with the coaching staff, like you be there, or whoever it is, on that first day when we talk about it with the coaches. So, it's like an open reflection with you and with the coaching staff.

Of course, this came out in the season's end interview, so I could not address it during the season. In those instances, it was the HC that made suggestions to me about what needed addressing. That being said, Betsy makes an excellent point. Had I known that extensive time had been spent on a subject, I could have addressed it in such a way that it would not have made it seem like beating the same dead horse.

Missed opportunities. Along those lines, the SP offered another potential improvement. He observed,

> I think there were times where we missed the opportunity just to kind of get into their struggles more. And, I think that was really more of a team dynamic. That might have been something that we could have done differently is address what was going on with the team that was affecting their performance on the floor.

I agree with the SP in this regard. In fact, we discussed this during several peer debriefing sessions during the season. Part of the challenge is that by the time I knew of a problem, it was already a week or more old and it was thought the team had moved on. In one instance about mid-season when I was informed of an attitudinal situation that may have benefited from this type of intervention session, the HC informed me that he had discussed it at length with the team and he thought that it was resolved. In his words, “I think we’ve beaten that horse enough.”

Office space. One other area that most certainly would have improved the intervention as far as working with individual student-athletes would have been for me to have a dedicated office space. This became apparent as I began to have one-to-one mental skills coaching sessions with student-athletes. The SP had arranged for me to use his office on Thursday afternoons while he was engaged at the university counseling center. At season’s end, several of the student-athletes reported not feeling comfortable about coming to the “Doc’s offices because you only go there if something is wrong.” Several others could not come at that time due to conflicting class schedules. I was, therefore, forced to meet with student-athletes at a campus coffee shop or in one of the education buildings in a small area where several patio-type tables were grouped. While this was nice for establishing rapport, it was not conducive to addressing anything of a confidential nature. One student-athlete came to one session in the coffee shop and subsequently scheduled no others. She confided in the season’s end interview that it was just not a place where she wanted to discuss her challenges on or off the court.

On the other hand, one student-athlete deserves a lot of credit because after about the fourth week of the season, she maintained a weekly appointment in the coffee shop

and she later told me that they helped her immensely. She also rejoined, however, that the meetings did not help her stress levels because regardless of the precautions we took to find a corner of the room and maintain a low profile, she was always more than slightly paranoid someone might overhear our sessions. For these reasons having a dedicated office, I am sure, would have encouraged more one-to-one mental skills coaching participation, which would have increased the efficacy of the program.

2. For those student-athletes who enhanced individual performance, which mental skills were utilized or integrated to achieve this improvement?

Mental Skills used for performance enhancement

While each of the core mental skills was reported used for enhancing individual performance, some were utilized more than others.

Goal setting. A widely used component for enhancing individual performance was goal setting. The coaches required the student-athletes to keep a notebook with weekly goals and those that participated in the e-journaling were also asked to record their weekly performance goals. Several student-athletes did report that their effectiveness in goal setting improved because of the MSTP. Nicole, in particular, detailed how she now utilized goal setting to maintain her focus and her motivation (p. 172). When examining the IMP survey summary (Table J2, p. 336) for goal setting and end-result thinking there were no “No Impact” grades.

Visualization. Visualization was also utilized extensively and its efficacy was reported increased by many of the student-athletes due to the MSTP. For several of them, they learned to use visualization purposefully for the first time. Visualization also enjoyed no “No Impact” grades in the IMP survey (Table J2).

Feelazation. Less impactful was feelazation, which received five “No Impact” marks (Table J2). The reasons for this seem to be due to a lack of understanding of how to engage the technique. This was an area where I feel the lack of feedback from the team kept me as MST from spending more time on the skill and on competency in the technique of developing a *bodily felt sense*. Bodily felt sense is the teaching cue for learning feelazation and it received four “No Impact” grades. It would stand to reason that if one perceived that feelazation had no impact on you, then bodily felt sense would not either. Five of the student-athletes who completed (or partially completed) the IMP survey also completed the KU-5 survey in the Spring. While it is difficult to make any determinations on the overall impact of feelazation on the team with this small sampling, it is curious that of the five student-athletes who completed both surveys, on the KU-5 survey four of them ranked feelazation as a 4 out of 5 on the *Level of Importance* scale and when queried on their planned usage in the Fall, three listed 4 and two recorded 5. Assuming that use, or projected use, means the skill is important or impactful, then there is an inconsistency in the reported quantitative data.

Qualitatively, several student-athletes reported in their season’s end interview that they “just didn’t get it.” While utilized the least of the core mental skills, those that did become proficient in feelazation perceived that it aided them considerably. For example, Kelsey pronounced,

> I know I learned about and used quite of few of the visualizations, and relaxation, the cues, and the mental pictures, and feelazation. I think from what I understand feelazation to be, it’s something that I really used. … So I know there’s value to it, for sure.

Cindy echoed this sentiment (p. 175). Because she came in and out of the games, it was often difficult for her to keep her head “in the game” and that the feelazation “helped a lot.”

Energy Management. Stress and energy management had mixed reviews as to how much it impacted individuals. Most reported stress and energy management techniques as integrated skills. That is, student-athletes reported using visualization, goal setting, and effective thinking techniques to assist in effectively managing stress. For several players the simple affirmation “Have Fun!” was often enough to relieve the pressure of tense situations on the court. For Cora, she used visualization to go to her “happy place.” Victoria used goal setting and end-result thinking as time management tools. And, Nicole discovered that “working smarter” (effective thinking) worked more effectively than working harder.

Effective thinking. The most commonly applied effective thinking tool was, of course, self-talk. The student-athletes became much more aware of their self-talk on several levels: their own and their teammates negative self-talk; anchors and cues; and affirmations. The importance of positive self-talk was a recurring theme throughout the intervention so it is gratifying to see that it enjoyed a very positive impact. The affirmation “Have Fun!” became an important concept when the team began to experience hard times at mid-season. With it student-athletes were reminded to think of why they were playing volleyball in the first place and that if they did not enjoy playing, they would not be successful. This simple concept helped more than a few of the student-athletes.

As a result of the awareness of positive self-talk, they constantly reminded each other when they were being negative not only about volleyball but also about school and even relationships. The use of anchors and cues became widespread from Kelsey and Victoria digging their toes into the court during the singing of the National Anthem to Betsy focusing more purposefully on the ball before her serve. The team motto was an affirmation: “Fast, hard, strong!” This was an item that all the student-athletes reported as being an important part of their season. While they often did not start fast, for the most part they played hard (at least in their perception), and they did finish strong quite often. This was evident as they won 5 of 7 matches that went to five games.

In sum, the integration of mental skills like goal setting and visualization to achieve end-result thinking seemed to have the most impact on enhanced performance. In a very real sense the student-athletes grasped the synergistic power of integrating the skills to improve their performance.

3. For those student-athletes who enhanced individual mental toughness, which mental skills were utilized or integrated to achieve this improvement?

As reported in the *Results – MTQ Survey* (p. 198), mental toughness improved for almost all of the student-athletes. This was profoundly gratifying, as I did not conceive that change involving the majority of the student-athletes could take place within such a short period of time. While much has been said in this document about mental toughness and its definition, like energy management its use as mental skill is an integrative affair. As such, the student-athletes did not really employ mental toughness as much as they simply became more mentally tough.

To determine which mental skills were utilized or integrated to encourage mental toughness, one must examine the qualitative data. The few student-athletes who became competent in feelazation perceive this enabled them to re-focus when distracted. Most certainly the effective thinking components of self-talk and the affirmation “Fast, hard, strong!” contributed to enhancement of mental toughness. Recognition that “Attitude is a decision” was another effective thinking concept that was credited with improving individual mental toughness. Several more techniques such as specific performance goal setting, visualization, and the desire to thrive on pressure were also engaged to encourage more mental toughness.

4. Which mental skills were student-athletes able to transfer to other areas of their lives beyond volleyball (i.e., academics, relationships, etc.)?

Another gratifying result was the amount of student-athletes who were able to successfully transfer mental skills to other areas of their lives. Everyone who responded to the SE/S-A survey reported the ability to transfer at least one mental skill to life beyond volleyball. This also held true for the qualitative data in that each student-athlete was asked this question in the season’s end interview and all but two responded with at least one area outside of their sport in which they had successfully utilized a mental skill.

The most common mental skill utilized was the combination of goal setting and visualization in the form of end-result thinking. The student-athletes regularly envisioned the successful completion of quizzes, exams, and papers and then worked their way backwards to see what they needed to do to accomplish the desired end-results. Those that were competent with feelazation added that technique to the mix by imagining the joy and pride of “acing an exam” or receiving an “A” on a paper. You may recall that

Victoria utilized this technique to keep from dropping a difficult class (p. 183). Gail utilized end-result thinking as she envisioned her upcoming summer internship and the impact it could have on her future.

Another popular area was stress management. Nicole, Marie, and Cassidy applied stress management techniques to their exam taking. If they didn't do well on a test, just like a mistake in volleyball, they utilized the ability to "let it go," resolving that they would do better the next time. Laura reported utilizing multiple skills for multiple purposes, especially stress management. Kelly incorporated several skills into work she was doing in leadership and marketing classes and also to rehabilitate her injury. The transfer of knowledge required to make these adaptations also reinforces that learning did take place, and that it was effective.

5. To what extent have athletic department administrators and other team coaches become interested in incorporating mental skills training as an educational intervention with their teams?

This is one area in which there has not been positive movement. Shortly after I began work with the volleyball team in the Fall of 2004 the lacrosse team requested a mental skills training program from the SP. This was probably due more to his raising awareness of mental skills training as he polled coaches to assist me in finding a team to work with than as a result of the MSTP. As of the beginning of the Fall 2005 semester no new coaches or teams had requested mental skills training programs for their team. My hope is that after this positive program evaluation is published, the SP can use it to increase awareness within the university athletic department.

Limitations and Biases of Study

Limitations

MST as advocate. Perhaps one of the primary potential limitations of the study comes in the form of role of the evaluation researcher – I am an advocate of the WMMSTP/MSTP and mental skills training in general. Greene (1997) argues, "advocacy is an inevitable part of evaluation inquiry" (p. 26). "Her [Greene] primary argument is that evaluators should recognize their role as advocates, to be explicit about those values, and to acknowledge the implications of those values" (Fitzpatrick, et al., p. 45). By noting my limitations and biases, by making no pretense that I am objective regarding mental skills training in general and the MSTP in particular, and by exposing my methods, I hope to allay any fears that this study may lack rigor or veracity.

Evaluation researcher versus MST. While on one hand the fact that the evaluation researcher is also the MST can be considered a strength of the study, some might also consider this a limitation to the study. They might cite a conflict of interest because the desire of the MST to ensure the program was successful might negatively impact the objectivity of the evaluator. As the evaluation researcher, however, my stake was in a successful program evaluation, which is not in itself dependent on the success or failure of the intervention (Fitzpatrick, et. al, 2004). That is, there can be a successful program evaluation to present to my dissertation committee for defense even if the educational intervention failed in its goals of improving individual and team performance. While the program evaluation was positive, I believe this fact helps to mediate the above-mentioned personal and professional biases.

Authority relationship. It is conceivable, even likely that some of the student-athletes reported what they thought I, as MST/evaluation researcher, *wanted* to hear either because of the authority they may perceive that I have due to my obvious relationship with the coaches, or because of the positive rapport I may have established with them as an individual. Hopefully I have countered this possibility by the sheer number of surveys and their construction and the comparison of perceptions of the athletes with that of the coaches. During the interview sessions I strove to ensure they understood my relationship was non-threatening and that they would not be helping me by telling me what they thought I wanted to hear. The student-athletes who did establish a close relationship with me because of one-to-one mental skills coaching seemed to be most open, honest, and critical during the interview sessions.

Office space. As discussed above, I consider the fact that I had no designated office space a limitation to the study. I think the impact was minimal, but it could have contributed to a perception that this was a “one-shot experiment” and could therefore be taken lightly. (Interview results indicate this was not the case.) Student-athletes reported that early in the season they did not want to schedule an appointment with me in the SPs’ office for fear someone would think something was wrong with them. Equally as unappealing was meeting me in a campus coffee shop where there was no sense of privacy, or in some other area of campus that was just as unattractive.

Availability on campus. Contributing to the lack of office space was my availability on campus for potential consultation. I teach full time at a college approximately 40 miles from the campus of the university. I was on campus on Tuesdays and Wednesdays from 4:00-7:00 p.m. for classes and made myself available before and

after these classes for one-to-one mental skills consultation. I traveled to campus on Thursday afternoons specifically to be available for “office hours” and education sessions for the duration of the season. Student-athletes were encouraged to contact me by phone and especially by e-mail with questions or challenges. Again, I feel this limited availability had a minimal impact, but should be noted. A much greater impact was the time challenge experienced by the student-athletes during the volleyball season (see above).

1st time evaluator. The fact that this was my first formal program evaluation practically ensures that subsequent evaluations will be better conducted. Some of the challenges that could have been avoided by more experience in evaluation and in the collegiate setting are elaborated upon above in question number one of the *Secondary Evaluation Questions.*

Biases

Injury Bias. During a sports season injuries to athletes are inevitable. Pain management and accelerated healing and rehabilitation also come under the umbrella of uses for mental skills. While they have no direct bearing on this particular study, the application of integrated mental skills for pain management and accelerated healing and/or rehabilitation provided several opportunities to establish deeper rapport with individual team members and demonstrate the efficacy of certain mental skills (goal setting, visualization, feelazation, effective thinking) and encouraged the development of mental toughness (“Pushing back the boundaries of physical and emotional pain, while still maintaining technique and effort under distress [in training and competition])” (Jones et al., 2002, p. 212).

Because of my 34 years of experience in sports medicine and athletic training, and because I desired to be regarded as a contributing member of the team, I made it known to the student-athletes that I could assist in the areas of accelerated healing and pain management for certain chronic injuries or conditions. It should also be noted that through serendipitous coincidence the certified athletic trainer who was the graduate assistant assigned to provide medical coverage for the volleyball team was a former athletic training student of mine at the health sciences college where I am a full time faculty member. Because I was his instructor for four courses over a two-year period, he was very familiar with the basic concepts of mental skills training and how metal skills could be utilized for pain management and accelerated healing. His influence and encouragement regarding the use of these modalities by the student-athletes was extremely positive and impossible to measure.

Therapeutic Bias. While it is recommended by Seidman (1998) that the interviewer not assume a therapeutic role, as MST for the team this was unavoidable. As the season progressed and I established rapport with the athletes, I was called upon by several athletes for surficial psychological counseling for which I am trained and experienced. In that therapeutic role the information obtained in those intakes and interviews is held in the strictest confidence. Because of my training and experience, I also know when to refer to a more qualified practitioner. As mentioned earlier, I worked close association with the SP, who is a licensed clinical psychologist, and he was kept abreast of potential problems. Fortunately, there was no need for such a referral.

WMMSTP/MSTP Bias. I first described the five essential mental skills that make up the WMMSTP in my masters project at Regis University: *Motivation for the*

Millennium: Certification – Mental Skills Trainer (Reese, 1998). Feelazation, as a core mental skill, was introduced at a later time into the curriculum. As discussed in the Review of the Literature, these core mental skills were distilled from the popular and scientific motivational, sport psychology, and energetic medical literature of the day.

The curriculum developed to teach the core mental skills has been constantly evaluated, formally and informally, and has evolved over time. Learning concepts from educational psychology have been incorporated into the instructional design. I consider the curriculum a living document that is constantly and consistently evaluated, upgraded, and enhanced with new information from applied research, from personal experience, and reflexive review. The implementation of the curriculum is also evolutionary. The curriculum is in development for submission, approval, and publication for various professional organizations as a self-contained continuing education course for athletic trainers, strength coaches, physical therapists, physical therapist assistants, and personal trainers. This curriculum has been modified for use with the National Guild of Hypnotists (NGH) as a certification course in sports hypnosis, for which I am the sole provider (Reese, 2002-2005). This material is also contained in a popular self-help book that I have written, *Develop the Winner's Mentality: 5 Essential Mental Skills for Enduring Success* (Reese, 2005). The commercial viability for these products stems from the trustworthiness of the experiential anecdotal and empirical evidence accumulated over the past decade in use with high school, college, amateur, professional, and Olympic athletes, and in corporate settings. This commercial viability will be enhanced by the positive program evaluation. In like manner, had the program evaluation be negative, specific weaknesses in instructional and/or curriculum design, content, and delivery

would have become apparent. This would have led to corrective action and renovation of design and/or delivery, and that would eventually also enhance commercial viability. That is, regardless of the outcome of the program evaluation, commercial viability would eventually be enhanced.

Summary: Limitations & Biases

Biases include an injury bias, a therapeutic bias, and a WMMSTP commercial bias. Limitations consist of a possible perceptual conflict of interest between my roles of MST and evaluation researcher, the prospect of my perceived authority affecting responses in surveys and/or interviews, the impact of lack of an office, and the fact that I am a first time evaluator. By acknowledging these biases and limitations and offering explanations, I am confident their impact was minimal.

Conclusion

The primary conclusion to be drawn from the results and the discussion of those results is that the program evaluation of the case study of the educational intervention known as the MSTP was a positive evaluation. This is evident in an examination of the results of the program evaluation ratings earned by the decision components used for the evaluation. The decision components consisted of program goals and their more specific operationalized outcomes derived from the research evaluation questions and they yielded an 84.69% positive evaluation rating. From this the following can be said regarding the primary and secondary research evaluation questions regarding the impact of the educational intervention known as the MSTP:

Conclusions – Primary evaluation questions.

1. *Individual performances* were enhanced. *Team performance* may or may not have been enhanced, but the impact was not negative.
2. *Individual mental toughness* was enhanced. Like team performance, *team mental toughness* may or may not have been enhanced, but it was not negatively impacted.
3. *Team communication* was not improved. While it was not negatively impacted, the lack of enhancement was remarkable. *Team chemistry* was positively impacted according to the student-athletes. While the coaches perceived no improvement in team chemistry, again, there was no negative impact.
4. The MSTP was worth the *time* and *effort*.
5. The program was delivered both *effectively* and *efficiently*. It was effective in the areas of learning, application, use, and in meeting the learning goals and objectives. It was efficient by being both timely and flexible.

Conclusions – Secondary evaluation questions.

1. Areas that could be *improved* included: the early addition of *teambuilding* exercises with the inclusion of communication development; the early availability of *audio aids* in the form of digital audio files of visualizations and relaxation scripts; the *timing of the intervention* might prove even more efficacious if conducted during the off-season; having the mental skills trainer avoid *beating a dead horse* and *missing opportunities* for addressing underlying team issues by being on hand for early week debriefings between the team and coach; and by having some type of assigned *office space*.

2. *Mental skills used for individual performance improvement* were multiple and usually integrated, i.e., goal setting and visualization combined for end-result thinking. Feelazation, while not widespread in its use, was very helpful to those that incorporated it.
3. *Mental skills utilized for enhancing mental toughness* were also integrative in nature. Self-talk in combination with visualization to establish and maintain focus and concentration was most common.
4. *Transfer of mental skills* to areas outside sport occurred. The most frequent use was for academics, especially test taking utilizing end-result thinking. Multiple techniques were employed for stress management off the court.
5. Interest by other coaches and teams at the university has not been evident.

Finally, I would like to revisit the opening question, "If mental skills training is so great, why doesn't everyone do it?" I earlier posited that there were several factors involved in the lack of inclusion of mental skills training in team sports programs, regardless of the level of competition. The first is a lack of convincing research that shows mental skills training programs do enhance performance. All but a few who have done research in the field of applied sport psychology might disagree with that statement – as do I. With that in mind, let me rephrase it: the people who need to be convinced – coaches – have not been. Any of us who have worked around competitive athletics know that coaches do not require scientific evidence to incorporate new concepts into their programs; they require success whether it is real or perceived. With coaches and athletes correlation *is* causation when it involves winning or losing. For example, one might wonder if fluids would still be withheld from football players had not the 1966 Florida

Gators posted an 8-2 record and earned a reputation as a second-half team because they drank a new concoction known as Gatorade (Kays & Phillips-Han, n.d.). Even as coaches grudgingly gave up the concept that drinking fluids would make you weak, they actively resented the time it took to insert “Gatorade breaks” into their practices. As a result, practices became longer.

This elucidates my second factor as to why mental skills training programs are not a part of every sports program – time. Coaches are extremely reluctant to give up any of their practice time. Even athletes who constantly complained about the uselessness and deleterious effects of long practices on both mind and body become immediate supporters of lengthy practices when they become coaches. If queried about this turnaround, they tend respond, “there’s just so much (information) to install” (e.g., Meyers, C., Hamilton, R., paraphrase of personal communications, 1990, 1994). Time is also a critical factor for student-athletes who, while in-season, are constantly on the verge of being overwhelmed because of the time demands placed on them.

In sum, for coaches to provide time for mental skills training to be included into their programs, they must perceive it as efficacious. Time challenged student-athletes must also believe it is worthwhile. Conducting program evaluations of mental skills programs such as this study may provide applied sport psychology with a legitimate research vehicle to do both. If evaluation researchers approach coaches as mental skills trainers who primarily have the teams’ best interests at heart, and their research as an excuse to provide the service, more teams may adopt programs. If that occurs, more coaches and more athletes will be exposed to mental skills training, and, as this study shows, once exposed they will deem it worthwhile and will want to continue it.

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APPENDIXES

Appendixes ~ Table of Contents

Appendix A : "Go To Your Room" Visualization Exercise

Excerpted with permission from Develop the Winner's Mentality, *Reese (2005)*

GO TO YOUR ROOM

Imagine yourself in your favorite room. It could be your living room, family room, your den, whatever it is – your favorite room. Now, imagine sitting in your favorite place in that room. It could be a chair, sofa, or even your bed, whatever is your favorite place to relax. As you sit in your favorite place, close your eyes and count the number of windows in the room. Remember, you don't have to literally *see* them; you may just get a sense of how many windows are in the room. Once counted, open your eyes and think about what that "looked" like.

After counting the windows and reflecting on the process, once again close your eyes and "look" at the wall in front of you there in your favorite room. Is it painted, paneled, or papered? What color is it?

Now imagine what is on that wall. What do you see, sense, or perceive on that wall? Maybe it is a TV or maybe pictures or bookshelves or a window. See what is on that wall. Get a feel for what is on that wall. You *know* what is on that wall.

After you get that image, shift your attention and your view to wall to the left of the wall you are now observing. Now, imagine what is on the wall on the left-hand side – the left hand wall. Is there a fireplace? Is there a door? Maybe there are sliding glass doors. What does it look like? What is on the wall? Get a sense of what that wall is looks like?

After you get that image, then imagine the wall on your right side. What does it look like? Is there a door, windows, pictures, a painting, artwork? If there is a window, what kind of window treatment is there? If there is a picture, what are the details? Spend more time on the right wall than you did on the left wall. Where are the electrical sockets? What does the baseboard look like? Do this until you *know* everything that's on that wall.

When you've accomplished that, imagine the wall behind you and what is on that wall. After you get this image, and you have successfully examined the entire wall, take a deep breath and open your eyes again. Reflect on the process.

SEE, I knew you could visualize. (The "Go To Your Room" visualization exercise was adapted from Disidentification for Stress Reduction Handbook by Paul Haber, Ph.D. 1988; http://www.stress-institute.com)

PRACTICE!

Practicing this simple exercise will improve your visualization skills. Visualization is a skill. With practice, it will improve.

Initially, when I first started visualizing I did not literally see pictures of what I was visualizing. I had a *sense* of what was on the wall. I *knew* what was there. Sensing it *is* visualizing it. Over time I began to see actual color snapshots and even movies in my mind's eye.

Appendix B: The Paper Clip Exercise

Excerpted with permission from Develop the Winner's Mentality, *Reese (2005)*

The Paper Clip Exercise

The following "paper clip exercise" is used by the author to teach the energetic nature of thought:

You are about to perform an experiment to show that your thoughts have energy. You don't have to believe it – just don't *dis*believe it. Not disbelieving is, for example, like what you do when you go into a *Star Wars* movie. You probably did not actually believe that the story you were about to see went on "long, long ago, in a galaxy far away," but in order to enjoy the movie, you chose to suspend disbelief while you watched. I'm asking you to *suspend disbelief* as you execute the following exercise.

Exercise #1: Trust the Force (J. Hernandez, personal communication, February, 1998)

- Take an ordinary paper clip and a piece of string about 6" long.
- Tie one end of the string around the paper clip, so that it becomes a pendulum.
- Hold the free end of the string between the thumb and index finger of your dominant hand so that the paper clip is dangling freely.
- Rest your elbow of the arm holding the string on your knee or the top of a table or desk so it will be stabilized.
- With the elbow resting on something stable, your arm should be in the shape of a "V" with the paper clip dangling down from your thumb and index finger.
- With your free hand "still" the clip so it becomes motionless.
- Now, cup the palm of your free hand and place it about ½" beneath the paper clip.
- Be still and watch what happens!

What should be happening is that the clip will begin to swing in a circular motion without you doing anything! This is natural: your energetic field is moving the clip. If the clip is not moving, close your eyes and think of something else – a pleasant visualization, or even what you have to do tomorrow. Then open your eyes and take a look. If it's still not moving, check out what you were thinking. You may be thinking, "be still," or, "this can't move." You're probably fighting it with some thought. Don't be afraid, it's just your energetic field moving the clip. Even if your paper clip doesn't seem to be moving, proceed to the next part of the exercise anyway.

Exercise #2:Putting Energetic thought to work (Bunker, 1996)

- Once again, still the clip.
- This time just let the clip dangle without your other hand beneath it.
- Using only your thoughts – don't move your arm or hand – make the clip swing toward you, and away from you.
- Just focus your attention on the clip as you think, "come toward me and move away from me."

Ah-Ah, don't move that arm. That's not necessary. The clip will move at the direction of your thoughts! Is it moving toward you and away from you? What did you

think about when it started happening? Some people are shocked or scared. While teaching a seminar in England, the Director of Sales for the company I was working with was so startled he let out a yelp and threw the clip across the room. When you get the clip to move toward you and away from you, go directly to the Exercise #3.

Help!

Having a problem getting the clip to move? First of all, remember this is a *skill* – not magic. And, like any skill, it can be learned and improved with practice. Read through the following and then try it again and this time adding the visualization.

- First, still the clip.
- Now, using your imagination, close you eyes and imagine the following:
- Imagine the sun. Get a sense of the power of the sun – the energy of the sun.
- The sun is the most powerful source of energy in our solar system, so just imagine the sun and it's energy.
- Not the heat of the sun, just the energy.
- Imagine that the energy of the sun is focused in a beam going right into the middle of your forehead.
- This energy then travels around your head and down through your neck. It continues down through the arm holding the clip all the way to your fingertips.
- There it moves into the string causing the clip to move toward you and away from you.
- See it moving in your minds eye, feel it moving.
- Now, open your eyes and see that it is moving.
- Repeat this exercise until you get it to move.

If that doesn't work, get a child to help you. Preferably someone who has not reached his or her teens. Children have less preconceived notions about what can and cannot be done. If you still can't do it – don't give up. All it means is that you are resisting it.

Wrong Way?

If you are able to make the clip move, but it's going in the wrong direction (side to side as opposed to toward you and away from you), you may have experienced what is commonly referred to as a *grasshopper* mind. That means that your thoughts jumped around, and you are not controlling them. With practice, you will gain control of the your thoughts and of the direction. Even if you are not successful with the directional component, continue with the exercise doing the best you can.

Exercise #3: Side to Side

- Again, still the clip.
- Now, using the energy of your thoughts, make the clip move from side to side. Think "move left, then right; left – right."

It's getting easier now, isn't it?

Exercise #4: Circles

- OK, still the clip again. This time try making it stop just with your thoughts.
- Once it is still – make it go in a circle (without holding your palm beneath it).
- Think, "Circle – move in a circle" (Envision a clockwise or counterclockwise motion.)

Got it? Now, can you make it reverse direction without "stilling" it by hand? If so, the energetic force is strong within you.

Practice!

Remember, this exercise is a skill. As such, it can be enhanced and improved by practice. The more often you do it, the more proficient you will become and the easier it will be.

Appendix C1: MTQ/S-A ~ Mental Toughness Questionnaire ~ Student-Athlete

Post Season Mental Toughness Questionnaire ~ Student-Athletes

Name: _____ Date: **11/ 16/ 04** _____

Mental Toughness* is having the natural or developed psychological edge that enables you to:

- Generally, cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer.
- Specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure.

Please rank yourself on a scale of **1** (That's not like me at all) to **10** (That's exactly like me).

1	2	3	4	5	6	7	8	9	10
Not like me									Exactly like me

First ~ Circle the number that you feel you are now, today, at the end of the Fall 2004 volleyball season, and NOT *what you would like to be in the future*.

Second ~ Place an 'X' through the number that you feel best represents **where you were at the end of training camp and beginning** of the Fall 2004 volleyball season.

If there is no change, circle the number and also '**X**' through it.

The individual results of this survey will remain confidential.

	'X' for Pre-season Status	**Circle # for End of Season Status**									
1.	I have an unshakable self-belief in my ability to achieve my competition goals.	1	2	3	4	5	6	7	8	9	10
2.	I bounce back from performance set-backs as a result of increased determination to succeed.	1	2	3	4	5	6	7	8	9	10
3.	I have an unshakable self-belief that I possess unique qualities and abilities that make me better than my opponents.	1	2	3	4	5	6	7	8	9	10
4.	I have an insatiable desire and internalized motives to succeed.	1	2	3	4	5	6	7	8	9	10
5.	I remain fully focused on the task at hand in the face of competition-specific distractions.	1	2	3	4	5	6	7	8	9	10
6.	I regain psychological control following unexpected, uncontrollable events (competition specific).	1	2	3	4	5	6	7	8	9	10
7.	I am able to push back the boundaries of physical and emotional pain, while still maintaining technique and effort under distress (in training and competition).	1	2	3	4	5	6	7	8	9	10
8.	I accept that competition anxiety is inevitable and I know that I can cope with it.	1	2	3	4	5	6	7	8	9	10
9.	I am NOT adversely affected by others' good and bad performances.	1	2	3	4	5	6	7	8	9	10
10.	I thrive on the pressure of competition.	1	2	3	4	5	6	7	8	9	10
11.	I remain fully-focused in the face of personal life distractions. That is, I can block out personal problems while competing or training.	1	2	3	4	5	6	7	8	9	10
12.	I can switch my sport focus on and off as required.	1	2	3	4	5	6	7	8	9	10

Please be prepared to discuss this survey at the end of season interview with your mental skills trainer.

*This survey is adapted with permission from Jones, G., Hanton, S., & Connaughton, D. (2002). What is this thing called mental toughness? An investigation of elite sports performers. *Journal of Applied Sport Psychology, 14*, 205-218.

Appendix C2: MTQ/C ~ Mental Toughness Questionnaire ~ Coaches
Post Season Mental Toughness Questionnaire for Coaches

Athlete: _____ **Date: 11/ 16-18 / 04** **Coach:** __ HC __ AC1 __ AC2

Mental Toughness* is having the natural or developed psychological edge that enables an athlete to:

- Generally, cope better than their opponents with the many demands (competition, training, lifestyle) that sport places on a performer.
- Specifically, be more consistent and better than their opponents in remaining determined, focused, confident, and in control under pressure.

Please rank the student-athlete on a scale of **1** (That's not like her at all) to **10** (That's exactly like her).

First - Circle the number that best represents the level of mental toughness that you feel the athlete **finished** the Fall 2004 volleyball season.
Second - Place an 'X' through the number that you feel best represents the level of mental toughness the athlete possessed **at the end of training camp and the beginning** of the Fall 2004 volleyball season.
As a coach, if you feel there is no way for you to know about this area of the student-athlete's mental toughness, circle **'DK'** for Don't Know. If there is no change, circle the number and also **'X'** through it.

The individual results of this survey will remain confidential.

	'X' for Pre-season Status	**Circle # for End of Season Status**										
1.	She has an unshakable self-belief in her ability to achieve her competition goals.	DK	1	2	3	4	5	6	7	8	9	10
2.	She bounces back from performance set-backs as a result of increased determination to succeed.	DK	1	2	3	4	5	6	7	8	9	10
3.	She has an unshakable self-belief that she possesses unique qualities and abilities that make her better than her opponents.	DK	1	2	3	4	5	6	7	8	9	10
4.	She has an insatiable desire and internalized motives to succeed.	DK	1	2	3	4	5	6	7	8	9	10
5.	She remains fully focused on the task at hand in the face of competition-specific distractions.	DK	1	2	3	4	5	6	7	8	9	10
6.	She regains psychological control following unexpected, uncontrollable events (competition specific).	DK	1	2	3	4	5	6	7	8	9	10
7.	She is able to push back the boundaries of physical and emotional pain, while still maintaining technique and effort under distress (in training and competition).	DK	1	2	3	4	5	6	7	8	9	10
8.	She accepts that competition anxiety is inevitable and she knows that she can cope with it.	DK	1	2	3	4	5	6	7	8	9	10
9.	She is NOT adversely affected by others' good and bad performances.	DK	1	2	3	4	5	6	7	8	9	10
10.	She thrives on the pressure of competition.	DK	1	2	3	4	5	6	7	8	9	10
11.	She remains fully-focused in the face of personal life distractions. That is, she can block out personal problems while competing or training.	DK	1	2	3	4	5	6	7	8	9	10
12.	She can switch her sport focus on and off as required.	DK	1	2	3	4	5	6	7	8	9	10

Please be prepared to discuss this survey at the end of season interview with your mental skills trainer. *This survey is adapted with permission from Jones, G., Hanton, S., & Connaughton, D. (2002). What is this thing called mental toughness? An investigation of elite sports performers. *Journal of Applied Sport Psychology, 14,* 205-218.

Appendix D1: ID for MSTP

Instructional Design for the MSTP Educational Intervention

The MSTP is a facilitated course for implementation specifically with student-athletes engaged in the NCAA Varsity Volleyball program at the Division 1 University. More generally, educational intervention with this course and curriculum may be modified and adapted for use with any competitive sport teams, and even for corporate performance.

Specification of Objectives

Mission & Intent Statements of Educational Intervention

As an authentic, progressive, and effective educator of adults, I – as author, mental skills trainer, and evaluation researcher – endeavored to develop, produce, and deliver a compelling instructional intervention modifying a previously designed curriculum in mental skills training that is known as the Winner's Mentality Mental Skills Program (WMMSTP) (Reese, 1998, 2005).

This instructional intervention was delivered to the members of a varsity volleyball team of a NCAA Division 1 University, including its coaches. It was assumed that most team members would become competent in many of the mental skills taught. This education intervention in mental skills training serves as an interdisciplinary bridge between human sports performance enhancement and multiple psychological disciplines. This education also desired to impact performance beyond the sports arena into life.

The mission of this specific education intervention was twofold:

1. To provide mental skills training to the varsity volleyball team in order to enable them enhance their individual and team performance.

2. To provide feedback in the form of a program evaluation of the educational intervention known as the MSTP and its curriculum in order to improve its effectiveness and delivery.

Learning principals. The objectives of the ID for this intervention all center on the facilitation of learning of the MSTP. Because the goal is learning, the four centers for an effective learning environment – assessment, knowledge, learner, and community (Bransford, Brown, Cocking, Donavan, & Pellegrino, 2000) – were integrated into the instructional design. The following are the primary *learning principals* employed by the author in the design of this instructional intervention (Shambaugh & Magliaro, 1997; Bransford, et al., 2000):

- Student-athletes must be proactive – that is, they must be learners.
- Learning must be learner centered.
- Learners' value learning for which they see application.
- Learning takes time.
- All learning is based on prior learning.
- Transfer of learning is dependant upon proper scaffolding and bridging of prior learning (foundational knowledge).
- Learning should facilitate creative and critical thinking.
- Learning should be fun (entertaining).
- Information must be presented so that all learning styles/strategies are accommodated and encouraged.
- Repetition (practice), feedback, and motivation are critical components of learning.

- Reflection, especially reflective journaling, is a powerful metacognitive tool that enhances learning.
- Informal volitional self-assessment encourages learning.

The above principals have been incorporated into the instructional and curriculum design of this course. Beyond my formal education in pedagogy, educational psychology, instructional technology, and curriculum and instruction, the MST has knowledge developed over 14 years experience in the implementation of mental skills training in professional sports, corporations, and higher education settings. Throughout the course, my knowledge and experience are reflected in facilitated lectures, real-life examples and case studies. The course and the MST prompt metacognition, especially reflection. The MST provides feedback in order to encourage the bridging of the educational scaffolding provided and to ensure transfer of learning.

Statement of Instructional Problem ➔ Intent

Student-athletes on the volleyball team lack knowledge, understanding, application, and use of mental skills and also how to integrate and apply mental skills to enhance individual and team performance.

Solution of Instructional Problem

This problem was addressed by the MST by facilitating student-athletes in the learning and integration of the MSTP curriculum. The curriculum of the MSTP consists of five core mental skills (goal setting, visualization, feelazation, energy management, and effective thinking) that, when integrated and applied, should encourage the development and enhancement of a sixth mental skill, mental toughness. Through this process, the student-athletes can develop the Winner’s Mentality. The Winner’s

Mentality is defined as the mind-set that allows athletes to focus on the end result, block out distractions, and overcome obstacles in order to cause enduring success (Reese, 2005). The Winner's Mentality is synonymous with mental toughness. Learning and integrating the core mental skills encourage mental toughness – the Winner's Mentality.

Intent of Instructional Solution

The primary intent of the instructional solution is to provide an efficient, effective, and appealing course that will answer the needs expressed by the HC specifically, and the SP generally, which are consistent with the mission of the MST.

The secondary intent of the instructional solution is to conduct a formative and summative program evaluation of the educational intervention that demonstrates the effectiveness of the course and meets the requirements of the MST's dissertation committee.

Goal of Learning Event

The learning goals listed below were to be facilitated in such a way and to such an extent that transfer of this learning would take place and would be integrated into the student-athletes practice, training, and competition protocols, thereby increasing the student-athletes volleyball efficacy.

The learning that *should* occur:

- Knowledge, integration, application and ability to utilize the core mental skills.
- Increase in self-efficacy of learner/student-athlete.
- Understanding and ability to consistently enhance athletic performance.

- Additionally, when the prior learning goals were met, if the learners/student-athletes transfer these concepts into their personal, academic, and/or life circumstances, they also facilitated increased success in those areas.

Goal - Learning Domains and Taxonomies

The domains of learning include knowledge, comprehension, application, analysis, synthesis/transfer, and evaluation/assessment. Table D2 (p. 300, S-A Goals - Learning Domains & Taxonomies) presents the student-athlete goals with corresponding domains of learning (Bloom's Taxonomy in Shambaugh & Magliaro, 1997). It was expected that the student-athletes transfer and integrate the learned goals into training, practice, and competition protocols to enhance their individual volleyball performance.

Specification of Content

The MSTP Intervention

Educational content of the WMMSTP was designed originally as a three credit hour course to be taught over a standard 15-week semester. That is, there is a minimum of 45 hours of content. The original or ideal mental skills training educational intervention for a sports team called for approximately 20-25 hours of educational contact. The reality of this intervention (MSTP) was nine hours of group contact. (MSTP and *the course* are used synonymously throughout this document.)

- The MSTP intervention consisted of nine hours of educational contact with the 13 student-athletes of the volleyball team. For the instructional/curriculum design of this intervention, the student-athletes are also the learners. (See Proposed Instructional Sequence and Proposed Curriculum Sequencing, Tables D3, p. 301, and D4, p. 306, respectively.)

- The student-athletes were encouraged to maintain weekly reflective written or e-journals of their use and the efficacy of the mental skills they employed. There were directive questions provided on the journal template (see Appendix O). This practice is in keeping with standard mental skills training practices (e.g., Murphy, 1995; Nideffer, 1992) and encourages metacognitive learning processes.
- One-to-one mental skills coaching by the MST was available in person or asynchronously on-line to assist the student-athletes in techniques for application and integration of the core mental skills to enhance performance. This was in addition to the nine hours of formal direct instruction, and strictly voluntary on the part of the student-athletes.
- A web-based platform (Blackboard) was utilized to provide easy access to forms such as “Reflective Journals” and instructions for mental skills exercises or techniques. Blackboard is an interactive computer platform with which all of the student-athletes were familiar. It is “user friendly,” and is utilized throughout the country by many colleges and universities. Through Blackboard and standard e-mail, the MST provided asynchronous feedback.
- Additionally, because this intervention is being used by the MST as the centerpiece of his doctoral dissertation, journals kept by the student-athletes were collected, coded, and used in the qualitative research; records of regular member checks with coaches and team members were recorded in the MSTs field journal and also coded for research; and interviews with the student-athletes, coaches, and SP also followed suit. There were multiple surveys

administered throughout the intervention that were utilized in the quantitative evaluation. All of this has the significance of contributing to a thorough and rigorous mixed methods program evaluation.

Course Overview

The MSTP course intervention provided student-athletes with valuable tools that when integrated and incorporated into their training regimes would enhance sport performance (e.g. Mahoney, Gabriel, & Perkins, 1987; Wild, 2002). When the student-athletes became competent in integrating these mental skills for sports performance enhancement, they could then incorporate them into their daily lives, thereby enhancing their performances in life endeavors (e.g. Kamann & Wong, 1993; Manning, While, & Daugherty, 1994; Neck & Manz, 1992; Zinsser, et. al, 1995).

The course concentrated on the power of positive metacognitive processes, especially reflection, and includes the mind-body connection. It integrates basic tenants of cognitive, behavioral, social, health, sport, and motivational psychology into six easily understandable and applicable core mental skills that that student-athletes utilize to enhance performance. The knowledge base stems from the cognitive-behavioral constructs (mental skills) of goal setting, visualization, feelazation, energy management, effective thinking, and mental toughness. The teaching of these concepts buids over time to help ensure depth of knowledge and understanding. Regular practice of the mental skills is critical for depth of learning and the behavioral change that sometimes accompanies competency in any one or all of the mental skills. The course, then, clearly teaches the core mental skills in a way that athletes of college age can learn to use them to improve their sports performance efficacy and to enhance their lives.

The content was specified by the previously developed curriculum: WMMSTP. It consists of mental skills that are delineated in the popular book, *Develop the Winner's Mentality: 5 Essential Mental Skills for Enduring Success* (Reese, 2005), which was given to all participants in the intervention upon publication in the Fall 2005 – after the intervention. A galley copy of *Develop the Winner's Mentality* was made available on the Blackboard site in a portable document format (.pdf) for examination or downloading by student-athletes and coaches. A breakdown of the learning units can be found in the Proposed Instructional Sequence listed in Table D2 (p. 300). These learning units have been set up in 15-minute learning modules wherever possible. The quarter hour modules allowed for maximum flexibility of content as the context of the season changed.

Instructional Sequence

The instructional sequence pattern began with a global overview of mental skills and the impact they can initially have on athletic performance, and subsequently on other areas in life where enhanced performance is desirable. The instructional sequence proceeded rapidly from a global perspective to smaller, yet integral, components that were taught individually. From there, bridging and transference of knowledge were facilitated so that learning occurred and practical application ensued as the model integrated the constructs to resume its holistic perspective.

Content outline.

- Major Instructional Activities:
  - Class instruction by MST.
  - On-Line (Blackboard): Forms and mental skill techniques were mounted and posted on the Blackboard site.

  - Handouts: for some sessions handouts were provided for instructions on exercises and for take-home review and reflection. These were subsequently posted on the Blackboard site.
  - Book: Reese, B. (2005). *Develop the winner's mentality: 5 essential mental skills for enduring success*. Philadelphia: Xlibris. Galley copy mounted on Blackboard site.
- Alignment: Learning units with learning goals and learning taxonomy
- Assessment:
  - Assessment was facilitative and Socratic questioning (group and one-to-one), member checks, and surveys.
  - Observation with discussion and demonstration of applications with student-athletes and coaches.

A summary of the actual Instructional Sequence and the Curriculum Sequence can be found in Appendix I (p. 331)

Instructional Framework

See Instructional Model descriptions in Table D4 (p. 306).

- *Direct Instruction* (Joyce & Weil, 1996): The direct instruction model is the primary instructional strategy for the MSTP intervention. After the initial session, each learning event began with a review of what has been learned with feedback on how it was applied. New material was then presented and facilitated, and more feedback was provided.
- *Cognitive Apprenticeships* (Collins, 1991) were provided in several ways: (1) by exposing the student-athletes to verbal case studies or summaries of actual

mental skills training interventions; (2) by modeling and explaining mental skills and performance intervention techniques and then coaching student-athletes as they practice these tasks; (3) by encouraging student-athletes to be flexible and creative and to test out their own strategies; (4) by demonstrating how the mental skills for sport performance can be applied to life, relationships, and academics; and (5) by promoting student-athletes' weekly reflections. Feedback was continuous. On-line feedback was enhanced by its asynchronous nature.

- *Self-Concept Areas* (Canfield & Wells, 1994): Through reflection there were numerous opportunities for self-concept areas to be promoted and encouraged. Self-efficacy is a by-product of a positive self-concept; this was a theme throughout the intervention. Awareness of self and how one acts and reacts are critical for the application of the four mental skills of goal setting, visualization, feelazation and energy management. Also, by understanding one's self, one has a better concept of working with others.
- *Advance Organizers* (Joyce & Weil, 1996) were utilized in conjunction with handouts, which were mainly in outline form.

Instructional Media Plan.

The primary media utilized in the MSTP were direct instruction and cognitive apprenticeships facilitated by the MST. Direct instruction was, at times, enhanced by multi-media presentations (PowerPoint, movie clips, etc.). Additionally, forms, directions for techniques, and the popular text, *Develop the Winner's Mentality* (Reese, 2005), were

mounted on Blackboard for reference and more in-depth knowledge of the curriculum by the student-athletes.

Media & Sequencing

Direct instruction was utilized throughout the instructional sequence. In an attempt to ensure sequencing the student-athletes were informed of what topic would be most likely facilitated during the next session, but circumstances and immediate needs trumped the desire for accurate sequencing. The student-athletes were encouraged to reflect and to journal upon what they had learned. They were also encouraged to journal weekly on their practice and/or competitive performance (see Appendix O).

Media Alignment With Mission/Goals

The instructional media plan strategies fit well with the mission, learning principles, and assessment plan. The direct instruction addresses the learning principals determined by the MST to be crucial (see *Learning principals*, above).

Instructional lifespan

The instructional lifespan of the course itself should be limitless. The life-span of the content, including the delivery system, should be updated after each intervention. A total rewrite should be conducted approximately every 5 years.

Table D2: S-A Goals - Learning Domains & Taxonomies

Domains of Learning	COURSE GOALS ➔ Learners will:
Knowledge	• Identify the six core mental skills • Recognize the five mental obstacles to performance • Appreciate the power of the creative subconscious • Examine the importance the self-talk cycle • See how language directly influences behavior • Discover how to train your brain to habituate and develop the Winner's Mentality • Recognize the difference between restrictive vs. constructive motivation • Respond positively to the fear and the sense of alienation felt by the ill performing or injured athlete • Examine the peak performance training regimen at the West Point Center for Enhanced Performance
Comprehension	• Understand how the mind works – the "process of thought" • Demonstrate how to make the five mental obstacles to performance work for the athlete and become five mental accelerators for performance • Understand the power of reflection and metacognition in learning
Application	• Enable athletes to break negative repeating patterns • Teach athletes to develop intrinsic motivation to improve performance and speed recovery from injury • Overcome slumps, tanking, and choking • Manipulate fear into a powerful motivator • Assist athletes in assuming responsibility and accountability for their own performance • Improve focus and concentration • Facilitate access to *flow state* and the *Zone* • Construct and use "Cue words" and "Anchors" for "Emotional Recall" and other desired cognitive states
Analysis	• Learn how and why athletes sabotage their own performance • Discuss when is it safe to block pain and play with pain
Synthesis/Transfer	• Enhance self-efficacy • Integrate and apply the six essential mental skills for enduring success • Create "Power Animals" to enhance performance • Transfer six core mental skills into life skills
Evaluation/Assessment	• Produce more effective motivational techniques for athletes • Cause enduring success • Enhance personal and athletic value to increase self-efficacy

Table D3: Proposed Instructional Sequence: MSTP (20-25 hrs)

CONTENT OUTLINE	**Unit Learning Goals & Corresponding** Domains of Learning (Bloom's)	**Learning Taxonomy**
CURRICULUM© The instructional design for the *Winner's Mentality Mental Skills Training Program* This is a Mental Skills Trainer (MST) facilitated instructional design for a competitive sports team.	Legend: • Knowledge (Kn) • *Comprehension (Co)* • Application (Ap) • Analysis (An) • *Synthesis (Sy)* • *Evaluation (Ev)**	Cognitive (C) Affective (A) Psychomotor (P)

*EVALUATION: Formal Summative Evaluation (Quizzes & Final Examination), while strongly recommended for enhancing learning, utilizing on-line assessments are strictly voluntary. Ongoing formative evaluation will be through observation of application and by feedback provided by chronic member checks.

******NOTE: Time [i.e., Unit 1 (1.0 hr.)] is not actual "lecture" time, but time estimated to complete the unit. Units will be subdivided into .25 hr. segments so that they may be spread out, combined, or mixed and matched throughout the season (See Instructional Sequence/Curriculum Design).

Table D3 Content Outline	Unit Learning Goals & Domains of Learning	**Taxonomy**
1st Meeting: (.5 hr) ** INTRODUCTIONS & BRIEF OVERVIEW ** See Above NOTE:	Bio of MST (Kn) Intro of athletes to MST (Kn) Brief intro to mental skills & WMMSTP (Kn) Power and importance of reflection (Kn) Paperwork (includes informed consent, intake, etc.) (Kn)	C C C C C
UNIT 1 (1.0 hr) 1.5 OVERVIEW A. Peak Performance B. MST vs. Sport Psychology C. 5 Essential Mental Skills D. Benefits of reflection on learning	Define: peak performance, sport psychology, mental skills, mental skills training, *flow state*, the *Zone* (Kn) Explore training for peak performance at the West Point Performance Center (Kn) Identify The 5 Essential Mental Skills (Co) Discover how to develop the Winner's Mentality (Kn) Journaling for reflections – Importance & techniques (Ap) Reflect (Sy)	C C C C C A C

Table D3 **Content Outline**	Unit Learning Goals & Domains of Learning	**Taxonomy**		
UNIT 2 (1.50 hr) 3				
GOAL SETTING	Define goal setting, end-result thinking, teleological, focus, and concentration (Kn)	C		
A. Basic goal setting				
B. Teleological beings	Describe and demonstrate the 6-Step goalsetting continuum (Co)	C		
C. End-result thinking				
D. 6-Step goal setting	Differentiate between individual and team goals and illustrate how they can be compatible (Co)	C		
E. Individual vs. team goals				
F. Discovering the '*HOW*'	Describe the concept of "discovering the '*HOW*' (Co)	C		
G. Cognitive dissonance	Practice basic goal setting (Kn)	C		
H. Self-regulation	Learn the concept of cognitive dissonance (Kn)	C	A	
I. Change	Discover the concepts and resisting change (Kn)	C		
	Reflect (S) & Assess (Ev)	C		
UNIT 3 (1 hr) 4				
VISUALIZATION	Define visualization and explain imagery and mental practice (Kn)	C		
A. Introduction & demonstration	Learn & experience mental practice (Ap)	C	A	P
B. 1st & 3rd person perspectives	Integrate visualization with goal setting (Ap)	C	A	P
	Learn & experience feelazation (Ap)	C	A	P
C. Using visualization for enhanced goal setting	Integrate feelazation and visualization with goal setting (Ap)	C	A	P
	Reflect (Sy) & Assess (Ev)	C	A	P
D. Assess visualization combined with goal setting				
E. Intro to feelazation				
F. The energy component				
UNIT 4 (1.5 hr) 5.5				
PROCESS of THOUGHT	Understand how the mind works – the "process of thought" (Co)	C		
A. The computer model of the mind	Appreciate the power of the Creative Subconscious (Kn)	C		
B. 5 obstacles to success	Recognize the 5 mental obstacles to performance success (Kn)	C		
C. 5 accelerators to success				
D. Self-talk cycle	Demonstrate how to make the 5 mental obstacles to performance work *for* the athlete and become *accelerators* for success (Co)	C		
E. Comfort zones				
F. Change				
G. Power of emotion	Examine the importance the self-talk cycle (Kn)	C		
H. Application of feelazation	See how language directly influences behavior (Co)	C		
I. Review of benefits of reflection	Learn to *zoom* to expand comfort zones (Ap)	C		
	Understand the application of discovering the '*HOW*' (Ap)	C	A	
	Understand the power emotion plays on programming the subconscious (Co)	C		
	Understand the power and rationale for reflection (Co)	C		
	Reflect (Sy) & Assess (Ev)	C	A	

Table D3 **Content Outline**	Unit Learning Goals & Domains of Learning	**Taxonomy**		
UNIT 5 (1.5 hr) 7				
ENERGY MANAGEMENT	Demonstrate & experience the energetic power of thought	C	A	P
A. Intro to the energetic being	(paper clip exercise) (Sy)			
B. Relaxation response	Learn the difference between the relaxation response &	C		
C. Intro to stress management	zoning out (Kn)			
D. Comfort zones, cognitive	Experience relaxation (Kn)	C	A	
dissonance, and self-	Integrate stress/energy management with visualization (Ap)	C	A	P
regulation	Integrate stress/energy management with visualization and	C	A	P
E. Relaxation & stress	feelazation (Ap)			
management techniques	Integrate stress/energy management with goal setting,	C	A	P
	visualization, and feelazation (Sy)			
	Reflect (Sy) & Assess (Ev)	C	A	P
UNIT 6 (2.00 hr) 9				
EFFECTIVE THINKING	Discover how to train your brain for habituation to develop	C		
A. Self-Talk Cycle review	the Winner's Mentality (Kn)			
B. Self-talk	Discuss and illustrate how to improve focus & concentration	C	A	
C. Self-image	(Ap)			
D. Performance/behavior	Improve focus & concentration (Sy)	C	A	
E. Self-sabotage	Learn how & why athletes may sabotage their own recovery	C		
F. Focus and concentration	(An)			
G. Change	Learn about self-efficacy (Kn)	C		
H. Tools for change ~	Enhance self-efficacy (Sy)	C	A	
Affirmations	Integrate self-talk with visualization & feelazation (Ap)	C	A	P
	Examine effective affirmation construction (Kn)	C		
	Construct effective affirmations (Ap)	C		P
	Integrate self-talk with goal setting, visualization, feelazation,	C	A	P
	and stress/energy management (Sy)			
	Reflect (Sy) & Assess (Ev)	C	A	P
UNIT 7 (1 hr) 10				
MENTAL TOUGHNESS	Define mental toughness (Kn)	C		
A. Intro to Mental Toughness	Compare and contrast trusting and training mind-sets (Ap)	C	A	
B. Define mental toughness	Enable athletes to break negative repeating patterns (Ap)		A	
C. Mind-sets: Trusting vs.	Self-assess physical skills (Kn)	C		
Training	Assist the athlete in assuming responsibility and	C	A	
D. Selective Perception	accountability for their mistakes and especially their			
E. Skill Self-Assessment	accomplishments (Ap)			
F. Mental Skills Self-	Integrate goal setting, visualization, energy management, and	C	A	P
Assessment	effective thinking to develop mental toughness (Ap)			
G. Responsibility and	Self-assess mental skills (Ev)	C	A	P
Accountability	Reflect (Sy) & Assess (Ev)	C	A	P
UNIT 8 (2 hr) 12				
TEAMWORK &	Teambuilding exercises (Ap)	C	A	P
COMMUNICATION	Learn how language directly influences behavior (Co)	C		
A. Developing Trust	Reflect (Sy) & Assess (Ev)	C	A	
B. Semantics				
C. Learning Strategies				
D. Team-building exercises				

Table D3	**Content Outline**	Unit Learning Goals & Domains of Learning	**Taxonomy**		
	UNIT 9 (4 hr) 16				
	INTERVENTION	Learn & Practice 1st & 3rd person visualization (Ap)	C		
	TECHNIQUES	Facilitate access to “Flow State” and “The Zone” (Ap)	C	A	P
A.	“Go to your room”	Create “Power animals” to enhance performance (Ap)	C	A	
B.	“Paper Clip” exercise	Experience trance state (Ap)	C	A	
C.	Breathing exercises	Learn self-hypnosis (Sy)	C	A	P
D.	Progressive relaxation	Enable athletes to break negative repeating patterns (Ap)	C	A	
E.	“Repose” exercise	Produce more effective motivational techniques (Kn)	C	A	
F.	Anchors & Cue Words	Integrate & apply the 5 essential mental skills for enduring	C	A	
G.	“Snap-it” exercise	success (Sy)			
H.	Power animals	Transfer 5 essential mental skills into life skills (Sy)	C		
A.	Hypnosis	Cause enduring success (An)	C	A	P
B.	Self-hypnosis	Reflect (Sy) & Assess (Ev)	C	A	P
I.	Focusing > Felt Sense				
J.	“Circle of Excellence”				
K.	“The Zone” exercise				
L.	Life skills transfer				
	UNIT 10 (2.50 hr) 18.5				
	PERFORMANCE	Respond positively to the fear and the sense of alienation felt	C	A	
	INTERVENTIONS ~	by the injured or slumping athlete (Kn)			
	General & Specific	Improve Focus & Concentration (Ap)	C	A	P
A.	Performance Anxiety	Construct “Anchors” for “Emotional Recall” (Ap)	C	A	P
B.	Tanking	Enable athletes to break negative repeating patterns (Ap)	C	A	P
C.	Choking	Teach athletes to develop intrinsic motivation to improve	C	A	
D.	Slumps	performance and speed recovery of injuries (Ap)			
E.	Pressing	Overcome slumps and choking (Ap)	C	A	P
F.	Coaching backwards	Convert fear into a powerful motivator (Ap)	C	A	
G.	Comfort zones	Enhance self-efficacy (Sy)	C	A	
H.	Superstitions v. rituals	Integrate & apply the 5 essential mental skills for enduring	C	A	P
I.	Fear	success (Sy)			
J.	Improving & enjoying	Transfer 5 essential mental skills into life skills	C	A	P
	practices	Produce more effective motivational techniques (Kn)	C	A	P
		Cause enduring success (Sy)	C	A	
		Reflect (Sy) & Assess (Ev)	C	A	P
	UNIT 11 (1 hr) 19.5				
	INJURIES	Utilize the power of the mind for pain management, and	C		
A.	Psychological implications	accelerated healing & rehabilitation (Ap)			
B.	Pain management	Know when it is safe to block pain (Ap)	C	A	
C.	Accelerated healing	Enable athletes to break negative repeating patterns (Ap)	C		
D.	Accelerated rehabilitation	Assist the athlete in assuming responsibility and	C	A	
E.	Mind-body Awareness	accountability for their own recovery (Ap)			
F.	Fatigue	Construct “Anchors” for “Emotional Recall” (Ap)	C	A	P
G.	Feelazation	Integrate & apply the 5 essential mental skills for pain	C	A	P
H.	Being mentally &	management, and accelerated healing and rehabilitation (Sy)			
	physically tough	Reflect (Sy) & Assess (Ev)	C	A	P

Table D3 Content Outline	Unit Learning Goals & Domains of Learning	**Taxonomy**
UNIT 12 (1.5 hr) 21 MOTIVATION A. Motivation & Desire B. Intrinsic vs. Extrinsic C. Restrictive vs. Constructive D. Change E. Self-efficacy F. Plato's 4 Levels of Happiness* G. Maslow's Hierarchy* *Optional	Define & describe intrinsic, extrinsic, restrictive, inhibitive, coercive, and constructive motivation (Kn) Recognize the difference between restrictive vs. constructive motivation (Kn) Teach athletes to develop intrinsic motivation to improve performance (Ap) Understand the difference between responsibility and accountability Assist the athlete in assuming responsibility and accountability for their own performance (Ap) Enhance self-efficacy (Sy) Compare Plato's 4 Levels of Happiness with Maslow's Hierarchy of Needs* (An) Reflect (Sy) & Assess (Ev) *****Optional	C C C C C A A C C A
12 Weeks (3 hr) 25 WEELKY GAME PREP & Post Game Reflections (2-5 hr journaling) IN-SEASON SELF-ASSESSMENTS A. Post mental skill(s) intervention & integration assessment B. Member checks C. Quizzes (voluntary)	Integrate & apply the 5 essential mental skills for enhanced performance (Sy) Reflect (Sy) & Assess (Ev) Self-assessment – mental skills integration (Ev) Self-assessment – mental toughness (Ev) Reflect (Sy) & Assess (Ev)	C A C A C A C A C A P
(1-1.5 hr) SEASON- END ASSESSMENTS A. Survey's B. Course Evaluation C. Interviews D. Quizzes & Final Exam (voluntary)	Program Evaluation: Self-assessment – Course (Ev) Evaluation (Self-Assessment – Mental Toughness) (Ev) Reflect (Sy)	C C A C A

Appendix Table D4: Proposed Curriculum Sequence

Lessons in .25 hour learning units (i.e., each number represents 15 minutes)

This ID/Curriculum Design is specifically for use with a Div. 1 Intercollegiate Volleyball Team but may be adapted for use with any intercollegiate or sports team where a minimum of 20 hours of instructional intervention time is available over the season.

Legend:

PI	Practical Instruction
PSY	Cognitive-behavioral Psychology, Sport Psychology, NLP, Hypnosis
GS	Goal Setting
Viz	Visualization
Fz	Feelazation
EM	Energy Management
ET	Effective Thinking
MT	Mental Toughness
TB	Team Building
GP	Game Preparation
Ref	Post Game & Weekly Reflection

Table D4

Lesson		**Topic**	Exercises/Demonstrations	✓
1.	Intros	Bio & Mental skill training		
2.	Forms	Athletes/Coaches Informed consent; Intake	(Hmwk)	
3.	PSY	Overview: MSTP; Peak performance; Sport Psych v. Therapy		
4.		WMMSTP: 5 Essential Mental Skills Need for awareness > Change	Scotomas – Old lady/Young lady	
5.	Ref	Reflection; Journaling – on-line/books	Scotomas / Journals	
6.	GS	Intro > Basic goal setting	‘3 Questions’	
7.		Teleological beings; End-result thinking	Goal setting assignment (basic)	
8.		Individual vs. team goals	Goal setting exercise	
9.		Discovering the ‘*HOW*’	Self-assessment (Hmwk)	
10.	TB	Concept of ‘TEAM’ & Trust	TB #1 – Trust your buddy	
11.	Viz	Intro to Visualization	‘Go to your room’; 1st & 3rd person views	
12.		Mental practice	Competitive preparation	
13.	Viz+GS	Seeing the end result	GS + Viz assignment (Hmwk)	
14.	TB	Role: There is ‘I’ in ‘TEAM’?	TB #2 – Commitment contract	
15.	PSY	Process of thought	Scotomas – ‘F’ card	
16.		Positive vs. negative thinking; Reticular Activating System (RAS)	RAS – Discover the ‘*HOW*’ RAS Scavenger Hunt (Hmwk)	
17.		Self-sabotage		
18.	ET	Self-talk, Self-image, Performance	“Snap it” (Hmwk)	
19.	PI	Blackboard access & use	Units & Quizzes	

Table D4 cont'd

Lesson	Topic	Exercises/Demonstrations	✓
20. Fz	Emotional energy; 3-D nature of thought	Power Animals, Circle of Excellence	
21.	Integrate Fz + GS	GS + Fz assignment	
END OF TRAINING CAMP			
22. EM	Relaxation response & Breathing; Thoughts & Energy	'Belly' breathing; The Mist 'Paper Clip' exercise	
23.	Stress Management; Progressive relaxation	Guided visualization/Repose	
24. GP – Wk 1 Ref	MSTP Review Reflection Hmwk.	Guided visualization Reflection & self-assessment	
25. ET 26.	Comfort Zones Habits, Attitudes, Assumptions, Beliefs, Expectations	Self-talk cycle reviewed 5 Obstacles to Success 5 Accelerators for Success	
27. GP – Wk 2 Ref	Weekly Team Theme Reflection Homework	Guided Visualization Reflection & Self-assessment	
28. ET 29.	Integrate ET + GS Importance of Ritual v. Superstition	GS Integration Assignment Cues & Anchors	
30. GP – Wk 3 Ref	Weekly Team Theme Reflection Hmwk.	Guided Visualization Reflection & Self-assessment	
31. PSY	Performance Prep; NLP	'The Zone', 'Soft-Eyes'	
32. MT 33.	Mindsets Selective Perception (Scotomas)	Training v. Trusting exercise Selective Perception exercise	
34. GP – Wk 4	Weekly Team Theme	Guided Visualization	
Ref	Reflection Hmwk.	Reflection & Self-assessment	
35. MT 36.	Skill Self-assessment Integrate MT + GS ++	Skill Self-assessment GS Integration Assignment	
37. GP – Wk 5 Ref	Weekly Team Theme Reflection Hmwk.	Guided Visualization Reflection & Self-assessment	
38. PSY 39.	Injuries & pain; Objectifying pain Handling injuries > Control Accelerated healing & rehab	'Beach Ball' pain exercise Healing ~ Guided visualization	
40.	Hypnosis: Define & experience		
41.	Teach self-hypnosis	Silva 5-step technique	
42. GP – Wk 6 Ref	Weekly Team Theme Reflection Hmwk.	Guided Visualization Reflection & Self-assessment	
43. ET	Cognitive dissonance Self-regulation	Felt-sense	

Table D4 cont'd

Lesson	Topic	Exercises/Demonstrations	✓
44. EM.	Stress, PTS: 'The Wave'	Energy building & storage	
45. GP – Wk 7	Weekly Team Theme	Guided Visualization	
Ref	Reflection Hmwk.	Reflection & Self-assessment	
46. GS	6-Step goal setting	Goal setting (Hmwk)	
47.	6-Step goal setting		
48. GP – Wk 8	Weekly Team Theme	Guided Visualization	
Ref	Reflection Hmwk.	Reflection & Self-assessment	
49. PSY	Performance anxiety, Pressing,	Fear into Power	
50.	Choking, Tanking, Slumps		
51. GP – Wk 9	Weekly Team Theme	Guided Visualization	
Ref	Reflection Hmwk.	Reflection & Self-assessment	
52. ET	Reframing	Reframing exercise	
53. PSY	Semantics, Learning strategies; Communication		
54. GP – Wk 10	Weekly Team Theme	Guided Visualization	
Ref	Reflection Hmwk.	Reflection & Self-assessment	
55. ET	Affirmation construction	Celebrity Affirmations	
56.	Affirmation construction	Celebrity Affirmations	
57. GP – Wk 11	Weekly Team Theme	Guided Visualization	
Ref	Reflection Hmwk.	Reflection & Self-assessment	
58. PSY	Motivation: Intrinsic vs. Extrinsic;		
59.	Restrictive vs. Constructive		
60.	Self-efficacy; Life skills transfer	'Causing' success	
61. GP – Wk 12	Weekly Team Theme	Guided Visualization	
Ref	Reflection Hmwk.	Reflection & Self-assessment	
62. Evaluation		Mental Toughness Survey	
63.		Course Evaluation	
64.	Semi-structured interviews (S-A 30 min ea)	End of Season Interviews	
65.	Coaches (1-2 hr); SP (1 hr)	End of Season Interviews	

See Intervention Techniques Checklist below

Table D4 Cont'd ~ Proposed Curriculum Sequence

INTERVENTION CHECKLIST

Intervention Techniques	Date Taught	Performance Interventions	Date Taught
Visualization/Feelazation		1. Performance Anxiety	
1. "Go to your room"		2. Tanking	
2. 1st & 3rd Person Views		3. Choking	
3. "Repose" exercise		4. Slumps	
4. Power animals		5. Pressing	
5. Focusing > Felt Sense		6. Coaching backwards	
Effective Thinking/Self-Talk		7. Comfort zones	
6. "Snap-it" exercise		8. Superstitions v. rituals	
7. Anchors & Cue Words		9. Fear	
8. Life skills transfer		10. Practices > Improve & Enjoy	
Energy /Stress Management			
9. Progressive relaxation			
10. "Paper Clip" exercise			
11. Hypnosis			
12. Self-hypnosis			
Breathing exercises:			
13. Belly Breathing			
14. The Breath/The Mist			
15. Energy Storage			
16. Healing Energy			
NLP Exercises:			
17. "Circle of Excellence"			
18. "The Zone" exercise			
19. "Soft Eyes" exercise			
Injury Interventions:			
20. Pain ~ Beach Ball			
21. Accelerated Healing			

Table D5: Instructional Models

Direct Instruction (Joyce & Weil, 1996)	• Review what has been learned. • Inform students what is going to be presented. • Provide guided practice through questions and corrective feedback. • Provide independent practice in-class and out-of-class. • Review of practice and provide corrective feedback.
Cognitive Apprenticeship (Collins, 1991)	• Content: Teach tacit, heuristic knowledge as well as textbook knowledge. • Situated learning: Teach knowledge and skills in contexts that reflect the way the knowledge will be useful in real life. • Modeling and explaining: Show how a process unfolds and explain why it happens that way. • Coaching: Observe learners as they try to complete tasks and provide assistance as needed. • Articulation: Have learners think about their actions and justify their decisions and strategies. • Reflection: Have learners assess their own performance. • Exploration: Encourage learners to test out their own strategies. • Sequence: Present instruction sequenced from simple to complex, with increasing diversity and global knowledge before local knowledge and skills.
Self-Concept Areas (Canfield & Wells, 1994)	• Creating self-awareness. • Examining personal strengths. • Examining one's purpose and direction. • Having awareness of body. • Establishing relationships with others.
Advance Organizer (Joyce & Weil, 1996)	• Design an organizer. • Present the organizer. • Present the new task or information. • Connect the organizer to presentation.

Appendix E: Coach's Survey of Players ~ Spring 2004

1. How would you characterize yourself, a giver or a taker? Explain.

2. Do you focus on you mistakes or those of others? Explain.

3. How does your actions or what you say affect the team? Explain.

4. Is your teammate's success important to you? Explain.

5. What is more gratifying to you, your own success or that of your teammates? Explain.

6. Do you encourage or respond to your teammates equally? Explain.

7. Do you know what you need from your teammates and what your teammates need from you? Explain.

8. Have you ever discussed this with each other? Explain.

Appendix F: Student-Athlete Initial Intake Form

Mental Skills Training ~ Initial Intake Form

Name: _____ Date: _____

Address (campus): _____ Age: _____

_____ Sport: _____

Phone: (Best): _____ Position Played: _____

E-mail: _____ Starter / Non-starter: (circle one)

Years in Sport (College): _____

Years in Sport (Pre-College): _____

Please fill out ALL that apply

(please feel free to use the back of the pages for more explanation)

NOTE: ALL INFORMATION PROVIDED ON THIS FORM IS HELD IN CONFIDENCE AND WILL BE VIEWED ONLY BY BOB REESE, MA, ATC.

Why do you play Volleyball?

_____

_____

Primary Performance Issues:

_____

_____

_____

Immediate Hopes:

_____

_____

Other Sport Issues (selection, pressure, injuries, etc.): Personal Issue(s):

_____

_____

_____

Appendix F: Student-Athlete Initial Intake Form Cont'd

Training Camp: General Goals

_____

Specific Goals

_____

_____

Season: General Goals

_____

Specific Goals

_____

_____

Strengths in Sport:

_____

_____

_____

Areas to Work On:

_____

_____

_____

LIFE Goals:

_____

_____

_____

Appendix F: Student-Athlete Initial Intake Form Cont'd

Peak Performance Tools

On a scale of 0-5 (0=none, 5=excellent), rate your level of knowledge and your use of the following peak performance tools:

TOOL	LEVEL OF KNOWLEDGE	USAGE ?	ISSUE ?
1. Nutrition	_____	_____	_____
2. Sleep	_____	_____	_____
3. Exercise/ aerobic	_____	_____	_____
weights	_____	_____	_____
4. Previous Experience with use of Mental Skills	_____	_____	_____
5. Performance Goal Setting	_____	_____	_____
Outcome Goal Setting (End-Result Thinking)	_____	_____	_____
6. Visualization	_____	_____	_____
Feelazation	_____	_____	_____
7. Stress Management	_____	_____	_____
Energy Management	_____	_____	_____
Relaxation Techniques	_____	_____	_____
Meditation	_____	_____	_____
Moods	_____	_____	_____
8. Self-Talk	_____	_____	_____
9. Decision-making Tools	_____	_____	_____
10. Flow State (The Zone)	_____	_____	_____
11. Skills Training	_____	_____	_____

In the Past, how did you mentally prepare before PRACTICE:

_____

_____

_____

Appendix F: Student-Athlete Initial Intake Form Cont'd

In the Past, how did you mentally prepare before GAMES:

_____

_____

_____

Best Ever Performance (when, where, circumstances, arousal, etc.)

_____

_____

_____

_____

Mental State when Problems Occur:

_____

_____

_____

Notes:

Appendix G: Informed Consent Forms

Informed Consent for Student-Athletes

Title of Project: The Impact of a Mental Skills Training Program for Enhanced Performance on a Varsity Intercollegiate Volleyball Team: A Case Study Program Evaluation of an Educational Intervention

Investigators: Richard Stratton, Ph.D., and Bob Reese, MA, ATC

Purpose: The purpose of this study is to examine the impact of an integrative mental skills training package – the Winner's Mentality Mental Skills Training Package (WMMSTP) – on the performance and mental toughness of intercollegiate volleyball athletes.

Procedures: If you choose to participate, we will ask you to devote approximately one hour per week during your Fall 2004 Volleyball season. This time will be spent on mental skills education and personal reflective journaling on your performance. This information will be used to help you improve your mental skills and your volleyball performance, and also provide data for deciding whether or not the integrative mental skills package provides a positive impact on mental toughness.

Risks: There should be no more than minimal risks to you from participating in this study. Occasionally there may be a temporary drop in your performance as you incorporate a new mental skill. This is similar to a drop in performance if you changed your stance or wind-up when serving. Your coaches will be well informed if such events occur, and recognize this is a necessary part of overall performance enhancement.

Benefits: By learning specific mental skills as an integrated package, you will improve your focus and concentration, become more a consistent athlete, and enhance the frequency you achieve flow state. Mental skills are also life skills, so enhancement of academic aptitude and personal relationships may also occur. The self-awareness afforded by the study of the Enneagram may increase your self-confidence and your mental toughness.

Extent of Anonymity and Confidentiality: Because of the visibility of being a team member on a Division 1 NCAA intercollegiate volleyball team, confidentiality cannot be assured. Confidentiality of personal conversations and reflections, and the impact of mental skills training on your individual performance will be protected to the best of my ability.

All written journals will be photocopied and returned to you. All data will be transcribed by the researcher or a trusted secretary. After approval of the Ph.D. dissertation and all presentations and publications are exhausted, all audio-tapes and journal materials will be erased or destroyed.

Compensation: You will receive a book and mental skills training from an experienced mental skills trainer.

Freedom to Withdraw: You are free to withdraw from participation in this study at any time without penalty. Your decision to participate or not participate has no connection to your participation on this athletic team or to receive mental skills training. You can refuse to answer any questions with no penalty at all. If you sign now to participate and realize later that you want to withdraw, just inform the researcher or call one of the others listed at the bottom of this page.

By signing below, you indicate that you have read and understood the informed consent and conditions of this project, that you have had all of your questions answered, and that you give your voluntary consent for participation in this project. You will be offered a copy of this form.

_____ _____

Participant's Signature Date

_____

Participant's Name (please print)

Investigators:

Richard K. Stratton 540-231-5617

David Moore 540-231-4991 Virginia Tech VP for Research Compliance

Bob Reese 540-819-5704

Appendix G: Informed Consent Forms Cont'd

Informed Consent for Coaches

Title of Project: The Impact of a Mental Skills Training Program for Enhanced Performance on a Varsity Intercollegiate Volleyball Team: A Case Study Program Evaluation of an Educational Intervention

Investigators: Richard Stratton, Ph.D., and Bob Reese, MA, ATC

Purpose: The purpose of this study is to examine the impact of an integrative mental skills training package – the Winner's Mentality Mental Skills Training Package (WMMSTP) – on the performance and mental toughness of intercollegiate volleyball athletes.

Procedures: If you choose to participate, we will ask you to devote approximately one hour per week during your Fall 2004 Volleyball season*. This time will be spent on mental skills education and personal reflection on the impact of mental skills on your athletes. This information will be used to help your athletes improve their mental skills and volleyball performance, and also provide data for deciding whether or not the integrative mental skills package provides a positive impact on mental toughness.
**The head coach will spend an additional 3-4 hours over the duration of the season.*

Risks: There should be no more than minimal risks to you from participating in this study. Occasionally there may be a temporary drop in your athletes's performance as they incorporate a new mental skill. This is similar to a drop in performance if they changed their stance or wind-up when serving. As a coach, it will be necessary for you to inform the mental skills trainer if such events occur, and recognize this is a necessary part of overall performance enhancement.

Benefits: By learning specific mental skills as an integrated package, you, like your athletes, will improve your focus and concentration, and become more a consistent coach. Mental skills are also life skills, so enhancement of communication skills and personal relationships may also occur. The self-awareness afforded by the inclusion of mental skills training may increase your self-confidence and your mental toughness.

Extent of Anonymity and Confidentiality: Because of the visibility of being a team coach on a Division 1 NCAA intercollegiate volleyball team, confidentiality cannot be assured. Confidentiality of personal conversations and reflections, and the impact of mental skills training on your individual performance will be protected to the best of my ability.

All interview data will be transcribed by the researcher or a trusted secretary. After approval of the Ph.D. dissertation and all presentations and publications are exhausted, all audio-tapes and journal materials will be erased or destroyed.

Compensation: You will receive a book and you and your athletes will receive mental skills training from an experienced mental skills trainer.

Freedom to Withdraw: You are free to withdraw from participation in this study at any time without penalty. Your decision to participate or not participate has no connection to your participation on this athletic team or to receive mental skills training. You can refuse to answer any questions with no penalty at all. If you sign now to participate and realize later that you want to withdraw, just inform the researcher or call one of the others listed at the bottom of this page.

By signing below, you indicate that you have read and understood the informed consent and conditions of this project, that you have had all of your questions answered, and that you give your voluntary consent for participation in this project. You will be offered a copy of this form.

_____ _____

Participant's Signature Date

_____

Participant's Name (please print)

Investigators:

Richard K. Stratton 540-231-5617

David Moore 540-231-4991 Virginia Tech VP for Research Compliance

Bob Reese 540-819-5704

APPENDIX H Mental Skills Knowledge & Use Surveys (KU)

Appendix H1: KU-1 ~ Knowledge & Use Survey #1

Evaluation of Mental Skills Training (MST) for Volleyball ~ KU-1
The following survey has been excerpted from the Student-Athlete Intake form (see Appendix F) *given each athlete following the first 90-min. educational session and returned two days later.*

Peak Performance Tools
On a scale of 0-5 (0 = none, 5 = excellent), rate your level of knowledge and your use of the following peak performance tools:

TOOL	LEVEL OF KNOWLEDGE	USAGE ?	ISSUE ?
1. Nutrition	_____	_____	_____
2. Sleep	_____	_____	_____
3. Exercise/ aerobic	_____	_____	_____
weights	_____	_____	_____
4. Performance Goal Setting	_____	_____	_____
Outcome Goal Setting (End-Result Thinking)	_____	_____	_____
5. Visualization	_____	_____	_____
Feelazation	_____	_____	_____
6. Stress Management	_____	_____	_____
Energy Management	_____	_____	_____
Relaxation Techniques	_____	_____	_____
Meditation	_____	_____	_____
Moods	_____	_____	_____
9. Self-Talk	_____	_____	_____
10. Decision-making Tools	_____	_____	_____
11. Flow State (The Zone)	_____	_____	_____
12. Skills Training	_____	_____	_____

Appendix H2: KU-2 ~ Knowledge & Use Survey #2

Name (Optional): _____ Date: 08/26/04

Over the past ten days you have been introduced to several mental skills training concepts, exercises, and techniques. As of today, please comment on them as directed below.

On a scale of 0-5 (0=none, 5=excellent), rate your level of knowledge, how important you consider the mental skill is to enhancing your performance, your current usage and where you'd like your usage to be a month from now:

TOOL	**Level of KNOW-LEDGE**	**Level of IMPORTANCE for MY Performance**	**Usage NOW**	**Usage In 1 Month**
1. Outcome Goal Setting (End-Result Thinking)				
2. Performance Goal Setting				
3. Mental Practice Visualization				
4. End-Result Visualization				
5. Feelazation				
6. Bodily "Felt Sense"				
7. Focusing (guided visualization)				
8. Awareness				
9. Mindfulness				
10. Train Your Brain				
11. Comfort Zones & Performance				
12. Scotomas				
5 Obstacles to success				
13. Habits				
14. Attitudes				
15. Assumptions				
16. Beliefs				
17. Expectations				
18. Self Talk				
19. Rubber Band Exercise				
20. Thoughts have energy (paper clip)				
21. Changing Self-Image				
22. 3 Head-Butt Rule				
23. Self-Image				
24. 3-D Nature of Thought				
25. We think in pictures				
26. Training Mindset				
27. Trusting Mindset				
28. Flow State				
29. The Zone				
30. Pre-Practice Routine				
31. Pre-Competition Routine				
32. Pre-Competition Mental Practice				
33. Circle of Excellence				

Appendix H3: KU-3 ~ Knowledge & Use Survey #3

Name (Optional): _____ Date: 09/21/04

Over the past ten days you have been introduced to several mental skills training concepts, exercises, and techniques. As of today, please comment on them as directed below.

On a scale of 0-5 (0=none or Not Applicable; 5=excellent), rate your level of knowledge, how important you consider the mental skill is to enhancing your performance, your current usage and where you'd like your usage to be a month from now:

TOOL	Level of KNOWLEDGE	Level of IMPORTANCE for MY Performance	Usage NOW	Usage In 1 Mos
1. Outcome Goal Setting (End-Result Thinking)				
2. Performance Goal Setting				
3. Self Talk				
4. Anchors / Cues / Affirmations				
5. "Fast, Tough, Strong!"				
6. Rubber Band Exercise				
7. Scotomas				
8. 3 Head-Butt Rule				
9. Comfort Zones & Performance				
10. Self-Image				
11. Changing Self-Image				
12. Feelazation				
13. Bodily "Felt Sense"				
14. Awareness				
15. Mindfulness				
16. Train Your Brain				
17. Attitude is a Decision				
18. Thoughts & energy (paper clip)				
19. Focusing (guided visualization)				
20. Mental Practice Visualization				
21. End-Result Visualization				
22. Circle of Excellence				
23. Setting Expectations				
24. Training Mindset				
25. Trusting Mindset				
26. Flow State				
27. The Zone				
28. Stress (my stress)				
29. Stress Management				
30. Mental Toughness				
31. Recovering from mistakes				
32. Maintaining Focus				
33. Bouncing back from set-backs				
34. Desire to succeed				
35. Thrive on pressure				

Appendix H4: KU-4 ~ Knowledge & Use Survey #4 & IMP ~ MST Impact Survey

Evaluation of Mental Skills Training (MST) for Volleyball ~ #4

Name (Optional)**: _____ Date: 11/16/04**

Throughout the season you have been introduced to several mental skills training concepts, exercises, and techniques. Please comment on them as directed below. There are a total of 50 items in two sections.

1. In **Section 1**, on a scale of **0-5** (**0=none or Not Applicable**; **5=excellent**), please rate your **Level of Knowledge** of the mental skill and how to use it; **How Important** you consider the mental skill is to enhancing your performance; **NOTE CHANGE** in Format ~ also rank your usage the first week of **training camp** (**Usage TC**); and your **current usage** (**Usage NOW**) of the mental skill as you head into the ACC tournament.

2. In **Section 2**, please indicate (Circle) the impact the usage of the specific mental skill had on your performance for the duration of the season:

-2	**-1**	**0**	**+1**	**+2**
Very Negative Impact	Slightly Negative Impact	No Impact	Slightly Positive Impact	Very Positive Impact

You may find it easier to complete Section 1. before moving on to Section 2.

		Section 1				**Section 2**				
TOOL	*More on reverse side*	**Level of KNOWLEDGE**	**Level of IMPORTANCE**	**Usage TC**	**Usage NOW**	**MST IMPACT SURVEY (IMP): The impact of specific mental skills usage on my performance**				
1.	Goal Setting					-2	-1	0	+1	+2
2.	Visualization					-2	-1	0	+1	+2
3.	Feelazation					-2	-1	0	+1	+2
4.	Energy Management					-2	-1	0	+1	+2
5.	Effective Thinking					-2	-1	0	+1	+2
6.	Mental Toughness					-2	-1	0	+1	+2
7.	Process of Thought					-2	-1	0	+1	+2
8.	Self-Image					-2	-1	0	+1	+2
9.	Outcome Goal Setting					-2	-1	0	+1	+2
10.	Circle of Excellence					-2	-1	0	+1	+2
11.	Stress (my stress)					-2	-1	0	+1	+2
12.	Desire to succeed					-2	-1	0	+1	+2
13.	Setting Expectations					-2	-1	0	+1	+2
14.	Comfort Zones & Performance					-2	-1	0	+1	+2
15.	Train your brain					-2	-1	0	+1	+2
16.	Performance Goal Setting					-2	-1	0	+1	+2
17.	5 Mental Obstacles to Success					-2	-1	0	+1	+2
18.	Self Talk					-2	-1	0	+1	+2
19.	Attitudes (Changing)					-2	-1	0	+1	+2

	TOOL	Level of KNOWLEDGE	Level of IMPORTANCE	Usage TC	Usage NOW	IMP The impact of specific mental skills usage on performance				
20.	Focusing (guided visualization)					-2	-1	0	+1	+2
21.	Training Mindset					-2	-1	0	+1	+2
22.	“Have fun!”					-2	-1	0	+1	+2
23.	Recovering from mistakes					-2	-1	0	+1	+2
24.	Pre-Practice Routine					-2	-1	0	+1	+2
25.	End-Result Visualization					-2	-1	0	+1	+2
26.	Assumptions (Changing)					-2	-1	0	+1	+2
27.	Trusting Mindset					-2	-1	0	+1	+2
28.	3 Head-Butt Rule					-2	-1	0	+1	+2
29.	Rubber Band Exercise					-2	-1	0	+1	+2
30.	End-Result Thinking					-2	-1	0	+1	+2
31.	Changing Self-Image					-2	-1	0	+1	+2
32.	Flow State					-2	-1	0	+1	+2
33.	Scotomas					-2	-1	0	+1	+2
34.	Pre-Competition Routine					-2	-1	0	+1	+2
35.	Stress Management					-2	-1	0	+1	+2
36.	Awareness (Increasing)					-2	-1	0	+1	+2
37.	Habits (Changing)					-2	-1	0	+1	+2
38.	Bodily “Felt Sense”					-2	-1	0	+1	+2
39.	“Fast, Tough, Strong!”					-2	-1	0	+1	+2
40.	Pre-Competition Mental Practice					-2	-1	0	+1	+2
41.	Thoughts & energy (paper clip)					-2	-1	0	+1	+2
42.	Beliefs (Changing)					-2	-1	0	+1	+2
43.	Thrive on pressure					-2	-1	0	+1	+2
44.	Maintaining Focus					-2	-1	0	+1	+2
45.	The Zone					-2	-1	0	+1	+2
46.	Attitude is a Decision					-2	-1	0	+1	+2
47.	Anchors / Cues / Affirmations					-2	-1	0	+1	+2
48.	Bouncing back from set-backs					-2	-1	0	+1	+2
49.	Mental Practice Visualization					-2	-1	0	+1	+2
50.	Mindfulness					-2	-1	0	+1	+2

Appendix H5: KU-5 ~ Evaluation of Mental Skills Training (MST) for Volleyball

Name: _____ Date: 04/14/05

Throughout the season you have been introduced to several mental skills training concepts, exercises, and techniques. Please comment on them as directed below. There are a total of 37 items.

On a scale of 0-5 (0=none or Not Applicable; 5=excellent), please rate your Level of Knowledge of the mental skill and how to use it; How Important you consider the mental skill is to enhancing your performance; and your current usage this Spring (Usage NOW) of the mental skill.

TOOL	Level of KNOW-LEDGE	Level of IMPORT-ANCE	Usage NOW (Spring)	Planned Usage (In Fall)
1. Outcome Goal Setting				
2. Performance Goal Setting				
3. End-Result Visualization				
4. Rubber Band Exercise				
5. Feelazation				
6. Energy Management				
7. Effective Thinking				
8. Mental Toughness				
9. 3 Head-Butt Rule				
10. Circle of Excellence				
11. Recovering from mistakes				
12. Pre-Practice Routine				
13. Setting Expectations				
14. Comfort Zones & Performance				
15. Train your brain				
16. End-Result Thinking				
17. Changing Self-Image				
18. Self Talk				
19. Mental Practice Visualization				
20. Pre-Competition Mental Practice				
21. Training Mindset				
22. “Have fun!”				
23. Flow State / The Zone				
24. Scotomas				
25. Pre-Competition Routine				
26. Maintaining Focus				
27. Trusting Mindset				
28. Attitude is a Decision				
29. Anchors / Cues / Affirmations				
30. Bouncing back from set-backs				
31. Stress Management				
32. Awareness (Increasing)				
33. Habits (Changing)				
34. Bodily “Felt Sense”				
35. Mindfulness				
36. Thoughts & energy (paper clip)				
37. “Fast, Hard, Strong!”				

Table H6: KU ~ Mental Skill Increases ~ Knowledge Summary

KU Surveys 1-4 Mental Skills / Techniques	# S-A Increased	# S-A Reporting	% Increase	# Increases 2 +	% Increases 2 +	Mean 'Hi-Score' All (13) S-A*
1. Outcome G Set /ERT	11	13	84.6	6	46.2	4.46
2. Performance G Set	11	13	84.6	5	38.5	4.54
3. Visualization	3	6	50.0	2	33.3	3.08
4. Mental Practice Viz	7	11	63.6	4	36.4	3.23
5. End-Result Viz	5	11	45.5	4	36.4	4.23
6. Circle of Excellence	5	11	45.5	3	27.3	*4.50
7. Focusing (guided viz)	3	6	50.0	2	33.3	4.08
8. Feelazation	10	12	83.3	8	66.7	3.60
9. Bodily "Felt Sense"	9	10	90.0	6	60.0	3.23
10. Energy Management	6	7	85.7	2	28.6	*3.17
11. Comfort Zones/Perform	3	13	23.1			4.54
12. Stress Management	7	11	63.6	4	36.4	4.30
13. Stress (my stress)	3	7	42.9	2	28.6	*4.08
14. Mindfulness	2	7	28.6			4.31
15. Self Talk	11	13	84.6	6	46.2	4.69
16. Rubber Band Exercise	4	12	33.3			4.77
17. Self-Image	5	12	41.7			4.62
18. Changing Self-Image	5	12	41.7	1	08.3	4.54
19. 3 Head-Butt Rule	3	9	33.3	1	11.1	1.92
20. Training Mindset	7	12	58.3	2	16.7	4.31
21. Trusting Mindset	9	12	75.0	5	41.7	4.38
22. Pre-Practice Routine	5	12	41.7	1	08.3	4.54
23. Pre-Comp Routine	6	12	50.0	1	08.3	4.62
24. Pre-Comp Mental Prac	9	12	75.0	3	25.0	4.62
25. Attitude is a Decision	1	7	14.3			*4.67
26. Anchors/Cues/Affirm	2	6	33.3	1	16.7	3.69
27. "Fast, Hard, Strong!"	1	7	14.3			*4.58
28. Scotomas	7	11	63.6	3	27.3	3.85
29. Flow State / The Zone	10	13	76.9	7	53.8	4.46
30. The Zone	8	12	66.7	4	33.3	4.15
31. Mental Toughness	1	7	14.3			4.23
32. Train your brain	3	7	42.9	1	14.3	*3.58
33. Thrive on pressure	1	7	14.3			*4.75
34. Recover from mistakes	1	7	14.3	1	14.3	*4.75
35. Maintaining Focus	2	7	28.6			*4.83
36. Bounce back - set-backs	2	7	28.6			*4.67
TOTALS	189	354	53.4	93	26.3	4.18

**NOTE: Mean 'Hi-Score' is the highest score recorded in the KU surveys for each of the 13 Student-athletes. Scores with (*) indicate only 12 respondents.*

Table H7: KU ~ Mental Skill Increases ~ Usage Summary

KU Surveys 1-4 Mental Skills / Techniques	# S-A Increased	# S-A Reporting	% Increase	# Increases 2 +	% Increases 2 +	Mean 'Hi-Score' All (13) S-A*
1. Outcome G Set /ERT	5	7	71.4	3	42.9	4.23
2. Performance G Set	6	7	85.7	3	42.9	4.30
3. Visualization	7	7	100.0	4	57.1	3.46
4. Mental Practice Viz	5	7	71.4	4	57.1	3.38
5. End-Result Viz	6	7	85.7	4	57.1	3.62
6. Circle of Excellence	6	7	85.7	6	85.7	3.08
7. Focusing (guided viz)	7	7	100.0	5	71.4	3.31
8. Feelazation	6	7	85.7	5	71.4	2.77
9. Bodily "Felt Sense"	5	7	71.4	3	42.9	2.62
10. Energy Management	6	7	85.7	4	57.1	*3.33
11. Comfort Zones/Perform	3	7	42.9	1	14.3	4.08
12. Stress Management	6	7	85.7	3	42.9	3.46
13. Stress (my stress)	6	7	85.7	3	42.9	*3.67
14. Mindfulness	5	7	71.4	3	42.9	3.69
15. Self Talk	6	7	85.7	4	57.1	4.30
16. Rubber Band Exercise	2	7	28.6	3	42.9	2.69
17. Self-Image	7	7	100.0	4	57.1	4.30
18. Changing Self-Image	7	7	100.0	5	71.4	4.00
19. 3 Head-Butt Rule	1	7	14.3	3	42.9	1.85
20. Training Mindset	6	7	85.7	4	57.1	4.08
21. Trusting Mindset	7	7	100.0	4	57.1	4.15
22. Pre-Practice Routine	4	7	57.1	4	57.1	3.38
23. Pre-Comp Routine	5	7	71.4	2	28.6	4.23
24. Pre-Comp Mental Prac	6	7	85.7	2	28.6	4.38
25. Attitude is a Decision	5	7	71.4	3	42.9	*4.17
26. Anchors/Cues/Affirm	4	7	57.1	4	57.1	*4.17
27. "Fast, Hard, Strong!"	7	7	100.0	5	71.4	*4.25
28. Scotomas	4	7	57.1	2	28.6	2.31
29. Flow State / The Zone	6	7	85.7	5	71.4	4.08
30. The Zone	4	7	57.1	2	28.6	4.38
31. Mental Toughness	6	7	85.7	2	28.6	3.92
32. Train your brain	4	7	57.1	3	42.9	2.62
33. Thrive on pressure	3	7	42.9	1	14.3	*4.00
34. Recover from mistakes	3	7	42.9			*4.00
35. Maintaining Focus	4	7	57.1	4	57.1	*4.25
36. Bounce back - set-backs	5	7	71.4	5	71.4	*3.75
TOTALS	185	252	73.4	122	48.4	3.67

**NOTE: Mean 'Hi-Score' is the highest score recorded in the KU surveys for each of the 13 Student-athletes. Scores with (*) indicate only 12 respondents.*

Table H8: KU ~ Mental Skill Increases ~ KU-3 vs. KU-5

# Student-athletes = 8 6 pt. Likert (0-5)	Level of Knowledge			*Level of Use*				
KU Surveys 3 vs. 5 Mental Skills / Techniques	KU-3 Mean Score	KU-5 Mean Score	% +/-	KU-3 Mean Score	KU-5 Mean Score	% +/-	KU-5 Mean Fall Use	Fall Use vs. KU-3 % +/-
1. Outcome G Set /ERT	4.6	4.6	-	4.1	3.8	-5.0	4.9	13.3
2. Performance G Set	4.6	4.5	-1.7	4.0	3.8	-3.3	4.8	13.3
3. Mental Practice Viz	3.5	3.8	5.0	3.1	2.1	-16.7	3.4	5.0
4. End-Result Viz	4.0	4.3	5.0	3.5	3.5	-	4.4	15.0
5. Circle of Excellence	4.6	4.0	-10.0	2.8	1.5	-11.7	3.4	10.0
6. Feelazation	3.8	3.9	1.7	2.3	3.1	13.3	4.1	30.0
7. Bodily “Felt Sense”	3.0	3.0	-	2.3	2.6	5.0	3.4	18.3
8. Comfort Zones/Perform	4.4	4.4	-	3.0	2.6	-6.7	4.3	21.7
9. Stress Management	4.5	4.3	-3.3	3.0	3.0	-	4.5	25.0
10. Self-Talk	4.5	4.8	5.0	3.1	3.5	6.7	4.6	25.0
11. Rubber Band Exercise	4.6	4.3	-5.0	1.5	0.8	-11.7	2.5	16.7
12. Changing Self-Image	4.1	4.5	6.7	2.8	3.5	11.7	4.5	28.3
13. 3 Head-Butt Rule	1.6	2.1	8.3	1.0	1.3	5.0	2.5	25.0
14. Training Mindset	4.6	4.6	-	3.8	3.4	-6.7	4.5	11.7
15. Trusting Mindset	4.3	4.3	-	2.8	2.4	-6.7	4.4	26.7
16. Pre-Practice Routine	4.6	4.5	-1.7	2.4	3.5	18.3	4.5	35.0
17. Pre-Comp Routine	4.5	4.6	1.7	4.0	0.9	-51.7	4.9	15.0
18. Pre-Comp Mental Prac	4.5	4.0	-8.3	3.4	1.1	38.3	4.3	15.0
19. Attitude is a Decision	4.4	4.6	3.3	3.5	4.1	10.0	4.8	11.7
20. Anchors/Cues/Affirm	3.0	3.3	5.0	2.3	2.3	-	3.5	20.0
21. “Fast, Hard, Strong!”	4.6	4.6	-	4.0	3.1	-15.0	4.5	8.3
22. Scotomas	3.1	3.3	3.3	1.5	1.5	-	3.4	31.7
23. Flow State / The Zone	4.0	4.0	-	2.4	2.4	-	4.3	31.7
24. Mental Toughness	4.4	4.6	3.3	3.5	4.4	15.0	4.9	8.3
25. Recover from mistakes	4.5	4.9	6.7	3.0	4.5	8.3	5.0	33.3
26. Maintaining Focus	4.8	4.5	-5.0	3.6	3.9	5.0	4.6	16.7
27. Bounce back - set-backs	4.5	4.8	5.0	3.3	4.3	16.7	4.9	21.7
TOTALS	4.13	4.18	0.8	2.96	2.85	-1.8	4.21	20.8
** TOTAL w/o #15, 17, 18					**3.02	1.01		

**NOTE: Mean ‘Hi-Score’ is the highest score recorded in the KU surveys for each of the 13 Student-athletes. Scores with (*) indicate only 12 respondents.*

Table H9: KU Surveys ~ Content Comparison

#	Mental Skill / Technique	KU-1	KU-2	KU-3	KU-4	KU-5
1.	Goal Setting				X	X
2.	Outcome Goal Setting / E-R Thinking	X / X	X / X	X /	X /	X /
3.	End-Result Thinking	X			X	X
4.	Performance Goal Setting	X	X	X	X	X
5.	Setting Expectations			X	X	X
6.	Desire to succeed				X	
7.	Achieving weekly goals				X	
8.	Visualization	X		X	X	
9.	Mental Practice Visualization		X	X	X	X
10.	End-Result Visualization		X	X	X	X
11.	Circle of Excellence		X	X	X	X
12.	Focusing (guided visualization)		X		X	
13.	Feelazation	X	X	X	X	X
14.	Bodily “Felt Sense”		X	X	X	X
15.	Energy Management	X			X	X
16.	Comfort Zones & Performance		X	X	X	X
17.	Thoughts & energy (paper clip)		X		X	X
18.	Stress Management	X		X	X	X
19.	Stress (my stress)			X	X	
20.	Relaxation techniques	X				
21.	Effective Thinking				X	X
22.	Mindfulness		X		X	X
23.	Self Talk	X	X	X	X	X
24.	Rubber Band Exercise		X	X	X	X
25.	Self-Image		X	X	X	
26.	Changing Self-Image		X	X	X	X
27.	3 Head-Butt Rule		X	X	X	X
28.	Training Mindset		X	X	X	X
29.	Trusting Mindset		X	X	X	X
30.	Pre-Practice Routine		X	X	X	X
31.	Pre-Competition Routine		X	X	X	X
32.	Pre-Competition Mental Practice		X	X	X	X
33.	Attitude is a Decision			X	X	X
34.	Anchors / Cues / Affirmations			X	X	X
35.	“Fast, Hard, Strong!”			X	X	X
36.	“Have fun!”				X	X
37.	Scotomas		X	X	X	X
38.	Flow State / The Zone	X / X	X /	X /	X /	X / X
39.	The Zone		X	X	X	
40.	Weekly mental skill journaling			X		
41.	Mental Toughness			X	X	X
42.	Train your brain		X		X	X
43.	Thrive on pressure			X	X	
44.	Recovering from mistakes			X	X	X
45.	Maintaining Focus			X	X	X
46.	Bouncing back from set-backs			X	X	X
47.	“Fess-up & Fix it”			X		
48.	Letting Go			X		

Table H9: KU Surveys ~ Content Comparison Cont'd

#	Mental Skill / Technique	KU-1	KU-2	KU-3	KU-4	KU-5
	General Knowledge					
49.	Process of Thought				X	
50.	Awareness (Increasing)		X			X
51.	3-D Nature of Thought		X			
52.	We think in pictures		X			
53.	5 Mental Obstacles to Success				X	
54.	Habits (Changing)		X		X	X
55.	Attitudes (Changing)		X		X	
56.	Assumptions (Changing)		X		X	
57.	Beliefs (Changing)		X		X	
58.	Expectations		X			

Table I: Education Session and MST Effectiveness & Efficiency Mean Grades (EDS) & Curriculum Sequencing

Session #	Date (Session Length)	TOPIC		Evaluators / Mean Grade 5-pt. Scale
1.	08/17 (90 min)	Intro: MST & Peak Performance		AC1, AC2, SP / 4.6
		Primary Objectives:	1. Introduce concepts: Mental Skills training; Peak Performance; Winner's Mentality Mindset	
			2. Introduce Core Mental Skills: Goal Setting, Visualization, Feelazation, Energy Management, Effective Thinking, and Mental Toughness	
			3. Demonstrate how thoughts have energy (Paper clip exercise)	
		Secondary Objectives:	1. Discuss 5 Obstacles to success: Habits, Attitudes, Assumptions, Beliefs, & Expectations	
			2. Introduce & discuss the importance of concepts: Comfort Zones; Self-talk; Self-talk Cycle; End-result Thinking; Scotomas	
			3. Discuss how we "think in pictures	
2.	08/19 (60 min)*	Self-talk & Mindsets – Peak Performance		AC1, AC2, SP / 4.6
		Primary Objectives:	1. Review & discuss Self-talk Cycle	
			2. Discuss difference in Training vs. Trusting Mindsets	
	**session scheduled for 90 min. but ended early due to room temp. (Hot!)*	Secondary Objectives:	1. Review Components of the Winner's Mentality Mindset: Core Essential Mental Skills; End-Result Thinking; Thoughts have energy	
			2. Review & discuss differences between Visualization & Feelazation	
			3. Discuss the 3-dimensional nature of thought	
			4. Explain the computer model of the mind	
			5. Discuss the importance of Self-image & how to change it	
			6. Introduce & discuss the "3-Head-Butt Rule"	
	Distribute: Initial Intake (Includes KU-1 Survey)			
2b.	8/21 (30 min)	Conclusion of Session #2 ~ Guided Visualization		
		Primary Objectives:	1. Discuss languaging for goal setting: Specific; eliminate "try"	
			2. Introduce "Cue" words	
			3. Guided visualization: Belly breathing; The Mist, Progressive relaxation – muscular; "5 to 1" countdown	
3.	08/26 (30 min)	Circle of Excellence – Routine		AC1, AC2, SP / 4.5
		Primary Objectives:	1. Importance of establishing Pre-competition Routine	
			2. Teaching the "Circle of Excellence"	
		Secondary Objective:	1. Brief review/reflection of use and/or problems with past learning: comfort zones, goal setting, visualization	
	Distribute: KU-2 Survey			

Table I: EDS & Curriculum Sequencing Cont'd

#	Date	TOPIC		Evaluators / Mean Grade
4.	09/02 (30 min)	Visualization & Mental Rehearsal / Fess-up & Fix it		AC1 / 4.5
		Primary Objectives:	1. Visualization: Mental Rehearsal 2. Fess-up & Fix it	
		Secondary Objectives:	1. Emphasize importance of honest self-evaluation and that of team members with commitment to "fix" the problems	
		Impromptu Topic	1. "Fast Start" 2. Tie in "felt-sense" of mental states – work on "starting fast"	
5.	09/08 (30 min)	Routine & Power Animals		AC1, AC2, SP / 4.7
		Primary Objectives:	1. Routine 2. Power Animals	
		Secondary Objective:	1. Emphasize importance of routine in regaining momentum	
6.	09/21 (30 min)	Program & Technique / Review: What's Working?		AC1, AC2 / 4.2
		Primary Objective:	1. Discuss what athletes are using ~ What's working; What's not	
		Secondary Objectives:	1. Provide Feedback ~ especially for areas in which they are struggling 2. Remind them of the need to reflect/journal	
	Distribute: KU-3 Survey			
7.	09/30 (30 min)	Define "Compete" / Review: "Start Fast"		HC, AC1, AC2 / 4.5
		Primary Objectives:	1. Define "Compete" 2. Review "Start Fast"	
		Secondary Objectives:	1. Compare "Compete" with Mental Toughness 2. Distribute "Selective Perception" worksheet	
8.	10/07 (30 min)	Stress: Pre-game Attitude		HC, AC2, SP / 4.7
		Primary Objective(s):	1. Introduce Stress Management 2. Discuss Pre-game/match attitude/affect	
		Secondary Objective(s):	1. Show how they already have stress management skills 2. Introduce "transfer of mental skills	
9.	10/14 (30 min)	Motivation & Review MST		HC, AC2 / 4.1
		Primary Objectives:	1. Define Motivation 2. Review MST & How to use it	
		Secondary Objectives:	1. Define & Discuss Insanity 2. Compare MST to weight-training	
10.	10/19 (30 min)	Applications of Mental Skills & Review		HC, AC2 / 4.6
		Primary Objective:	1. Remind athletes how to apply mental skills in different situations	
		Secondary Objective:	1. Review: Self-talk, Goal setting/End-result thinking, Visualization, Feelazation	

Table I: EDS & Curriculum Sequencing Cont'd

#	Date	TOPIC		Evaluators / Mean Grade
11.	10/26 (30 min)	Concentration & Listening		HC, AC1, AC2, SP / 4.8
		Primary Objective:	1. Discuss methods of concentrating (Routine in serving example)	
		Secondary Objectives:	1. Discuss "Listening" for problem solving 2. Avoiding assumptions	
12.	11/04 (30 min)	The Zone & Flow		HC / 4.1
		Primary Objective:	1. Introduce & Discuss "The ZONE"	
		Secondary Objectives:	1. Discuss & Describe what it takes to achieve "The ZONE" 2. Teach "Soft Eyes" Exercise & when to use it	
13.	11/11 (60 min)	Spoon-bending: Mind over Matter		AC1, AC2, SP / 4.7
		Primary Objective:	1. Athletes bend spoons – Demonstrate mind over matter ~ Ability to *cause* outcomes	
		Secondary Objectives:	1. Review & Tie-in with other mental skills: Goal setting; Visualization; Self-talk; Energetic nature of thought; Focus & Concentration; End-result thinking; Positive mental attitude 2. Mental Preparation for Playoffs	
	11/16	Distribute: Season's End Packets		
	9 hours of instruction			EDS Cumulative Mean Grade: 4.5

Appendix J1: IMP ~ MST Impact Survey

Evaluation of Mental Skills Training (MST) for Volleyball ~ #4

Name (Optional)**: _____ Date: 11/16/04**

The IMP was distributed to the student-athletes as part of the KU-4 Survey (Appendix H4) in the Season's End Packet.

Throughout the season you have been introduced to several mental skills training concepts, exercises, and techniques. Please comment on them as directed below. There are a total of 50 items in two sections.

2. In **Section 2**, please indicate (Circle) the impact the usage of the specific mental skill had on your performance for the duration of the season:

-2	**-1**	**0**	**+1**	**+2**
Very Negative Impact	Slightly Negative Impact	No Impact	Slightly Positive Impact	Very Positive Impact

You may find it easier to complete Section 1. before moving on to Section 2.

Section 2

TOOL

More on reverse side

MST IMPACT SURVEY (IMP):
The impact of specific mental skills usage on my performance

1.	Goal Setting	-2	-1	0	+1	+2
2.	Visualization	-2	-1	0	+1	+2
3.	Feelazation	-2	-1	0	+1	+2
4.	Energy Management	-2	-1	0	+1	+2
5.	Effective Thinking	-2	-1	0	+1	+2
6.	Mental Toughness	-2	-1	0	+1	+2
7.	Process of Thought	-2	-1	0	+1	+2
8.	Self-Image	-2	-1	0	+1	+2
9.	Outcome Goal Setting	-2	-1	0	+1	+2
10.	Circle of Excellence	-2	-1	0	+1	+2
11.	Stress (my stress)	-2	-1	0	+1	+2
12.	Desire to succeed	-2	-1	0	+1	+2
13.	Setting Expectations	-2	-1	0	+1	+2
14.	Comfort Zones & Performance	-2	-1	0	+1	+2
15.	Train your brain	-2	-1	0	+1	+2
16.	Performance Goal Setting	-2	-1	0	+1	+2
17.	5 Mental Obstacles to Success	-2	-1	0	+1	+2
18.	Self Talk	-2	-1	0	+1	+2
19.	Attitudes (Changing)	-2	-1	0	+1	+2

	TOOL	IMP The impact of specific mental skills usage on performance				
20.	Focusing (guided visualization)	-2	-1	0	+1	+2
21.	Training Mindset	-2	-1	0	+1	+2
22.	“Have fun!”	-2	-1	0	+1	+2
23.	Recovering from mistakes	-2	-1	0	+1	+2
24.	Pre-Practice Routine	-2	-1	0	+1	+2
25.	End-Result Visualization	-2	-1	0	+1	+2
26.	Assumptions (Changing)	-2	-1	0	+1	+2
27.	Trusting Mindset	-2	-1	0	+1	+2
28.	3 Head-Butt Rule	-2	-1	0	+1	+2
29.	Rubber Band Exercise	-2	-1	0	+1	+2
30.	End-Result Thinking	-2	-1	0	+1	+2
31.	Changing Self-Image	-2	-1	0	+1	+2
32.	Flow State	-2	-1	0	+1	+2
33.	Scotomas	-2	-1	0	+1	+2
34.	Pre-Competition Routine	-2	-1	0	+1	+2
35.	Stress Management	-2	-1	0	+1	+2
36.	Awareness (Increasing)	-2	-1	0	+1	+2
37.	Habits (Changing)	-2	-1	0	+1	+2
38.	Bodily “Felt Sense”	-2	-1	0	+1	+2
39.	“Fast, Tough, Strong!”	-2	-1	0	+1	+2
40.	Pre-Competition Mental Practice	-2	-1	0	+1	+2
41.	Thoughts & energy (paper clip)	-2	-1	0	+1	+2
42.	Beliefs (Changing)	-2	-1	0	+1	+2
43.	Thrive on pressure	-2	-1	0	+1	+2
44.	Maintaining Focus	-2	-1	0	+1	+2
45.	The Zone	-2	-1	0	+1	+2
46.	Attitude is a Decision	-2	-1	0	+1	+2
47.	Anchors / Cues / Affirmations	-2	-1	0	+1	+2
48.	Bouncing back from set-backs	-2	-1	0	+1	+2
49.	Mental Practice Visualization	-2	-1	0	+1	+2
50.	Mindfulness	-2	-1	0	+1	+2

Table J2: IMP ~ Mental Skills Impact Survey Summary *See Table H4 for IMP Survey*

MENTAL SKILL/ TECHNIQUE	**Very (-)** Impact -2	Slightly (-) Impact -1	No Impact -0	Slightly (+) Impact +1	Very (+) Impact +2
1. Goal Setting				4	3
2. Visualization				3	4
3. Feelazation			5	1	2
4. Energy Management			2	3	3
5. Effective Thinking			1	2	4
6. Mental Toughness				2	4
7. Process of Thought			2	3	2
8. Self-Image				2	4
9. Outcome Goal Setting				2	4
10. Circle of Excellence			2	3	2
11. Stress (my stress)			2	2	2
12. Desire to succeed			2	1	3
13. Setting Expectations				3	3
14. Comfort Zones & Performance			2	2	2
15. Train your brain			3	2	1
16. Performance Goal Setting				3	4
17. 5 Mental Obstacles to Success			3	3	
18. Self Talk					5
19. Attitudes (Changing)				3	3
20. Focusing (guided visualization)			1	3	2
21. Training Mindset				4	3
22. “Have fun!”				1	5
23. Recovering from mistakes				2	4
24. Pre-Practice Routine			1	3	2
25. End-Result Visualization			1	2	3
26. Assumptions (Changing)			2	2	2
27. Trusting Mindset				3	2
28. 3 Head-Butt Rule			3		1
29. Rubber Band Exercise			2	1	2
30. End-Result Thinking				2	3
31. Changing Self-Image			1	1	3
32. Flow State				4	1
33. Scotomas			4	2	
34. Pre-Competition Routine			2	2	1
35. Stress Management			1	1	3
36. Awareness (Increasing)			2	2	1
37. Habits (Changing)			3	1	2
38. Bodily “Felt Sense”			4	1	
39. “Fast, Hard, Strong!”				2	3
40. Pre-Competition Mental Practice			2	2	1
41. Thoughts & energy (paper clip)			1	3	1
42. Beliefs (Changing)				3	2
43. Thrive on pressure				2	3
44. Maintaining Focus				1	4
45. The Zone				2	3
46. Attitude is a Decision			1	2	2
47. Anchors / Cues / Affirmations			1	2	2
48. Bouncing back from set-backs				3	2
49. Mental Practice Visualization			1	4	
50. Mindfulness			2	2	1
TOTALS			59 / 21%	109 / 38%	118 / 41%

Appendix K1: SE/S-A ~ Season's End Survey / Student-Athletes

Mental Skills Training Program for Volleyball
Season's End Survey ~ Student-Athletes

Name (Optional): _____ Date: **11/ 16/ 04**_____

Please read each statement carefully before answering. Circle the appropriate answer.

More on reverse side

	Volleyball 2004 ~ Season's End Survey ~ Student-Athletes	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
1.	Prior to the 2004 volleyball season I utilized mental skills effectively.	SA	A	D	SD
2.	I believe the mental skills training I received this volleyball season enhanced my individual performance.	SA	A	D	SD
3.	The mental skills training that we received did **NOT** improve our team performance on the court.	SA	A	D	SD
4.	The mental skills program was well worth the extra time spent learning it.	SA	A	D	SD
5.	It was easy to learn the mental skills because of the way they were presented.	SA	A	D	SD
6.	The weekly reflective journaling was a waste of my time.	SA	A	D	SD
7.	I found the one-to-one mental skills training sessions with the mental skills trainer helpful in applying and integrating specific mental skills into my practice and competitive performance.	SA	A	D	SD
8.	I feel like the mental skills trainer had the teams' best interest in mind throughout the season.	SA	A	D	SD
9.	Mental skills training is worthless and should **NOT** be continued next year.	SA	A	D	SD
10.	If my individual play on the court improved, it was **NOT** due to mental skills training.	SA	A	D	SD
11.	I am much more effective now in my use of mental skills training than prior to the 2004 volleyball season.	SA	A	D	SD
12.	I believe that the mental skills training that the team received improved the teams' overall performance on the court.	SA	A	D	SD
13.	The mental skills educational presentations were boring and useless.	SA	A	D	SD
14.	It was easy apply the mental skills into my practice and competitive performance.	SA	A	D	SD
15.	Mental skills training was a total waste of my time.	SA	A	D	SD
16.	The mental skills training I received this volleyball season had little, if any, impact on my performance.	SA	A	D	SD
17.	The mental skills training program enhanced team chemistry.	SA	A	D	SD
18.	The way the mental skills were presented made no sense to me.	SA	A	D	SD

	Volleyball 2004 ~ Season's End Survey ~ Student-Athletes	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
19.	Applying the mental skills to my practice and competitive performance was difficult.	SA	A	D	SD
20.	The mental skills training program did **NOT** help improve communication between coaches and athletes.	SA	A	D	SD
21.	The mental skills training was presented in an easy to understand manner by the mental skills trainer.	SA	A	D	SD
22.	I feel the mental skills training was valuable and hope we continue it as a team next year.	SA	A	D	SD
23.	I felt the one-to-one mental skills training sessions with the mental skills trainer would **NOT** be worth the time.	SA	A	D	SD
24.	Team chemistry was **negatively** impacted because of mental skills training.	SA	A	D	SD
25.	I found the weekly reflective journaling helpful in applying specific mental skills.	SA	A	D	SD
26.	It was not worth the extra effort to have the mental skills program.	SA	A	D	SD
27.	I believe that the mental skills training that the team received improved my overall individual performance on the court.	SA	A	D	SD
28.	Learning the mental skills was difficult because of the way they were presented.	SA	A	D	SD
29.	I believe mental skills training should be a regular part of the volleyball training regimen.	SA	A	D	SD
30.	Mental skills training is a waste of time for sport and for life.	SA	A	D	SD
31.	The mental skills trainer treated us like lab-rats and cared only about his study.	SA	A	D	SD
32.	The mental skills education sessions were delivered in timely, entertaining, and educational presentations.	SA	A	D	SD
33.	I was able to transfer one or more of the mental skills to other areas of my life (academics, relationships, etc.) and found them helpful.	SA	A	D	SD
34.	I **WILL NOT** recommend mental skills training to any athletes I know.	SA	A	D	SD
35.	The mental skills training program helped improved communication between athletes and coaches.	SA	A	D	SD
36.	I have (or will) recommended mental skills training to other athletes I know.	SA	A	D	SD

Please be prepared to answer the following questions at your Seasons' End Interview with your mental skills trainer.

1. Of all the information and mental skills techniques you were exposed to this season, what ONE thing was the **most helpful** to you? Why?
2. What ONE thing did you **like least** about the mental skills training you received this season? Why?
3. If you could change ONE thing to make education or instruction in of mental skills more valuable for the volleyball team setting, what would it be?

TableK2: SE/S-A ~ Student-Athlete Season's End Survey Summary

#		+ 4	+ 3	- 2	- 1	Results 70%↑= +
INDIVIDUAL PERFORMANCE						
2.	I believe the mental skills training I received this volleyball season enhanced my individual performance.	2	5	1	0	
16. R	The mental skills training I received this volleyball season had little, if any, impact on my performance.	4	3	1	0	
		6	8	2	0	14/16 + 87.5%
27.	I believe that the mental skills training that the team received improved my overall individual performance on the court.	1	6	1	0	
10. R	If my individual play on the court improved, it was NOT due to mental skills training.	2	5	1	0	
		3	11	2	0	14/16 + 87.5%
	INDIVIDUAL PERFORMANCE TOTALS	9	19	4	0	28/32 + 87.5%
	Pct.	28.13	59.38	12.5		
TEAM PERFORMANCE						
12.	I believe that the mental skills training that the team received improved the teams' overall performance on the court.	0	4	4	0	
3. R	The mental skills training that we received did NOT improve our team performance on the court.	0	4	3	1	
	TEAM PERFORMANCE TOTALS	0	8	7	1	8/16 + +/-50%
	Pct. Negative		50.	43.75	6.25	
LEARNING						
5.	It was easy to learn the mental skills because of the way they were presented.	2	6	0	0	
28. R	Learning the mental skills was difficult because of the way they were presented.	3	4	1	0	
		5	10	1	0	15/16 + 93.75%
8.	I feel like the mental skills trainer had the teams' best interest in mind throughout the season.	7	1	0	0	
31. R	The mental skills trainer treated us like lab-rats and cared only about his study.	5	2	1	0	
		12	3	1	0	15/16 + 93.75%

#	Table K2: SE/S-A Survey Summary Cont'd	+/4	+/3	-/2	-/1	Results
LEARNING ~ Cont'd						
32.	The mental skills education sessions were delivered in timely, entertaining, and educational presentations.	2	6	0	0	
13. R	The mental skills educational presentations were boring and useless.	0	8	0	0	
		2	14	0	0	16/16 + 100%
21.	The mental skills training was presented in an easy to understand manner by the mental skills trainer.	3	5	0	0	
18. R	The way the mental skills were presented made no sense to me.	6	2	0	0	
		5	11	0	0	16/16 + 100%
33.	I was able to transfer one or more of the mental skills to other areas of my life (academics, relationships, etc.) and found them helpful.	3	5	0	0	
30. R	Mental skills training is a waste of time for sport and for life.	4	4	0	0	
		7	9	0	0	16/16 + 100%
	LEARNING TOTALS	31	47	2	0	78/80 +
	Pct.	38.75	58.75	2.5		97.5%
VALUE						
4.	The mental skills program was well worth the extra time spent learning it.	1	6	1	0	
26. R	It was not worth the extra effort to have the mental skills program.	1	5	2	0	
		2	11	3	0	13/16 + 81.25%
22.	I feel the mental skills training was valuable and hope we continue it as a team next year.	2	4	2	0	
9. R	Mental skills training is worthless and should NOT be continued next year.	3	5	0	0	
		5	9	2	0	14/16 + 87.5%
29.	I believe mental skills training should be a regular part of the volleyball training regimen.	1	5	2	0	
15. R	Mental skills training was a total waste of my time.	4	4	0	0	
		5	9	2	0	14/16 + 87.5%

#	Table K2: SE/S-A Survey Summary Cont'd	+/4	+/3	-/2	-/1	Results
VALUE Cont'd						
36.	I have (or will) recommended mental skills training to other athletes I know.	1	7	0	0	
34. R	I WILL NOT recommend mental skills training to any athletes I know.	4	4	0	0	
		5	11	0	0	16/16 100%
	VALUE TOTALS	17	40	7	0	57/64
	Pct.	26.56	62.5	10.94	0.0	89.06%
TEAM COMMUNICATION						
35.	The mental skills training program helped improved communication between athletes and coaches.	0	1	7	0	
20. R	The mental skills training program did NOT help improve communication between coaches and athletes.	0	0	8	0	
	TEAM COMMUNICATION TOTALS	0	1	15	0	15/16 –
	Negative					-93.75 %
TEAM CHEMISTRY						
17.	The mental skills training program enhanced team chemistry.	1	5	1	1	
24. R	Team chemistry was negatively impacted because of mental skills training.	5	3	0	0	
	TEAM CHEMISTRY TOTALS	6	8	1	1	14/16 + 87.5%
APPLICATION						
25.	I found the weekly reflective journaling helpful in applying specific mental skills.	0	6	2	0	
6. R	The weekly reflective journaling was a waste of my time.	1	6	1	0	
		1	12	3	0	14/16 + 87.5%
7.	I found the one-to-one mental skills training sessions with the mental skills trainer helpful in applying and integrating specific mental skills into my practice and competitive performance.	2	3	2	0	1 Blank
23. R	I felt the one-to-one mental skills training sessions with the mental skills trainer would NOT be worth the time.	3	3	2	0	
		5	6	4	0	11/15 + 73.33%

#	Table K2: SE/S-A Survey Summary Cont'd	+/4	+/3	-/2	-/1	Results
APPLICATION Cont'd						
14.	It was easy apply the mental skills into my practice and competitive performance.	1	6	1	0	
19. R	Applying the mental skills to my practice and competitive performance was difficult.	0	6	2	0	
		1	12	3	0	13/16 + 81.25%
33.	I was able to transfer one or more of the mental skills to other areas of my life (academics, relationships, etc.) and found them helpful.	3	5	0	0	
30. R	Mental skills training is a waste of time for sport and for life.	4	4	0	0	
		7	9	0	0	16/16 100%
	APPLICATION TOTALS	14	39	10	0	53/63 +
	Pct.	22.22	61.94	15.87		84.13%
USE						
14.	It was easy apply the mental skills into my practice and competitive performance.	1	6	1	0	
19. R	Applying the mental skills to my practice and competitive performance was difficult.	0	6	2	0	
		1	12	3	0	13/16 + 81.25%
33.	I was able to transfer one or more of the mental skills to other areas of my life (academics, relationships, etc.) and found them helpful.	3	5	0	0	
30. R	Mental skills training is a waste of time for sport and for life.	4	4	0	0	
		7	9	0	0	16/16 + 100%
*1.	Prior to the 2004 volleyball season I utilized mental skills effectively.	0	4	4	0	4/8 + -/-50%
	Negative					
*11.	I am much more effective now in my use of mental skills training than prior to the 2004 volleyball season.	3	5	0	0	8/8 100%
	*Both #1 & #11 ➔ Positive Statements	3	9	4	0	12/16 + 75%
	USE TOTALS	11	30	7	0	41/48 +
	Pct.	22.92	62.5	14.58		85.42%

#	Table K2: SE/S-A Survey Summary Cont'd	+/4	+/3	-/2	-/1	Results
CATEGORY TOTALS SE/S-A						
	Individual Performance	9	19	4	0	28/32 + 87.5%
	Team Performance	0	8	7	1	8/16 + +/-50%
	Negative					
	Learning	31	47	2	0	78/80 + 97.5%
	Value	17	40	7	0	57/64+ 89.06%
	Team Communication	0	1	15	0	15/16 – -93.75 %
	Negative					
	Team Chemistry	6	8	1	1	14/16 + 87.5%
	Application	14	39	10	0	53/63 + 84.13%
	Use	11	30	7	0	41/48 + 85.42%
	TOTALS	88	192	53	2	280/335+
	Pct.	26.27	57.31	15.82	0.6	83.58%

Appendix K3: SE/C ~ Season's End Survey / Coaches

Mental Skills Training Program for Volleyball ~ Season's End Survey ~ Coaches

Name: _____ Date: **11/ 16/ 04**_____

Please read each statement carefully before answering. Circle the appropriate answer.

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	Volleyball 2004 ~ Season's End Survey ~ Coaches	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
1.	Prior to the 2004 volleyball season I utilized mental skills other than goal setting to enhance my coaching.	SA	A	D	SD
2.	I believe mental skills training should be a regular part of the volleyball training regimen.	SA	A	D	SD
3.	The mental skills training that the team received did **NOT** improve team play on the court.	SA	A	D	SD
4.	The mental skills program was well worth the extra time spent learning it.	SA	A	D	SD
5.	The team thought the mental skills training was waste of their time.	SA	A	D	SD
6.	The mental skills education sessions were delivered in timely, entertaining, and educational presentations.	SA	A	D	SD
7.	I am much more effective now in my use of mental skills for coaching than prior to the 2004 volleyball season.	SA	A	D	SD
8.	The mental skills training program delivered what I expected in terms of overall team performance.	SA	A	D	SD
9.	The mental skills training was presented in an easy to understand manner by the mental skills trainer.	SA	A	D	SD
10.	If individual play on the court improved, it was **NOT** due to mental skills training.	SA	A	D	SD
11.	I believe that the mental skills training that the team received improved the overall team performance on the court.	SA	A	D	SD
12.	It was easy apply the mental skills into my coaching techniques and practices.	SA	A	D	SD
13.	I was disappointed at the lack of acceptance of the mental skills program by the team.	SA	A	D	SD
14.	I feel like the mental skills trainer had the teams' best interest in mind throughout the season.	SA	A	D	SD
15.	Mental skills training is worthless and should **NOT** be continued next year.	SA	A	D	SD
16.	The mental skills trainer treated us like lab-rats and cared only about his study.	SA	A	D	SD
17.	The mental skills training program did NOT contribute to enhancing team performance.	SA	A	D	SD
18.	I **WILL NOT** recommend mental skills training to any coaches I know.	SA	A	D	SD
19.	I felt the mental skills training was valuable and hope we continue it as a team next year.	SA	A	D	SD

	Volleyball 2004 ~ Season's End Survey ~ Coaches	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
20.	Team chemistry was negatively impacted because of mental skills training.	SA	A	D	SD
21.	Learning the mental skills was difficult for the student-athletes because of the way they were presented	SA	A	D	SD
22.	Mental skills training is a waste of time for sport and for life.	SA	A	D	SD
23.	The team fully embraced the mental skills training.	SA	A	D	SD
24.	The educational presentations were boring and useless.	SA	A	D	SD
25.	I was delighted at the acceptance of the mental skills program by the team.	SA	A	D	SD
26.	I was able to transfer one or more of the mental skills to other areas of my life (coaching, relationships, etc.) and found them helpful.	SA	A	D	SD
27.	Overall, I was disappointed with the mental skills training program.	SA	A	D	SD
28.	Mental skills training was a total waste of the team's time.	SA	A	D	SD
29.	The mental skills training program helped improved communication between athletes and coaches.	SA	A	D	SD
30.	I believe that the mental skills training that the team received improved overall individual performance on the court.	SA	A	D	SD
31.	It was easy for the student-athletes to learn the mental skills because of the way they were presented.	SA	A	D	SD
32.	It was not worth the extra effort to have the mental skills program.	SA	A	D	SD
33.	The mental skills training program enhanced team chemistry.	SA	A	D	SD
34.	Applying the mental skills to my coaching technique and practices was difficult.	SA	A	D	SD
35.	The mental skills training program did **NOT** help improve communication between coaches and athletes.	SA	A	D	SD
36.	I have (or will) recommended mental skills training to other coaches I know.	SA	A	D	SD
37.	The way the mental skills were presented made no sense to me.	SA	A	D	SD
38.	Overall, I was happy with the mental skills training program.	SA	A	D	SD

Please be prepared to answer the following questions at your Seasons' End Interview with your mental skills trainer.

1. Of all the information and mental skills techniques you were exposed to this season, what ONE thing was the **most helpful** to you? To the team? Why?
2. What ONE thing did you **like least** about the mental skills training the team received this season? Why?
3. If you could change ONE thing to make education or instruction in of mental skills more valuable for the volleyball team setting, what would it be?

Table K4: SE/C ~ Coaches Season's End Survey Summary

#		+ 4	+ 3	- 2	- 1	Results 51%↑ = +
INDIVIDUAL PERFORMANCE						
11	I believe that the mental skills training that the team received improved overall individual performance on the court.	0	1	2	0	
10 R	If individual play on the court improved, it was NOT due to mental skills training.	0	1	2	0	
	INDIVIDUAL PERFORMANCE TOTALS	0	2	4	0	4/6-
	Pct. Negative					-66.67%
TEAM PERFORMANCE						
30	I believe that the mental skills training that the team received improved the overall team performance on the court.	0	2	1	0	
3 R	The mental skills training that the team received did NOT improve team play on the court.	0	2	1	0	
		0	4	2	0	66.67%
8	The mental skills training program delivered what I expected in terms of overall team performance.	0	2	1	0	
17 R	The mental skills training program did NOT contribute to enhancing team performance.	0	2	1	0	
		0	4	2	0	66.67%
	TEAM PERFORMANCE TOTALS	0	8	4	0	8/12+
	Pct.					66.67%
LEARNING						
6	The mental skills education sessions were delivered in timely, entertaining, and educational presentations.	0	3	0	0	
24 R	The educational presentations were boring and useless.	0	3	0	0	
		0	6	0	0	100%
9	The mental skills training was presented in an easy to understand manner by the mental skills trainer.	0	3	0	0	
37 R	The way the mental skills were presented made no sense to me.	0	3	0	0	
		0	6	0	0	100% +
25	I was delighted at the acceptance of the mental skills program by the team.	0	0	3	0	
13 R	I was disappointed at the lack of acceptance of the mental skills program by the team.	0	0	3	0	
	Negative	0	0	6	0	100% -

#	Table K4 ~ SE/C Survey Summary Cont'd	+/4	+/3	-/2	-/1	Results
LEARNING ~ Cont'd						
14	I feel like the mental skills trainer had the teams' best interest in mind throughout the season.	1	2	0	0	
16 R	The mental skills trainer treated us like lab-rats and cared only about his study.	1	2	0	0	
		2	4	0	0	100%
31	It was easy for the student-athletes to learn the mental skills because of the way they were presented.	0	3	0	0	
21 R	Learning the mental skills was difficult for the student-athletes because of the way they were presented	0	3	0	0	
		2	6	0	0	100%
	LEARNING TOTALS	2	22	6	0	26/32
	Pct.	6.67	73.33	20.0		86.67%
VALUE						
2	I believe mental skills training should be a regular part of the volleyball training regimen.	1	2	0	0	
28 R	Mental skills training was a total waste of the team's time.	1	2	0	0	
		2	4	0	0	100%
4	The mental skills program was well worth the extra time spent learning it.	0	3	0	0	
32 R	It was not worth the extra effort to have the mental skills program.	0	2	1	0	
		0	5	1	0	83.33%
23	The team fully embraced mental skills training.	0	0	3	0	
5 R	The team thought mental skills training was a waste of their time.	0	1	2	0	
	Negative	0	1	5	0	-83.33%
8	The mental skills training program delivered what I expected in terms of overall team performance.	0	2	1	0	
17 R	The mental skills training program did NOT contribute to enhancing team performance.	0	2	1	0	
		0	4	2	0	66.67%
12	It was easy apply the mental skills into my coaching techniques and practices.	0	3	0	0	
34 R	Applying the mental skills to my coaching technique and practices was difficult.	0	3	0	0	
		0	6	0	0	100%

#	Table K4 ~ SE/C Survey Summary Cont'd	+/4	+/3	-/2	-/1	Results
VALUE ~ Cont'd						
25	I was delighted at the acceptance of the mental skills program by the team.	0	0	3	0	
13 R	I was disappointed at the lack of acceptance of the mental skills program by the team.	0	0	3	0	
	Negative	0	0	6	0	-100%
19	I felt the mental skills training was valuable and hope we continue it as a team next year.	0	2	1	0	
15 R	Mental skills training is worthless and should NOT be continued next year.	0	3	0	0	
		0	5	1	0	83.33%
36	I have (or will) recommended mental skills training to other coaches I know.	0	3	0	0	
18 R	I WILL NOT recommend mental skills training to any coaches I know.	0	2	0	1	
		0	5	0	1	83.33%
26	I was able to transfer one or more of the mental skills to other areas of my life (coaching, relationships, etc.) and found them helpful.	0	3	0	0	
22 R	Mental skills training is a waste of time for sport and for life.	1	2	0	0	
		1	5	0	0	100%
38	Overall, I was happy with the mental skills training program.	0	3	0	0	
27 R	Overall, I was disappointed with the mental skills training program.	0	3	0	0	
		0	6	0	0	100%
	VALUE TOTALS	3	41	15	1	44/60 +
	Pct.	5.0	68.33	25.0	1.67	73.33%
TEAM COMMUNICATION						
29	The mental skills training program helped improved communication between athletes and coaches.	0	0	3	0	
35 R	The mental skills training program did NOT help improve communication between coaches and athletes.	0	0	3	0	
	TEAM COMMUNICATION TOTALS	0	0	6	0	6/6-
	Negative					-100%

#	Table K4 ~ SE/C Survey Summary Cont'd	+/4	+/3	-/2	-/1	Results
TEAM CHEMISTRY						
33	The mental skills training program enhanced team chemistry.	0	0	3	0	
20 R	Team chemistry was negatively impacted because of mental skills training.	0	3	0	0	
	TEAM CHEMISTRY TOTALS	0	3	3	0	3/6 +
	Negative					+/-50%
APPLICATION						
*1	Prior to the 2004 volleyball season I utilized mental skills other than goal setting to enhance my coaching.	0	2	1	0	
*7	I am much more effective now in my use of mental skills for coaching than prior to the 2004 volleyball season.	0	0	3	0	
*Both #1 & #7 ➔ Positive Statements	Negative	0	2	4	0	-66.67%
12	It was easy apply the mental skills into my coaching techniques and practices.	0	3	0	0	
34 R	Applying the mental skills to my coaching technique and practices was difficult.	0	3	0	0	
		0	6	0	0	100%
26	I was able to transfer one or more of the mental skills to other areas of my life (coaching, relationships, etc.) and found them helpful.	0	3	0	0	
22 R	Mental skills training is a waste of time for sport and for life.	1	2	0	0	
		1	5	0	0	100%
	APPLICATION TOTALS	1	13	4	0	14/18 +
	Pct.	5.56	72.22	22.22		77.78%
USE						
*1	Prior to the 2004 volleyball season I utilized mental skills other than goal setting to enhance my coaching.	0	2	1	0	
*7	I am much more effective now in my use of mental skills for coaching than prior to the 2004 volleyball season.	0	0	3	0	
*Both #1 & #7 ➔ Positive Statements	Negative	0	2	4	0	-66.67% -
12	It was easy apply the mental skills into my coaching techniques and practices.	0	3	0	0	
34 R	Applying the mental skills to my coaching technique and practices was difficult.	0	3	0	0	
		0	6	0	0	100%
	USE TOTALS	0	8	4	0	8/12 +
	Pct.		66.67	33.33		66.67%

#	Table K4 ~ SE/C Survey Summary Cont'd		+/4	+/3	-/2	-/1	Results
	CATEGORY TOTALS SE/C						
	Individual Performance		0	2	4	0	4/6 -
		Negative		33.33	66.67		-66.67%
	Team Performance		0	8	4	0	8/12+
				66.67	33.33		66.67%
	Learning		2	22	6	0	24/30
			6.67	73.33	20.00		80.00%
	Value		3	41	15	1	44/60 +
			5.0	68.33	25.0	1.67	73.33%
	Team Communication				6		6/6 -
		Negative			100		-100%
	Team Chemistry			3	3		3/6 –
		Negative		50	50		-50%
	Application		1	13	4	0	14/18 +
			5.56	72.22	22.22		77.78%
	Use		0	8	4	0	8/12 +
							66.67%
		TOTALS	6	97	46	1	103/150+
		Pct.	4.0	64.67	30.67	0.67	68.67%

Table K5: SE/S-A vs. SE/C Summary

	Student-Athletes		Coaches	
Categories	Grade %	Rating 70% ↑ = +	Grade %	Rating 51% ↑ = +
Individual Performance	87.50%	Positive	-66.67%	Negative
Team Performance	-50.00%	Negative	66.67%	Positive
Value	89.06%	Positive	73.33	Positive
Team Communication	-93.75%	Negative	-100%	Negative
Team Chemistry	87.50%	Positive	-50.00%	Negative
Learning	97.50%	Positive	80.00%	Positive
Application	84.13%	Positive	77.78%	Positive
Use	85.42%	Positive	66.67%	Positive
Overall	73.42%	Positive	55.97%	Positive

Table L1: MTQ ~ Mental Toughness Questionnaire Summary

Legend: S-A = Student-athletes
Se = Season's end

	S-A	Coaches		S-A Se	Coaches Se
Student-athlete	Mean % ↑	Mean %↑	Mean %↑	Raw Mean Score	Raw Mean Score
1.Kelly	7.5	8.7	8.7	8.42	7.3
2.Betsy	3.3	7.0	7.0	9.08	7.62
3.Megan	13.3	9.2	9.2	7.42	3.53
4.Kelsey	0.0	13.6	13.6	4.25	4.86
5.Marie	8.3	2.8	2.8	9.0	7.24
6.Cora	-	-	10.3	-	-
7.Victoria	10.0	4.5	4.5	9.33	8.39
8.Gail	-	-	10.1	-	-
9.Cheri	-	-	12.4	-	-
10.Nicole	3.3	8.9	8.9	9.58	7.06
11.Laura	11.7	25.7	25.7	7.25	6.28
12.Cindy	-	-	9.9	-	-
13.Cassidy	9.2	19.8	19.8	7.17	4.44
TOTALS	66.6	100.2	142.9	71.5	56.72
%↑	7.4%↑	11.13%↑	10.99%↑		
			Raw Mean Score TOTALS	7.94	6.30
			Difference: S-A - Coaches		1.6↓
			% ↓		18.22%↓
		Raw Mean Score w/o Outlier TOTALS		67.25	51.86
		Raw Mean Score w/o Outlier TOTALS		8.41	6.48
			Difference w/o Outlier: S-A - Coaches		1.93↓
			% ↓		24.12%↓

TableL2: MTQ ~ Mental Toughness Questionnaire Worksheet

Legend:
C-Mean = Coaches Mean Scores
B = Beginning of Season (End of Training Camp)
E = Season's End

	Item	1	2	3	4	5	6	7	8	9	10	11	12	Total	Mean %↑
1. Kelly	B	5	8	6	8	7	8	8	9	8	8	8	9	92	7.67
	E	8	9	8	8	9	9	8	9	8	8	8	9	101	8.42
	↑	3	1	2	-	2	1	-	-	-	-	-	-	9	7.5%
C-Mean	B	5	5	6	6	7.5	8	6.5	7	6.5	7.5	7	6.5	75.8	6.54
	E	6.3	6.7	6.3	7.3	8.3	8.3	8	7.7	7	8	6.3	7.3	87.5	7.3
	↑	1.3	1.7	.3	1.3	.8	.3	1.5	.7	.5	.5	.7	.8	10.4	8.7%
2. Betsy	B	7	8	9	8	9	10	10	10	4	10	10	10	105	8.75
	E	8	8	9	9	9	10	10	10	6	10	10	10	109	9.08
	↑	1	-	-	1	-	-	-	-	2	-	-	-	4	3.3%
C-Mean	B	7.5	7	8.5	7.5	6.5	7	7.5	7.5	6.5	7	7.5	7.5	87.5	7.29
	E	8	7.7	8.7	8	7.7	7.3	8	7.3	5.3	7.7	7.7	8	91.4	7.62
	↑	.5	.7	.2	.5	1.2	.3	.5	-.2	-1.2	.7	.2	.5	8.4	7%
3. Megan	B	5	5	5	5	5	6	7	5	7	6	8	9	73	6.08
	E	7	7	7	7	5	6	7	8	8	9	9	9	89	7.42
	↑	2	2	2	2	-	-	-	3	1	3	1	-	16	13.33%
C-Mean	B	3.5	3	2.5	2	2	2.5	2.5	2	2.5	3	2.5	2	30	2.5
	E	5	3.7	4.3	2.7	2	3	3	4.7	4.7	3.7	3.3	2.3	42.4	3.53
	↑	1.5	-.7	1.8	.7	-	.5	.5	2.7	2.2	.7	.8	.3	11	9.17%
4. Kelsey	B	4	5	4	5	4	5	4	4	4	4	4	4	51	4.25
	E	4	5	4	5	4	5	4	4	4	4	4	4	51	4.25
	↑	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0%
C-Mean	B	3	3.5	3	4	4.5	3	2	2.5	4	4	4.5	4	42	3.5
	E	5	5.3	4.7	5.6	6	4.7	2.3	4	6	6	4	4.7	58.3	4.86
	↑	2	1.8	1.7	1.6	1.5	1.7	.3	1.5	2	2	-.5	.7	16.3	13.58%

Table L2: MTQ ~ Mental Toughness Questionnaire Worksheet Cont'd

	Item	1	2	3	4	5	6	7	8	9	10	11	12	Total	Mean %↑
5. Marie	B	7	9	6	9	7	7	9	9	9	10	8	8	98	8.17
	E	8	9	7	10	9	8	10	10	9	10	9	9	108	9.0
	↑	1	-	1	1	2	1	1	1	-	-	1	1	10	8.3%
C-Mean	B	6.5	6.5	7.5	7.5	7	6.5	7.5	7.5	6	8	7.5	8	86	7.17
	E	5.6	8	6.3	8.3	7.7	6	8.3	8.3	5	8.7	6	8.7	86.9	7.24
	↑	-.9	1.5	1.2	.8	.7	-.5	.8	.8	-1	.7	-1.5	.7	3.3	2.75%
6. Cora															
C-Mean	B	5	5.5	5.5	4	4	5	5	5.5	4	6	4.5	3.5	57.5	4.79
	E	7.3	7	6.7	6	4	4.7	7	6	4	7.3	4.3	6	70.3	5.86
	↑	1.8	1.5	1.2	2	-	-.3	2	.5	-	1.3	-2	2.5	12.3	10.25%
7. Victoria	B	6	9	8	10	8	9	9	10	5	7	10	9	100	8.33
	E	8	10	10	10	9	10	10	10	8	7	10	10	112	9.33
	↑	2	1	2	-	1	1	1	-	3	-	-	1	12	10%
C-Mean	B	7	6.5	5.5	7.5	8.5	7.5	8.5	7.5	8.5	6.5	6.5	7	79.5	6.62
	E	7.3	7.3	6.3	8.3	8.3	8	8.3	8.3	8.3	7.3	6.7	8	100.7	8.39
	↑	.3	.8	.8	.8	-.2	.5	-.2	.8	-.2	.8	.2	1	5.4	4.5%
8. Gail															
C-Mean	B	3	2	2.5	2	2	3	1.5	3	2	2	1.5	2.5	27	2.25
	E	4	3	3.3	2.7	2.7	3.3	2.3	3.5	4.3	3	4	3	39.1	3.26
	↑	1	1	.8	.7	.7	.3	.8	.5	2.3	1	2.5	.5	12.1	10.08%
9. Cheri															
C-Mean	B	6	5	5	3.5	3.5	4.5	3.5	4	4.5	6	5.5	5	56	4.67
	E	7.3	6.7	6.7	6	4	4.7	4.3	6	5.6	8	5.3	6.3	70.9	5.91
	↑	1.3	1.7	1.7	2.5	.5	.2	.8	2	1.1	2	-.2	1.3	14.9	12.42%
10. Nicole	B	9	8	10	10	8	8	10	10	8	10	10	10	111	9.25
	E	10	9	9	10	9	9	10	10	9	10	10	10	115	9.58
	↑	1	1	-1	-	1	1	-	-	1	-	-	-	4	3.33%
C-Mean	B	6	5	5	6.5	6.5	6	7	7	4.5	7	6.5	6	73	6.08
	E	7.7	6.3	7	7.3	7.3	6.7	7.7	7.3	5	7.7	7	7.7	84.7	7.06
	↑	1.7	1.3	2	.8	.8	.7	.7	.3	.5	.7	.5	.7	10.7	8.92%

Table L2: MTQ ~ Mental Toughness Questionnaire Worksheet Cont'd

	Item	1	2	3	4	5	6	7	8	9	10	11	12	Total	Mean %↑
11. Laura	B	1	7	1	9	9	8	5	7	4	5	8	8	72	6.0
	E	5	9	5	9	9	8	7	7	5	7	8	8	87	7.25
	↑	4	2	4	-	-	-	2	-	1	2	-	-	14	11.67%
C-Mean	B	3	3	1	5.5	4.5	4.5	5.5	4.5	2	2	4	5	44.5	3.71
	E	6	8	5.5	8	5.3	5	7	4.7	7.3	5	6	7.5	75.3	6.28
	↑	3	5	4.5	2.5	.8	.5	1.5	.2	5.3	3	2	2.5	30.8	25.67%
12. Cindy															
C-Mean	B	6.5	7	6.5	6.5	7.5	6	7.5	6.5	4.5	6	4.5	7	76	6.33
	E	7.7	8	7	7	7.7	7	8.3	7.3	5	8	5.6	7.3	85.9	7.16
	↑	1.2	1	1.5	1.5	.2	1	.8	.8	.5	2	1.1	.3	11.9	9.92%
13. Cassidy	B	4	7	4	7	8	9	6	7	4	3	9	8	76	6.33
	E	5	8	5	8	9	10	7	8	5	4	9	9	86	7.17
	↑	1	1	1	1	1	1	1	1	1	1	-	1	11	9.17%
C-Mean	B	2	1	1.5	2	2	5	3	2	2.5	2	3	3.5	29.5	2.46
	E	4	3.7	3	4.3	4.5	6	5	4.5	5.3	4.7	3.3	5	53.3	4.44
	↑	2	2.7	1.5	2.3	2.5	1	2	2.5	2.8	2.7	.3	1.5	23.8	19.83%

Appendix M1: EDS ~ Education Session Evaluation Form (Master)

Evaluator: _____ Date: _____

Topic: _____ Session Length: _____

Primary Objective of session:
1.
2.

1. Secondary Objective(s) of session:
2.

Meaning of compiled scores …
1 = Strongly Disagree (Unsatisfactory)
2 = Disagree
3 = Neither Agree Nor Disagree
4 = Agree
5 = Strongly Agree (Excellent)
NA = Not Applicable

Score	For Parameter …
	1. The PRIMARY objective(s) for this session was (were) addressed and met.
	2. The SECONDARY objective(s) for this session was (were) addressed and met.
	3. The Mental Skills Trainer began and ended the session on time.
	4. The Mental Skills Trainer allowed sufficient time for questions.
	5. The Mental Skills Trainer answered questions clearly & gave appropriate examples.
	6. The information was well-organized and easy to follow.
	7. The level of this session contributed to my understanding of the topic.
	8. The information provided in the MST seemed useful and appropriate.
	9. The information provided in the MST seemed easy for the student-athletes to apply.
	10. The student-athletes seemed attentive and engaged in the MST.
	11. The information conveyed in the MST will be valuable to the student-athlete to enhance performance.

COMMENTS: Please use reverse side if desired

Table M2: EDS ~ Education Session Mean Score by Evaluator

Evaluator	Grade	Pct.	# Sessions Evaluated
HC	4.6	92%	7
AC1	4.4	88%	9
AC2	4.4	88%	11
SP	4.9	98%	7
TOTAL	4.6	92%	13

Table M3: EDS ~ Education Sessions Delivery & Facilitation Effectiveness & Efficiency Rating

Grade means by Evaluators over 13 sessions ~ 5 point scale					
#	Evaluation Categories	Grade	Pct.	Program Goal	Program Objective
1.	Primary objectives	4.6	92%	Effectiveness	Educational Objectives
2.	Secondary objectives	4.3	86%	Effectiveness	Educational Objectives
3.	Begin & end on time	4.8	96%	Efficiency	Time
4.	Time for questions	4.6	92%	Efficiency	Time
5.	Answer questions / Give examples	4.1	82%	Effectiveness	Learning
6.	Organized & easy to follow	4.7	94%	Effectiveness	Organization
7.	Increase understanding	4.6	92%	Effectiveness	Learning
8.	Information is useful & appropriate	4.6	92%	Effectiveness	Value
9.	Easy application	4.4	88%	Effectiveness	Application
10.	Student-athletes were engaged	4.1	82%	Effectiveness	Attention
11.	Valuable to enhance performance	4.5	90%	Effectiveness	Value / Application
	Cumulative Mean Grade	4.5	90%		
	Effectiveness Mean Grade	4.4	88% Effective		
	Efficiency Mean Grade	4.7	94% Efficient		

Table N1: Volleyball Statistics: Year-By-Year Results

	MATCHES								GAMES		POINTS	
Year	Over-all	Pct.	Conf.	Pct.	Finish	Home	Away	Neut-ral	Won	Lost	For	Aga-inst
2001	9-19	.321	5-7	.417	T8th/13	6-4	2-12	3-3	49	60	2505	2702
2002	20-11	.645	10-3	.769	2nd/14	11-3	4-4	5-4	72	46	3149	2965
2003	13-14	.482	7-5	.583	T4th/14	7-4	4-8	2-2	54	49	2724	2605
2004	13-16	.448	7-9	.438	8th/11	10-3	1-10	2-3	49	61	2778	2923

Table N2: Volleyball Power Ratings

	2003		2004		Differences
	RPI	Rank	RPI	Rank	
ACC	0.5624	5	0.5637	6	
Big East	0.5224	11	0.5452	9	
*Total Conferences		32		32	
Team Ranking		153		99	↑ 54 places
Total Teams		311		315	
% Ranking		49.19		31.43	↑ 17.76%

**Independents are regarded as one conference*

Table N3: SE ~ Individual & Team Statistics ~ Service Errors

Legend:
GP = Games Played — Pre = Before 10/26/04 Education Intervention #11
SE = Service Errors — Post = After 10/26/04 Education Intervention #11

	NAME	Year	GP	SE	Avg/ Game	10/26 2004	GP	SE	Avg/ Game
1	Betsy	04	110	51	0.46	Pre	81	44	0.54
		03	103	60	0.58	Post	29	7	0.24
		Difference	7	-9	0.12				0.30
2	Megan	04	103	22	0.21	Pre	74	17	0.23
		03	103	18	0.17	Post	29	5	0.17
		Difference	0	4	0.04+				0.06
3	Marie	04	110	39	0.35	Pre	81	30	0.37
		03	102	21	0.21	Post	29	9	0.31
		Difference	8	18	0.14+				0.04
4	Cora	04	110	23	0.20	Pre	81	16	0.20
		03	100	27	0.27	Post	29	7	0.24
		Difference	10	-4	0.07				0.04+
5	Nicole	04	110	31	0.28	Pre	81	23	0.28
						Post	29	8	0.27
		Difference							0.01
6	Cindy	04	89	33	0.37	Pre	60	23	0.38
						Post	29	13	0.44
		Difference							0.06+
	TEAM	04	110	225	2.04	Pre	81	175	2.16
		03	103	196	1.90	Post	29	50	1.72
		Difference	7	29	0.14+				0.44
	Opponents	04	110	246	2.24				
		03	103	246	2.39				
		Difference	7	0	0.15				

Appendix O : Weekly Journal Template for Student-Athletes

Name: _____ Date: _____

Post-Game (opponent): _____ Date: _____

(Use back of page or enter directly into journal)

1. On a scale of 10, what was my assessment of my overall performance for this game/week?

1	2	3	4	5	6	7	8	9	10
Worst performance of my career		Substandard performance		Average performance for me	Rock Solid performance		Played over my head		Personal best

2. Explain your assessment of your performance in as much detail as possible:

3. What area(s) of my game do I need/want to work on this week?
   a. What is my end-result goal?
   b. What is the '*HOW*' for this goal?
   c. What steps am I going to take to ensure I reach this goal?

4. What mental skill(s) did I employ this week and how did I use them?

Goal Setting: _____

Visualization: _____

Energy Management: _____

Effective Thinking: _____

Mental Toughness: _____

5. Specifically, how did I use them?

6. How did it (they) impact my performance?

7. What did I excel at this game/this week?

8. General Reflections of my performance this game/week:

APPENDIX P: MSTP Program Evaluation Guide Matrix

LEGEND:

Corresponding Quantitative Survey
EDS = MSTP Education Session Evaluation – Coaches
IMP = Mental Skills Impact Survey – Student-athletes
KU = Knowledge & Use Survey – Student-athletes
MTQ/C = Mental Toughness Questionnaire – Coaches
MTQ/S-A = Mental Toughness Questionnaire – Student-Athletes
SE/C = Season's End Survey – Coaches
SE/S-A = Season's End Survey – Student-athletes
Stats = Volleyball Statistics

LEGEND:

Corresponding Qualitative Method
INT = Interview
OB = Observation
MC = Member Checks
+Qa = Positive outcome of qualitative analysis

Program Evaluation Guide Matrix

PROGRAM COMPONENTS	DECISION COMPONENTS					Evaluation Rating
	Program Goals	Operationalized Outcomes (Evaluation Questions)	Data Collection Format Quantitative: Surveys, Stats Qualitative: Interviews, Observation, Member Checks	Criteria	Findings	
Curriculum	Effective: Learning	Student-athletes (S-A) increased their knowledge of mental skills and mental skills training	KU-1-4	30%	53.4% reported ↑ in knowledge (36 items); Mean Hi score = 4.18/5.0.	+
			KU-3 vs. KU-5	>10%↓	1.18%↑	+
			SE/S-A: #5/28; 21/18; 32/13; 33/30	70%	#5/28 = 93.75 #21/18 = 100% #32/13 = 100% #33/30 = 100% TOTAL = 98.39%	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Curriculum (cont'd)	Effective: Learning (cont'd)	Student-athletes (S-A) increased their knowledge of mental skills and mental skills training (cont'd)	SE/C: # 6/24; 25/13; 31/21	51%	#6/24 = 100% #25/13 = -100% Negative #31/21 = 100% TOTAL = 66.67% +	+
			EDS: # 10	80%	#10 – 4.1/5 = 82%	+
			SE/S-A # 32/13	70%	#32/32 = 100%	+
			SE/C # 6/24	51%	#6/24 = 100%	+
		Learners questions were answered clearly	EDS # 5	80%	#5 – 4.1/5 = 82%	+
			SE/S-A # 21/18	70%	#21/18 = 100%	+
			SE/C # 9/37	51%	#9/37 = 100%	+
		Primary & secondary objectives of education sessions were addressed & met	EDS # 1, 2	80%	#1 – 4.6/5 = 92% #2 – 4.3/5 = 86% TOTAL = 89%	+
	Effective: Learning – Coaches/SP	Information enhanced coaches understanding of topic	EDS # 7	80%	#7 – 4.6/5 = 92%	+
	Effective: Value	Information was appropriate and valuable	EDS # 8, 11	80%	#8 – 4.6/5 = 92%	+
			IMP	70%	+ Impact = value TOTAL + = 79%	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Curriculum (cont'd)	Effective: Value (cont'	Information was appropriate and valuable (cont'd)	OB/MC/INT	+Qa	Overall acknowledgement by C & S-A that information was helpful and appropriate	+
	Effective: Applicable	Information was applicable for enhancing performance	EDS # 9, 11	80%	#9 – 4.4/5 = 88% #11 – 4.5/5 = 90%	+
			SE/S-A # 14/19	70%	#14/19 = 81.25%	+
	Effective: Organized	Information was well organized and easy to understand	EDS # 6	80%	#6 – 4.7/5 = 94%	+
	Efficient: Timely	Education sessions did not run over scheduled time limits	EDS # 3, 4	80%	#3 – 4.8/5 = 96% #4 – 4.6/5 = 92% TOTAL = 94%	+
			SE/S-A # 32/13	70%	#32/13 = 100%	+
			SE/C # 6/24	51%	#6/24 = 100%	+
	Efficient: Flexibility	MST adjusted his schedule to meet needs of team	SE/S-A # 8/31	70%	#8/31 = 93.75%	+
			SE/C # 14/16	51%	#14/16 = 100%	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Curriculum (cont'd)	Efficient: Flexibility (cont'd)	MST adjusted his schedule to meet needs of team (cont'd)	OB/MC/INT	+Qa	All S-A thought MST met their scheduling needs (*Overall, however, there was a problem with the HC's scheduling, i.e., adding sessions after practice as opposed to part of practice.*)	+
Student-Athletes (13)	Effective: Learning	% S-A increased their knowledge of mental skills and mental skills training	KU-1-4	30%	53.4% increase 4.18/5 Mean Hi Score	+
			KU-5	>10% ↓	1.18%↑	+
			SE/S-A # 5/28; 21/18; 32/13; 33/30	70%	#5/28 = 93.75% #21/18 = 100% #32/13 = 100% #33/30 = 100% TOTAL = 98.39%	+
			OB/MC/INT	+Qa	S-A reported ↑ their knowledge of mental skills throughout season	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Student-Athletes (cont'd)	Effective: Value	% S-A who thought program was valuable	SE/S-A # 4/26; 29/15; 17/24; 33/30; 36/34; 35/20; 22/9	70%	#4/26 = 81.25% #29/15 = 87.5% #17/24 = 87.5% #33/30 = 100% #36/34 = 100% #35/20 = -93.75% Negative #22/9 = 87.5% TOTAL = 78.57%	+
			OB/MC/INT	+Qa	S-A universally report MSTP was valuable	+
	Effective: Communi-cation	S-A: MSTP improved team communication: - with coaches - within team	SE/S-A # 35/20	70%	#35/20 = -93.75% Negative	-
			OB/MC/INT	+Qa	S-A did not perceive improved communication w/ coaches.	-
			OB/MC/INT	+Qa	Intra-team communication, however, did improve ↑	+
	Effective: Team Chemistry	S-A: MSTP improved team chemistry	SE/S-A # 17/24	70%	#17/24 = 87.5%	+
			OB/MC/INT	+Qa	S-A reported slight increase in team chemistry due to improved intra-squad communication	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Student-Athletes (cont'd)	Effective: Application	% S-A who applied mental skills to performance	SE/S-A # 7/23; 14/19; 25/6	70%	#7/23 = 73.33% #14/19 = 81.25% #25/6 = 87.5% TOTAL = 78.72%	+
			IMP	70%	+ Impact of skills = effective application ~ 79%	+
			OB/MC/INT	+Qa	Every S-A applied one or more skills for performance	+
		S-A who transfer and apply mental skills to life skills	SE/S-A # 33/30	70%	33/30 = 100%	+
			OB/MC/INT	+Qa	S-A able to transfer one or more skills to life	+
	Effective: Use	% S-A who increased their use of mental skills	KU-1-4	50%	73% reported ↑ use 3.67/5 Mean Hi score	+
			KU-5 KU-5 (minus # 15, 17, 18)	>5% ↓ >0% ↓	-1.8%↓ 1.01%↑	+
			SE/S-A # 1 & 11; 14/19; 33/30	70%	#1/11 = 75% #14/19 = 81.25% #33/30 = 100% TOTAL = 85.42%	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Student-Athletes (cont'd)	Effective: Use (cont'd)	% S-A who increased their use of mental skills (cont'd)	IMP	70%	+ Impact of skills = effective use ~ 79%	+
			OB/MC/INT	+Qa	S-A universally report ↑ in metal skills usage	+
	Effective: Enhanced individual performance	% S-A who decreased SE	Individual stats: -SE ~ 2003 v. 2004 -SE ~ pre & post #11 Ed Session	SE↓ 03 v. 04	4 S-A: 2↓ / 2↑	0
				SE↓ pre/ post #11	6 S-A: 4↓ / 2↑	+
		% S-A who perceived individual performance was enhanced	SE/S-A # 2/16; 27/10	70%	#2/16 = 87.5% #27/10 = 87.5% TOTAL = 87.5%	+
			OB/MC/INT	+Qa	S-A overwhelmingly report ↑ in individual performance	+
	Effective: Enhanced team performance	Team performance improved	Team Stats: -Pre-season v. Post season Rank -W-L record Overall (%); Conf (%) 2003 v. 2004 -National Rank* (*RPI/RKPI power-rating factored in)	Pre/Post Season Rank ↑	Pre = 10/11 Post = 8/11 18% ↑	+
				W-L Record ↑	2003: 13-14(.482); 7-5(.583) 2004: 13-16(.448); 7-9(.438)	-
				National Rank ↑	Nat'l Rank improved 54 places: 17.76%↑	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Student-Athletes (cont'd)	Effective: Enhanced team performance (cont'd)	Team performance improved (cont'd)	Team Stats: -SE ~ 2003 v. 2004 SE Avg./Game ~ 2003 v. 2004	SE ↓ 03 v. 04	225 (04) – 96 (03) = +29 14.8%↑ SE Avg./Game = 7.4%↑	-
			-SE ~ Pre v. Post #11 Ed Session	SE↓ pre/ post #11	2.16 (Pre) -1.72 (Post) = 0.44↓ or 25.6%↓	+
		% S-A who perceived team performance was enhanced	SE/S-A #12/3	70%	#12/3 = 50% Negative	-
			OB/MC/INT	+Qa	Qual data split - supports Quant data Negative	-
	Effective: Mental Toughness	% S-A reported increase in mental toughness	MTQ/S-A	5%	7.4% ↑	+
			IMP # 6, 15, 23, 43, 44, 48	70%	#6 = 100% + #15 = 50% - #23 = 100% + #43 = 100% + #44 = 100% + #48 = 100% + TOTAL = 91.67%	+
		S-A: MSTP enhanced mental toughness	OB/MC/INT	+Qa	All but one S-A reported perceived ↑ in mental toughness	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Coaches (3)	Effective: Learning	Coaches: athletes learned mental skills	SE/C # 9/7; 13/25; 14/16; 21/31	51%	#9/37 = 100% #25/13 = -100% Negative #14/16 = 100% #31/21= 100% TOTAL = 75%	+
		Coaches increased their knowledge of mental skills and mental skills training	SE/C # 6/24	51%	#6/24 = 100%	+
			EDS #7	80%	#7 – 4.6/5 = 92%	+
		Coaches: topics were relevant –(addressed current team needs)	SE/C # 14/16	51%	14/16 = 100%	+
			OB/MC/INT	+Qa	All coaches perceived topics relevant & addressing current needs	+
	Effective: Value	Coaches: mental skills training was worth time spent and should be continued	SE/C # 2/28; 4/32; 23/5; 8/17; 12/34; 25/13; 19/15; 36/18; 33/20; 26/22; 29/35; 38/27	51%	#2/28 = 100% #4/32 = 83.33% #23/5 = -83.33% Negative #8/17 = 66.67% #12/34 = 100% #25/13 = -100% Negative #19/15 = 83.33% #36/18 = 83.33% #33/20 = 50% Negative #26/22 = 100% #29/35 = -100% Negative #38/27 = 100% TOTAL = 65.28%	+
			EDS # 11	80%	#11 – 4.5/5 = 90%	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Coaches (cont'd)	Effective: Value	Coaches: mental skills training was worth time spent and should be continued (cont'd)	OB/MC/INT	+Qa	All coaches perceived MSTP worth time spent & want to continue	+
	Effective: Communi-cation	% Coaches who perceive communication enhanced	SE/C # 29/35	51%	#29/35 = -1000% Negative	-
			OB/MC/INT	+Qa	Coaches did not perceive communication was improved	-
	Effective: Team Chemistry	% Coaches who perceive team chemistry enhanced	SE/C # 33/20	51%	#33/20 = 50% Negative	-
			OB/MC/INT	+Qa	Coaches did not perceive team chemistry was improved	-
	Effective: Application	% Coaches who applied mental skills to their coaching/life	SE/C # 1/7; 12/34; 22/26	51%	#1/7 = -66.67% Negative #12/34 = 100% #22/26 = 100% TOTAL = 77.78%	+
	Effective: Use	% Coaches who use mental skills to enhance their coaching/life	SE/C # 1/7; 12/34	51%	#1/7 = -66.67% Negative #12/34 = 100% TOTAL = 66.67%	+
			OB/MC/INT	+Qa	Coaches all reported at least one area in life & coaching where they used mental skills to improve	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Coaches (cont'd)	Effective: Enhanced individual performance	Coaches: individual S-A improved performance	SE/C # 11/10	51%	#11/10 = -66.67% Negative	-
			Individual stats: -SE ~ 2003 v. 2004	SE↓ 03 v. 04	4 S-A: 2↓ / 2↑	0
			-SE ~ pre & post #11 Ed Session	SE↓ pre/ post #11	6 S-A: 4↓ / 2↑	+
			OB/MC/INT	+Qa	Coaches agreed that some individuals were helped	+
	Effective: Enhanced team performance	Coaches: overall team performance was improved	SE/C # 30/3; 8/17	51%	#30/3 = 66.67% #8/17 = 66.67% TOTAL = 66.67%	+
			Team Stats: -Pre-season v. Post season Rank	Pre/Post Season Rank ↑	Pre = 10/11 Post = 8/11 18% ↑	+
			-W-L record Overall (%); Conf (%) 2003 v. 2004	W-L Record ↑	2003: 13-14(.482); 7-5(.583) 2004: 13-16(.448); 7-9(.438)	-
			-National Rank* (*RPI/RKPI power-rating factored in)	National Rank ↑	Nat'l Rank improved 54 places: 17.76%↑	+
			Team Stats: -SE ~ 2003 v. 2004 SE Avg./Game ~ 2003 v. 2004	SE ↓ 03 v. 04	225 (04) – 96 (03) = +29 14.8%↑ SE Avg./Game = 7.4%↑	-
			-SE ~ Pre v. Post #11 Ed Session	SE↓ pre/ post #11	2.16 (Pre) -1.72 (Post) = 0.44↓ or 25.6%↓	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Coaches (cont'd)	Effective: Enhanced team performance (cont'd)	Coaches: overall team performance was improved (cont'd)	OB/MC/INT	+Qa	Coaches overall thought team performance was not positively impacted	-
	Effective: Mental toughness	Coaches perceive individual S-A enhanced mental toughness	MTQ/C	5%	11% ↑	+
			OB/MC/INT	+Qa	Coaches reported qualitatively that 7/13 improved mental toughness	+
	Efficient: Delivery	Ed sessions delivered in timely manner	EDS # 3, 4	80%	#3 – 4.8/5 = 96% #4 – 4.6/5 = 92% TOTAL = 94%	+
			SE/C # 6/24	51%	#6/24 = 100%	+
	Efficient: Flexibility	Ed sessions/MST did not interfere w/ coaches schedule; accommodated coaches schedules	SE/C # 14/16	51%	#14/16 = 100%	+
			OB/MC/INT	+Qa	Coaches agreed that MSTP & MST did not interfere w/ schedule	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Sport Psychologist (SP)	Efficient: Delivery	SP perceived MSTP was delivered timely	MC/INT	+Qa	SP perceived MSTP delivered in timely manner	+
	Effective Show AD (others) it enhances performance	Word of mouth by S-A & coaches (Endorsements)	MC/INT	+Qa	As of Fall 2005, there were no requests for mental skills training by the SP that could be *directly* related to the volleyball MSTP.	-
		Value: Material appropriate & worthwhile	MC/INT	+Qa	SP perceived material was appropriate to the situation & worthwhile for S-A	+
Mental Skills Trainer (MST)	Effective: Curriculum Delivery	Effectiveness of delivery	OB/MC/INT	+Qa	Learning, Application, & Use all showed increases quantitatively & qualitatively	+
	Effective: Cooperation	Cooperation of Coaches, SP	OB/MC/INT	+Qa	Cooperation from coaches, especially assistants mostly positive. Cooperation from SP extremely effective	+
	Efficient: Curriculum Delivery	Efficiency of delivery	OB/MC/INT	+Qa	Delivery was efficient & timely. Able to deliver in multitude of settings	+

Components	Goals	Operationalized Outcomes	Data Collection Format	Criteria	Findings	E
Mental Skills Trainer (MST) (Cont'd)	Efficient: Flexibility	Flexibility of curriculum Flexibility of scheduling	OB/MC/INT	+Qa	MST remained flexible w/ scheduling. Curriculum proved flexible & adjustable	+
Resources/ Budget & Materials	Efficient: Minimize costs	Minimum cost to athletic dept.	OB/MC	+Qa	There was no financial cost to Athletic Dept.	+
		Minimum cost to MST (costs ≤ $500)	OB	Receipts	Pizza's for Coaches ≤ $40 Teaching Supplies (rubber-bands, string, paper clips, handouts, …) ≤ $10 Books (22 x $11) = $242 Travel = $150± Total = $442±	+

Appendix P Totals (see next page)

Appendix P TOTALS: Program Evaluation Guide Matrix

Components		Program Goals	Evaluation Rating		
			# +	# -	Overall
Curriculum	Effective	Learning	12	0	+
		Value	3	0	+
		Applicable	2	0	+
		Organized	1	0	+
S-A	Effective	Learning	4	0	+
		Value	2	0	+
		Team Communication	1	2	-
		Team Chemistry	2	0	+
		Applicable	5	0	+
		Use	6	0	+
		↑ Individual Performance	2	0	+
		↑ Team Performance	3	4	-
		Mental Toughness	3	0	+
Coaches	Effective	Learning	5	0	+
		Value	3	0	+
		Team Communication	0	2	-
		Team Chemistry	0	2	-
		Applicable	1	0	+
		Use	2	0	+
		↑ Individual Performance	2	1	+
		↑ Team Performance	4	3	+
		Mental Toughness	2	0	+
SP	Effective	Show AD MSTP ↑ Performance	0	1	-
		Value	1	0	+
MST	Effective	Delivery	1	0	+
		Cooperation of Coaches/SP	1	0	+
Curriculum	Efficient	Timely	3	0	+
		Flexibility	3	0	+
Coaches	Efficient	Delivery	2	0	+
		Flexibility	2	0	+
SP	Efficient	Delivery	1	0	+
MST	Efficient	Delivery	1	0	+
		Flexibility	1	0	+
Resources	Efficient	Min cost to Ath. Dept.	1	0	+
		Min cost to MST	1	0	+
		TOTALS	83	15	84.69%+
		RESULT = Positive Program Evaluation			

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CURRICULUM VITA

EDUCATION:

- **Virginia Polytechnic Institute & State University** Blacksburg, Virginia
  Doctor of Philosophy: Education: Curriculum & Instruction
  Cognate: Sport Psychology
  Studies Commenced: August 2002
  ABD: December 2004
  Estimated Degree Conferral Date: December 2005
- **Regis University** Denver, Colorado
  Master of Arts in Liberal Studies: Psychology
  Graduation - May 1998
- **Purdue University** West Lafayette, Indiana
  Bachelor of Science Degree: Physical Education
  Minors: Health, Athletic Training, & Pre-Physical Therapy
  Graduation - May 1970

EXPERIENCE - PROFESSIONAL:

- **Jefferson College of Health Sciences** Roanoke, Virginia
  Assistant Professor: Humanities & Social Sciences - Psychology
  2002 > present
- **Reese Resolution Services** Roanoke, Virginia
  (Formerly Train Your Brain, Inc.)
  Co-Founder, Educator, Success Coach
  2002 > present
- **Train Your Brain, Inc.** Roanoke, Virginia
  Founder, Success Coach Colorado Springs, Colorado
  1996 > 2002 New York, New York
- **The Pacific Institute** Seattle, Washington
  Project Director, Master Facilitator
  National Campus Coordinator, Education Initiative
  1998 > 2002
- **New York Jets Football Club, Inc.** Hempstead, New York
  Head Athletic Trainer
  1977 > 1996
- **Buffalo Bills Football Club, Inc.** Orchard Park, New York
  Assistant Athletic Trainer
  1972 > 1977
- **Boston College** Chestnut Hill, Massachusetts
  Head Athletic Trainer
  1970 > 1972

CAREER HIGHLIGHTS, HONORS & AWARDS:

11/11/2005

EDUCATION

- Excellence in E-Teaching Award, Jefferson College of Health Sciences, Roanoke, VA
  - Distance Learning Teacher of the Year; nominated by students and chosen by an external independent judging body. 2003
  - Nominee: Excellence in E-Teaching. 2005
- Assisted in successful accreditation of first time Athletic Trainer Education Program for Jefferson College of Health Sciences, Roanoke, VA by the Certification Board of the National Athletic Trainer's Association. 2003

PERFORMANCE COACHING

- Success Coach, Adam Heidt. 1999-2004
  - USA Olympic Luge Team, Salt Lake City, UT.
    2002 Winter Olympics: In 2001, Heidt lost first place standing on USA Luge team and dropped from 9th to 17th place in World Cup standings. Intensive work 2 weeks prior to and during the Winter Olympics resulted in 4th place finish - highest ever by an American.

CORPORATE

- Corporate/Sales Turnarounds:
  - Korsnäs Paper Sack, Ltd., Northfleet, England: Intensive Vision/Team Building Seminar and 1:1 Coaching assisted in preventing Northfleet plant from shutting down. 2001
  - Qwest Communications, New York, NY: Seminar Series & 1:1 Coaching enabled Media Sales Group to show profitability for first time. Sales Manager promoted to Regional Director. 2000
- Retention Consultant:
  - Caliber Training Institute, New York, NY. Increased Student Retention 15%. 2001
  - Katharine Gibbs School, New York, NY. Increased Student Retention 10-12%. 1999 > 2001

SPORTS MEDICINE/ATHLETIC TRAINING

- Premier recipient of the *NFL Physicians Cain/Fain Memorial Outstanding Athletic Trainer of the Year*. 1996
- Charter recipient of the N.A.T.A. *Most Distinguished Athletic Trainer Award*. 1994
- New York Jets Recognition for *Special Merit: Dennis Byrd*. 1993
- Premier recipient of the *Ed Block Memorial Courage Award Professional Football Athletic Training Staff of the Year*. 1985
- Secretary, NFL Concussion Committee. 1994 > 1995
- Introduced EEG Biofeedback into NFL & NHL for diagnosis and treatment of concussions, and peak performance. 1994
- Professional Football Athletic Trainers Society (PFATS): Founding committee member, 1980; Secretary-Treasurer, 1983 > 1987; President, 1987 > 1989
- New York Jets, Hempstead, NY: Created, implemented, supervised and mentored NY Jets Student Trainer Internship Program. 1978 > 1995
- Jets Medical Records recommended as model by NFL Management Council. 1984
- Developed first NFL computerized Prescription Drug Inventory. 1982
- Initiated and directed first mass Pre-Draft Physical Screening of college players that led to creation of current NFL Combine physicals. NY Jets protocol for player medical history, history based pre-exam diagnostic x-rays/mri's, and Cybex protocols modeled and incorporated into Combine format. 1978 > 1986
- Committee Chair: First NFL League-wide injury survey. 1975 > 82

VOLUNTEER & SERVICE AFFILIATIONS:

MENTORING & CHARITABLE

- Police Activities League (PAL) Anti-Graffiti Initiative, Brooklyn, NY: taught semi-annual classes: *Self-Talk – Developing Self-Esteem, Responsibility and Accountability*. 1996 > 2000
- NFL Alumni: *Caring for Kids*. 1996 > 2003
- Mentor: Arthur Ashe Youth Mentoring Program. 1995 > 1998
- Marty Lyons Foundation, Advisor, Member, Suffolk County Chapter. 1993 > 2000
- United Way: New York Jets Kid's Day Football Camps: Volunteer. 1984 > 1990
- National Athletic Trainer's Association (NATA): Grants & Scholarship Committee. 1985 > 1989
- Professional Football Athletic Trainers Society (PFATS): Scholarship Committee. 1982 > 1989

EDUCATION

- Jefferson College of Health Sciences, Roanoke, VA
  - Faculty Senate Ad Hoc Committee on Faculty Promotion, Co-chair. 2004 > 2005
  - Advisory Board: Substance Abuse Studies, Bachelors of Health Science Program. 2003 > 2004.
  - Ad Hoc Committee on Faculty Workload: Chair. 2004
  - Acting Clinical Coordinator: Athletic Training Education Program. 2002 > 2003
  - Faculty Senate: Senator - Athletic Training Program 2002-04; Humanities 2004 > present.
  - Faculty Senate Subcommittee: Faculty Promotion Guidelines. 2005
  - Faculty Senate Subcommittee: Faculty Workload. 2002-03
  - Student & Faculty Retention Committee. 2002-03
  - Advisory Board: Athletic Training Education, Secretary. 2002 > 2004
  - STARS Program: Committee Member (Student *S*hort-*T*erm *A*cademic *R*eward*S* Program). 2003-04.
- Faculty: Carilion Leadership Institute, Roanoke, VA:
  - Facilitator: *Creating a Motivating Environment*. 2002 > present

PROFESSIONAL MEMBERSHIPS:

PSYCHOLOGY & EDUCATION RELATED

- International Enneagram Association (IEA). 2003 > present
- American Psychological Association (APA). 1995 > present
- Association for the Advancement of Applied Sport Psychology (AAASP). 1996 > present
- Association for Applied Psychophysiology and Biofeedback (AAPB). 1998 > 2000
- The National Federation of Neurolinguistic Psychology (NFNLP). 1998 > 2003
- International Society of Sports Psychology (ISSP). 1995 > 2000
- International Coach Federation (ICF). 1998 > 2002
- National Guild of Hypnotists (NGH). 1994 > present
- National Federation of Hypnotists. 1994 > 2000
- Virginia Hypnotherapy Association. 2002 > present
- Colorado Hypnotherapy Association. 2001
- New York State Hypnotherapy Association (NYSHA). 1993 > 2000
- Huntington Township Chamber of Commerce. 1998 > 2000

PROFESSIONAL MEMBERSHIPS (cont'd):

SPORTS MEDICINE/ATHLETIC TRAINING

- National Athletic Trainer's Association (NATA):

  - Certified Member: Certification # 000010123; Membership # 780823. 1971 > present
  - Chairman: Committee for Development of Guidelines for Corporate Sponsorship. 1990
  - Grants & Scholarship Committee. 1985 > 1989
- Certified Athletic Trainer, Commonwealth of Virginia, Board of Medicine. Certification # 0126000382. 2002 > present
- Virginia Athletic Trainers Association (VATA). 2002 > present
- McCue Society, University of Virginia, Charlottesville, VA. 2002 > 2004
- Colorado Athletic Trainers Association (CATA). 2001 > 2002
- Eastern Athletic Trainer's Association (EATA). 1970 > 2000
- New York State Athletic Trainer's Association (NYSATA). 1972 > 2000
  - Licensure Committee. 1979 > 1984
  - Chairman: Public Relations Committee. 1980 > 1984
  - Membership Committee. 1982 > 1984
- Professional Football Athletic Trainer's Society (PFATS). 1980 > 1996
  - Secretary, NFL Committee on Closed Head Injuries (Concussion). 1994 > 1996
  - President. 1987 > 1989
  - Secretary-Treasurer. 1983 > 1987
  - AFC Representative. 1980 > 1983
  - Liaison to Whitehall/Advil Group. 1986 > 1996
  - Liaison to the Ed Block Courage Award, Inc. 1987 > 1989
  - Chairman: Alumni Committee. 1989 > 1996
  - Member: Grants & Scholarships Committee. 1982 > 1989
- National Football League Athletic Trainer's Society (NFLATS). 1972 > 1980
  - Committee Chair: first NFL League-wide injury survey. 1975 > 1982
- National Strength & Conditioning Association (NSCA). 1985 > 1999
- American Trauma Society (ATS). 1984 > 1995
  - Board of Directors. 1984 > 1988
  - Advisory Board. 1988 > 1995
  - Liaison to NATA. 1985 > 1988
- Federation International Medicine du Sporte (FIMS). Honorary Member. 1982
- American College of Sports Medicine (ACSM). 1980 > 2000

RESEARCH INTERESTS

PSYCHOLOGY & EDUCATION:

- Performance:
  - Enhancing performance; peak performance
  - Leadership & motivation
  - Mental skills training/education
- Personality:
  - Personality and performance: Enneagram applications
  - The Enneagram: comparisons with current typing & trait systems
  - Limitations of current paradigms in personality ~ especially regarding change and creativity
- Teaching & Learning:
  - Curriculum & program evaluation
  - Course development ~ especially distance learning

CONTINUING EDUCATION:

EDUCATION & RESEARCH

- Matriculating Doctor of Philosophy, Liberal Arts & Human Sciences. Primary Major: EDCI - Curriculum & Instruction; Concentration - Psychology; Cognate - Sport Psychology. Virginia Polytechnic Institute and State University, Blacksburg, VA. 2002 > present

- ABD, Dec. 2004; 4.0 GPA

Coursework & Program of Study (all courses 3 cr. hr. unless otherwise noted):

- EDCI 7994: Research & Dissertation ~ *The Impact of a Mental Skills Training Program for Enhanced Performance on a Varsity Intercollegiate Volleyball Team: A Case Study Program Evaluation of an Educational Intervention*. (30 hrs.) FA-04, SP-05, FA-05
- EDRE 6794: Advanced Qualitative Research. FA-04
- EDCI 5584: Program & Product Evaluation. FA-04
- EDCI 5974: Independent Study – Advanced Instructional Design. FA-04
- EDRE 6614: Qualitative Methods in Educational Research. SP-04
- EDRE 6605-6: Quantitative Research Methods in Education I & II. FA-03, SP-04
- EDCI 5974: Independent Study – Behavioral Concepts (The Enneagram). FA-03
- EDCI 5974: Independent Study – Web Technology. FA-03
- EDRE 5404: Foundations of Educational Research & Evaluation. SU-03
- EDHL 5734: Health Behavior in Health Education. SP-03
- EDPE 5784: Seminar in Sport Psychology. SP-03
- EDCI 5164: Principals of Instructional Design. FA-02
- EDCI 5114: Educational Psychology – FA02
- EDHS 558: Motivation in Sport, University of Virginia, Charlottesville, VA. SU-02

- Virginia Polytechnic and State University Faculty Development Institute, Blacksburg, VA.
  - Advanced Qualitative Data Analysis with NVivo (Ross Perkins, 2 hr.) FA-05
  - Qualitative Data Analysis with NVivo (Ross Perkins, 2 hr.). SP-05
  - Acrobat 6.0: Enhancing PDF Files with Advanced Features (Rudy Picardo, 2 hr). SP-05
  - DreamWeaver MX - Part 2 & 3 (Self-paced online course). SP-05
  - EndNote: Managing Your Research Citations (Viki Kok, 2 hr.). SP-04
  - MS PowerPoint: Creating Presentations & Adding Multimedia (Shannon Philips, 2 hr.) SP-04
- Jefferson College of Health Sciences (JCHS) Faculty In-Services for Continuing Education (Roanoke, VA):
  - *On-Course Strategies for Student (and Faculty) Success* (J. Cusumano, PhD; D. Willeman, MS, 1 hr) 2005
  - *Profile of Today's College Student* (J. McNamara, DC, 1 hr.) 2005
  - *The Essentials of Learning: Practical Strategies for Teaching and Learning* (Peter Doolittle, PhD, 3 hr.) 2004
  - *Putting On Your Counseling Hat* (Barbara Awbry, 2 hr.) 2003
  - *Introduction to Evidence Based Practice* (Warren Clark, PhD, 1 hr.). 2003
  - *The Academic Advising Handbook* (1 hr.). 2003
  - *Developing an Effective Course Syllabus* (Mike Peters, MS, 1 hr.) 2003
  - *7 Principles of Learning* (Rebecca Clark, PhD, 1.5 hr). 2002
- Jefferson College of Health Sciences Distance-Learning Continuing Education (Roanoke, VA):
  - *Blackboard 6.0:Using Content Manager* (Bridget Moore, MA, 2 hr). 2005
  - *Blackboard 6.0:Using Assignment Manager* (Monica Thweatt, MS, 1.5 hr.) 2005
  - *Blackboard 6.0: Using Test & Pool Manager, & Gradebook* (Mark Raby, MS, 2 hr). 2005
  - *Using Online Tools to Create Interaction/Collaboration* (Mark Raby, MS, 2 hr). 2004
  - *Designing and Managing Online Discussions* (Mark Raby, MS, 2 hr). 2004
  - *Distance Learning Winter Workshop* (Bridget Moore, MA, 4 hr). 2002

CONTINUING EDUCATION (cont'd):

EDUCATION & RESEARCH (cont'd)

- JCHS Distance-Learning Continuing Education (cont'd):
  - *Creating and Managing Assessments in Blackboard* (Bridget Moore, MA, 1.5 hr.) 2002
  - *Blackboard Online Assessments Workshop* (Bridget Moore, MA, 1 hr.) 2002
- JCHS Distance-Learning Continuing Education (Roanoke, VA) (cont'd):
  - *Distance Learning Winter Seminar*. (Bridget Moore, MA, 2 hr). 2002

- Cortext Educational Seminars: *Clinical Aspects of Memory*. (1day) Seminar. Roanoke, VA. 2002
- Regis University Affiliate Faculty: Distance Learning - Masters in Liberal Sciences: Psychology. Denver, CO. Course/Curriculum Counselor (1 day) Course. 2001
- Community Colleges of Colorado: Certification: CCCOnLine Training for Distance Education, Adjunct Faculty (Psychology, Philosophy, Sociology, Ethics), (2 day). Aurora Campus, Denver, CO; Pikes Peak Campus (1 day), Colorado Springs, CO. Faculty. 2001
- National American University/TOIES: Certification: On-Line Faculty (Success Strategies, Psychology) (2 day) Training. Rapid City, SD. 2000

PSYCHOLOGY & RELATED

- Maintains necessary Continuing Education Units for certification:
  - International Enneagram Association (IEA). 2003 > present
  - National Guild of Hypnotists (NGH). 1994 > present
  - International Coach Federation (ICF). 1998 > 2002
  - EEG Biofeedback Certification (BCIA). 1997 > 2000
  - Peak Performance Specialist Certification - CPPS, (CIA). 1996 > 2000
- Seminars for Mental Health Professionals (Rick Glantz): *Sex, drugs & chocolate: The physiology and psychology of addiction*. (1 day / 6 hr. CEU), Roanoke, VA. 2005
- The International Enneagram Association 10th Anniversary Conference, Arlington, VA. 2004
  - Claudio Naranjo, MD. Workshop: *Exploration of Enneagram Subtypes* (16 hr. over 4 days)
  - Mathew Fox, Ph.D. Keynote: *Creativity, Original Blessing, and Our Holy Essence: Creation Spirituality Meets the Enneagram*. (1.5 hr.)
  - Jerry Wagner, Ph.D. Lecture: *Thinking Styles and Enneagram Styles*. (1.5 hr.)
  - Merri Monks, MA., & Debra Ooten, Ph.D. Workshop/Panel: *Finding the Great Reality Deep Within: The Enneagram and the Twelve Steps*. (1.5 hr.)
  - David Daniels, Ph.D. Lecture: *Anger in Our Lives and Relationships: Gateway to Heaven or Hell* (2 hr.)
- The Enneagram Institute (Russ Hudson): *Enneagram – Psychic Structures* (part of certification training) (3-day training). Stroudsburg, PA. 2003
- The Enneagram Wisdom Center (Russ Hudson): *The Enneagram and Business* (1 day workshop), New York, NY. 2003
- The Enneagram Wisdom Center (Russ Hudson): *The Enneagram and Relationships* (2 day seminar), New York, NY. 2003
- The Enneagram Institute (Don Riso & Russ Hudson): *Enneagram - Level 1 Training* for Certification (5-day training), Menlo Park, CA. 2003
- ChangeWorks Seminars (Thomas Condon): *Enneagram - Stress/Security Points & Wings*. (2 day seminar), Richmond, VA. 2003
- ChangeWorks Seminars (Thomas Condon): *The Dynamic Enneagram: Techniques for Clinical Treatment*. (2 day seminar), MAHEC-Bridge, Mental Health Continuing Education Program, Ashville, NC. 2003

CONTINUING EDUCATION (cont'd):

PSYCHOLOGY & RELATED (cont'd)

- 25th Annual Sport Psychology Conference, *Motivation in Sport*, 3 cr. hr. graduate level course, University of Virginia, Charlottesville, VA. 2002
- Regis University-Benet Pines Retreat Center: Certification - Spiritual Director: *Purpose, Ethics & Spirit* (2 yr./6 cr. hr ~ 1 yr. completed). Colorado Springs, CO. 2001-2002
- Carol Resolution Center & National Guild of Hypnotists: *Basic Hypnotherapy Certification Course* (120 hr.). Attended as student and curriculum consultant, Colorado Springs, Co. 2001

- Myers Briggs Personality Typing (1 day) Seminar, Benet Pines Retreat Center, Black Forest, CO. 2001
- Emotional Freedom Technique (EFT) (1 day) Training, New York, NY. 2001
- International Medical and Dental Association (IMDA). (3 day symposium), Pontiac, MI. 2001
- *Enneagram 1 – Personality Typing*, (2 day) Seminar, Benet Hill Center, Colorado Springs, CO. 2000
- Human Synergestics/Star Performance Group: *Leadership Impact – Measuring the Impact of Leaders on Organizational Performance.* (1 day) Seminar, Phoenix, AZ. 2000
- Life Symmetry, LLC: *Creative Intentions – Executive to Exemplar, Creating a Leadership Model.* (3 day) Seminar, Woodbridge, VA. 1999
- *Stress Management and Peak Performance Training for Athletes, Coaches, and Consultants.* (Wesley Sime, PhD). (4 hr. CEU course). Association For Applied Psychophysiology and Biofeedback 29th Annual Meeting, Orlando, FL. 1998
- The National Federation of Neurolinguistic Psychology: Basic Practitioner of NLP (4 day training), Nashua, NH. 1998
- Springfield College 14th Annual Conference on Counseling Athletes sponsored by Dept. of Psychology, (3 day) Seminar, Springfield, MA. 1997
- EEG Biofeedback Advanced Technician Training, Levels 2 & 3 (2 day intensive). Lexicor Medical Technologies, Boulder, CO. 1997
- 19th Annual Sport Psychology Conference, *The Psychology of Successful Coaching: Getting (and Keeping) the Mental Edge*, 3 cr. hr graduate level course, University of Virginia, Charlottesville, VA. 1996
- West Point Performance Enhancement Center: *Performance Enhancement Delivery Systems*, Externship (2 weeks). USMA, West Point, NY. 1996
- The Alexandria Institute: Certification as NeuroBioFeedback Technician Training (3 mos internship). Hastings-on-Hudson, NY. 1996
- Association for the Advancement of Applied Sport Psychology (AAASP) Annual Conference, Charlottesville, VA. Oct. 16-20, 1996
- Omega Institute: *Ericksonion Hypnosis, The Art of Unconscious Learning*; Mel Buckholtz, PhD, (5 day intensive) Woodstock, NY. 1994
- New York Institute of Hypnotherapy - Hypnotherapy Certification, (24 hr.). Brookville, NY. 1993

CORPORATE TRAINING & FACILITATING

- IBM Executive & Organization Development: *Coaching Leaders.* (½ day) Seminar. Armonk, NY. 1998
- The Pacific Institute Curriculums: Lou Tice, et al.; Institutional Application & Facilitator Training (Master Facilitator Status), Seattle, WA. 1998 > 2000
  - ⇒ *Imagine 21*
  - ⇒ *Inventing Your Future*
  - ⇒ *Investment in Excellence*
  - ⇒ *Thought Patterns for High Performance Organizations*
  - ⇒ *Thought Patterns for a Successful Career*
  - ⇒ *Purpose in Life: Ethics & Organizational Success*
- The Pacific Institute Project Director Academy (7 day) Intensive Training; Seattle, WA. 1998

CONTINUING EDUCATION (cont'd):

SPORTS MEDICINE & ATHLETIC TRAINING

- Maintains necessary Continuing Education Units for certification/licensure:
  - ⇒ National Athletic Trainers Association Board of Certification (NATABOC) - 1971 > present
  - ⇒ Commonwealth of Virginia Board of Medicine, Dept. of Health Professions: Athletic Trainer Certificate. 2002 > present
- Athletic Training Education: *A Colloquium of Ideas*, (1 day seminar) James Madison University, Harrisonburg, VA. 2003
- Providing Cultural Care of the Injured Person (Claudia Huddleston, 1 hr). Updates in Athletic Training Seminar, College of Health Sciences, Roanoke, VA. 2003

- Virginia Athletic Trainers Assoc. Annual Meeting & Symposium (2 day), Williamsburg, VA. 2003
- EDHS 557: *Art & Science of Athletic Training*, 3 cr. hr. graduate course, University of Virginia, Charlottesville, VA. SU-2002
- The Aromatherapy Series: Intermediate Level Training (Home study, 30 hr). Aromatherapy Seminars, Los Angeles, CA. 1994
- Aromatherapy Certification Course (Home study, 20 hr). American Instituter For Aromatherapy & Herbal Studies, Huntington, NY. 1993
- NY State Emergency Medical Technician, (99 hr.) Certification Course. Minelola, NY. 1979
- Continuing Educational Seminars including: NFL Physicians Society Conferences, NFL Drug & Alcohol Conferences, Dogwood Festivals – 1972 > 1995
- Eastern Athletic Trainer's Assoc. Annual Convention & Educational Symposium
  - Attended: 1971-1972, 1977-1981, 1983-1985, 1988-1990, 2001, 2002
- National Athletic Trainer's Assoc. Annual Convention & Educational Symposium:
  - Attended: 1968, 1970-80, 1982-1997, 1999-2000

EXPERIENCE:

HIGHER EDUCATION ~ TEACHING, FACILITATING, INSTRUCTING

- Jefferson College of Health Sciences (JCHS), Assistant Professor, Psychology (PSY); Athletic Training (ATH) Education Program. Roanoke, VA. 2002 > present
  - *(S-1 = Blackboard Assisted; D1 = Distance Learning ~ all courses 3 cr. hr. unless otherwise noted)*
  - PTA 221-S1 – Psychosocial Aspects of Therapy for the PTA (2 cr. hr.). FA-05
  - PSY 201-S1 - General Psychology. FA-04, FA-05
  - PSY 201-D1 - General Psychology. FA-02, SP-03, SP-04, SP-05
  - PSY 238-S1 - Developmental Psychology (4 cr. hr.). SP-04; FA-04; SP-05; FA-05
  - PSY 238-D1 - Developmental Psychology (4 cr. hr.). FA-03, SP-04; FA-04; SP-05; FA-05
  - PSY 204-S1 - Abnormal Psychology. SP-04; FA-04
  - PSY 204-D1 - Abnormal Psychology. SP-05
  - ATH 302 - Principles of AT II: Assessment of Athletic Injuries. SP-02, SP-03
  - ATH 312 - Practicum in AT II. SP-02, SP-03
  - ATH 322 - Chemistry & Physics for Athletic Trainers. SP-02, SP-03
  - ATH 401 - Principles of AT III: General Medical Considerations. FA-02, FA-03
  - ATH 412 - Practicum in AT IV. SP-03, SP-04
  - ATH 421 - Computer Applications in AT. FA-02, FA-03
  - ATH 422 - Concepts of Administration in AT. FA-02, FA-03
  - ATH 426 - Fieldwork in AT. FA-02, FA-03
  - ATH 485 - Professional Seminar in AT. SP-03, SP-04
- Lecturer: *Assessing Student Learning* – JCHS Fall Faculty Development, Roanoke, VA. FA- 2005

EXPERIENCE (cont'd):

HIGHER EDUCATION ~ TEACHING, FACILITATING, INSTRUCTING (cont'd)

- Panel Member: JCHS Summer Institute for New River Community College: Roundtable on Effective Practices in Distance Education. Roanoke Higher Education Center, Roanoke, VA. SU-2005
- Guest Facilitator: PHL 215-T1 Ethics and Legal Issues in Healthcare ~ 'Hot Topics' in Current Ethical Issues: *The use of performance enhancement in professional sports*. JCHS. SP- 2005
- Affiliate Faculty: Regis University, Denver, CO: Core Course Counselor & Curriculum Counselor, Distance Learning: Psychology (BA & MA programs). 2001 > present
- Adjunct Faculty, Caliber Training Institute, New York, NY. 2000 > 2001
  - PSYC 101 - Thought Patterns for Success. SU-00, FA-00, WI-01
- Adjunct Faculty, Katharine Gibbs School, New York, NY. 1999 > 2000
  - PSYC 101 - Essentials of Psychology. FA-99, WI-00

- PD 101 - Thought Patterns for a Successful Career. SP-99, SU-99, FA-99 (2 sections), WI-00, SP-00

- Faculty: College For Awareness Vocations, Colorado Springs, CO; Roanoke, VA: Curriculum Development; Certificate Programs in Coaching and Sports Hypnosis. 2001 > 2003
- Adjunct Faculty: Community Colleges of Colorado On-Line (CCCOES), Denver, CO: Psychology, Philosophy, Ethics, Sociology. 2001 > 2002
- Adjunct Faculty: National Guild of Hypnotists Annual International Educational Symposium & Convention, Nashua, NH. 1999 > 2005
- Facilitator: *Creating a Motivating Environment,* (1.5 hr.) Radford University, Radford, VA in conjunction with the Carilion Leadership Institute, Carilion Health System, Roanoke, VA. Presented at the Roanoke Higher Education Center, Roanoke, VA. 2004
- Lecturer: *Psychology of Rehabilitation*, Updates in Athletic Training Seminar (1 hr.), College of Health Sciences, Roanoke, VA 2003
- Guest Lecturer: Sports Performance Management Course; *Peak Performance - How Your Mind Works* (3 hr), University of Denver, Denver, CO. 2001
- Guest Lecturer: *Hypnosis as a Tool for Psychiatric Nurse-Practitioners* (3 hr), Molloy College, Rockville Ctr., NY. 1999
- Guest Lecturer: *Hypnosis and Peak Performance*, Course: *Hypnosis in Medicine*, NY Down-State Medical University, Brooklyn, NY. 1999
- Guest Lecturer: *Hypnosis as an Adjunct Medical Treatment*. (3 hr.), Department of Psychiatry, SUNY Health Science Center, Brooklyn, NY. 1999
- Premier Guest Lecturer: *Athletic Training & Chiropractic*, American Chiropractic Assoc. Student Council on Sports Injuries, New York Chiropractic College, Long Island, NY. 1979
- Guest Lecturer: *Athletic Training in the NFL*, Advanced Athletic Training Course, Brooklyn College, Brooklyn, NY. 1978 > 1984
- Guest Lecturer: *Sports Medicine in the NFL*, (1 hr.) Sports Medicine Class, St. John's University, Jamaica, NY. 1977 > 1981
- Facilitator: *Handling Holiday Stress*, Faculty Lunch & Learn Continuing Education Program (1 hr.), Jefferson College of Health Sciences, Roanoke, VA. 2004
- Facilitator: *Energy & Stress Management*, Faculty Lunch & Learn Continuing Education Program (1 hr.), Jefferson College of Health Sciences, Roanoke, VA. 2002
- Lecture: *Train Your Brain for Peak Performance*, (3 hr.) Open Seminar for Students. Quinipiac College, Hamden, CT. 1997
- Guest Lecturer: *Sports Medicine in Dance*, Art Dept. – Modern Dance Course. Columbia University, New York, NY. 1996

EXPERIENCE (cont'd):

HIGHER EDUCATION ~ TEACHING, FACILITATING, INSTRUCTING (cont'd)

- Guest Lecturer: *The 12 T's of Athletic Training*, NYU Sports Administration Course, New York University, New York, NY. 1986 > 1989
- Guest Lecturer: *Sports Medicine in the NFL*, Advanced Athletic Training Class, LIU-Rockland Campus, Rockland, NY. 1984 > 1986

CORPORATE TRAINING & FACILITATING

- Master Facilitator: The Pacific Institute Corporate Education Programs, Seattle, WA.
  - Co-Facilitator: *Imagine 21*, (Two 3 day Trainings); *Success Strategies for Effective Schools - Institutional Application*, (2 day) Facilitator Training. Denver Community College, Denver, CO. 2001-02
  - Facilitator: *Vision Building Pipeline*, (1day), Sanford Brown College, Hazelwood Campus, St. Louis, MO. 2002

- Facilitator: *Success Strategies for Effective Schools - Institutional Application*, (2 day) Facilitator Training; Indiana Business College(s), Indianapolis, IN. 2001
- Facilitator: *Imagine 21*, (3 day), and *Success Strategies for Effective Schools - Institutional Application*, (2 day) Facilitator Training; Caliber Training Institute, New York, NY. 2000
- Facilitator/Coach: Teambuilding and *Imagine 21* Phase I & II; (2 day), Leith Management Corp, Goldsboro, NC. 2000
- Facilitator: *Imagine 21*, (3 day), and *Success Strategies for Effective Schools - Institutional Application*, (2 day) Facilitator Training; Sanford Brown College, St. Louis, MO. 2000
- Facilitator: *Imagine 21* Phase I & II; (Two 2 day), Spectra Renal Management – East, Pearl River, NJ. 2000

- Master Facilitator: The Pacific Institute Corporate Education Programs, Seattle, WA (cont'd).
  - Facilitator/Coach: *Imagine 21* Phase I & II; (2 day), The Gartner Group, Stamford, CT. 2000
  - Facilitator & Co-Facilitator: *Investment In Excellence* Phase 1 & 2, (Eight 2 day); and *Success Strategies for Effective Schools - Institutional Application*, (Three 2 day) Facilitator Trainings, Katharine Gibbs Schools, Inc. New York, NY; Montclair, NJ; Piscataway, NJ. 1999, 2000
- Facilitator/Coach: *Train Your Brain: Strategies for Success*, Korsnäs Paper Sack, LTD., (2 day) Change Management & Sales Turnaround Seminar and 1:1 Coaching Northfleet, UK. 2001
- Facilitator: *Train Your Brain for Increasing Sales Performance*, (2 day) Seminar conducted at Qwest Communications, Media Group - Sales Professionals, New York, NY. 1999
- Facilitator: *Motivation for the Millennium*, (4 day) Sales Performance Seminar Series; Rockland Auto Plaza, Nyack, NY. 1996
- Advil Forum on Health Education - *Fitness Counts*; *Sports Sense*; and *Corporate Sports* programs, sponsored by American Home Products. (50 min presentations) Delivered to Corporations (6) in NY Metro Area, 1990

PROFESSIONAL ORGANIZATIONS

- Adjunct Faculty, National Guild of Hypnotists (NGH) International Seminar & Convention, Nashua, NH.
  - Co-Facilitator: *Introduction to The Enneagram*; (1 hr.) Seminar. 2003, 2004, 2005
  - Facilitator: *Sports Hypnosis Certification*, (20 hr.) Certificate Course. 2002, 2003, 2004, 2005
  - Facilitator: *Affirmation Workshop*; (2 hr.) Workshop. 2001, 2002, 2003, 2005
  - Facilitator: *Strategies for Success*, (1 day) Seminar. 2001
  - Facilitator: *Executive Coaching – Expand Your Practice*, (2 day) Seminar. 2000, 2001
  - Facilitator: *Hypnosis for Sports Peak Performance*, (2 hr.) Seminar. 2000, 2001
  - Facilitator: *Train Your Brain for Executive Coaching*, (1 day) Seminar. 1999

EXPERIENCE (cont'd):

PROFESSIONAL ORGANIZATIONS (cont'd)

- Guest Expert: Using Hypnotism to Enhance Sports and Athletic Performance, teleseminar in NGH Summer Series, (1 hr.). 2005
- Lecturer : *Obstacles to Motivation in Rehab*, Virginia Athletic Trainer's Association Annual Meeting & Clinical Symposium, Hospitality House Hotel, Williamsburg, VA. (1 hr.) Lecture. 2004
- Facilitator: *Motivating The Rehab Patient*, Virginia Physical Therapy Assistant's Association 20th Annual Conference, Wyndham Hotel, Roanoke, VA. (1 day) Seminar & Workshop. 2003
- Facilitator: *Creating a Motivating Environment*, (Quarterly Presentations; 1.5 hr.) Carilion Leadership Institute, Carilion Health System, Roanoke, VA. 2002 > present
- Lecturer: Eastern Athletic Trainers Assoc. Annual Convention and Symposium: *Motivation and Rehabilitation*, (1 hr.) Seminar. Hartford, CT. 2002
- Presenter: Connecticut Athletic Trainers Assoc. Annual Education Symposium: *The Psychology of Rehabilitation*, (1 hr.) Seminar. Hartford, CT. 2001
- Facilitator: Eastern Athletic Trainers Assoc. Annual Convention and Symposium: *The Psychology of Rehabilitation*, (½ day) Workshop. Providence, RI. 2001

- Instructor: *5 Essential Mental Skills for Performance Enhancement,* Duke University Men's Soccer Camp, (Three 1 hr.) Lectures. Durham, NC. 1999
- Instructor: *Alpha Brain-Wave Feedback for Peak Performance* at U.S.M.A. (1 day) Training, Center for Enhanced Performance, West Point, NY. 1998
- Lecturer: *Rehab of Concussions Using EEG-Biofeedback*, (1 hr.) Sports Related Concussions Symposium, Sports Rehab Network; Smithtown, NY. 1998
- Lecturer: Professional Football Athletic Trainers Society Annual Business Meeting, *Developing 'The Plan' - How to Cope After Job Loss,* (1hr.) Salt Lake City, Utah. 1997
- Lecturer: Springfield College 14th Annual Conference on Counseling Athletes sponsored by Dept. of Psychology, *So You Want To Work With the Pro's - Mental Skills Training in Professional Sports* (1½ hr.), and *Alpha Neurobiofeedback and Peak Performance Implications* (1½ hr.), Springfield, MA. 1997
- Lecturer: West Point Performance Enhancement Center, *Alpha Neurobiofeedback and Performance Enhancement Applications,* (2 hr.) USMA, West Point, NY. 1997
- Lecturer: Mid-Atlantic Athletic Trainers Assoc. Annual Scientific Symposium, *Closed Head Injuries (Mild Traumatic Brain Trauma); Evaluation and Treatment Concerns* (1 hr.), Charlotte, NC. 1996
- Keynote Speaker: *Evaluation and Care of the Injured Athlete; Integrating the Role of Coach, Athletic Trainer, and EMS,* (1 hr.) Syracuse, NY. 1992
- Lecturer: *Aggressive Sports Medicine*, Presentation at ACOSM-Illinois Chapter, University of Illinois Medical School, Urbana-Champaign, IL 1984
- Lecturer: The National Athletic Trainer's Association National Convention and Educational Symposium: *Athletic Training in Europe* (1 hr.), Nashville, TN. 1984
- Lecturer: Eastern Athletic Trainers' Association Annual Convention and Educational Symposium: *Treatment and Rehabilitation of Shoulder Injuries,* Grossinger's Resort, NY. 1981
- Johnson & Johnson sponsored Sports Medicine & Athletic Taping seminars in Europe (1979 > 82):
  - Participant: West German Olympic Figure Skating & Hockey Physio-therapists (3 hr.) Round-table Discussion on Sports Medicine, Munich, Germany. 1982
  - Demonstrator: Athletic Taping (Five 20 min. demonstrations/day – 4 days), *1982 World Kongress of Sports Medicine*, Vienna, Austria.1982
  - Instructor: Ankle, Knee, & Shoulder Taping (Two 2 day) Seminars. Göteberg, Sweden. 1982
  - Instructor: Ankle, Knee, & Shoulder Taping (Two 2 day) Seminars. Stockholm, Sweden. 1982
  - Instructor: Ankle, Knee, & Shoulder Taping (Two 2 day) Seminars. Helsinki, Finland. 1982

EXPERIENCE (cont'd):

PROFESSIONAL ORGANIZATIONS (cont'd)

- Johnson & Johnson sponsored Sports Medicine & Athletic Taping seminars in Europe (cont'd):
  - Instructor: Ankle & Knee Taping (1 day) Seminar, Bern, Switzerland. 1981
  - Instructor: Ankle & Knee Taping (1 day) Seminar, Lucern, Switzerland. 1981
  - Instructor: Ankle & Knee Taping (Two 1 day) Seminars, Lausanne, Switzerland. 1981
  - Instructor: Ankle & Knee Taping (1 day) Seminar, Vevey, Switzerland. 1981
  - Instructor: Ankle & Knee Taping (1 day) Seminar. Zurich, Switzerland. 1979
  - Instructor: Ankle & Knee Taping (1 day) Seminar, Bern, Switzerland. 1979
  - Instructor: Ankle & Knee Taping (1 day) Seminar, Lausanne, Switzerland. 1979
  - Instructor: Ankle & Knee Taping (Two 1 day) Seminar, Vevey, Switzerland. 1979
  - Lectures on Knee, Ankle, & Shoulder Treatment & Rehab (Three 3 hr.) seminars presented to international team physicians and athletic trainers/physio-therapists in conjunction with European Basketball Championships. Turino, Italy. 1979
- 1977-1996: Served as a speaker or lecturer to many schools, groups and organizations, including: American College of Sports Medicine, NY Chapter; Podiatry Society of NY; Chambers of Commerce; International Rotary; Nassau & Suffolk Counties: NY High School Coaches Athletic

Assoc.; EMS Program of NY State; Scholastic Coach Youth Football Clinics; American Red Cross Sports Injury Seminars;

NON-PROFESSIONAL GROUPS

- Guest: ESPN Outside The Lines ~ *Mental & Physical Challenges of 'Turf-Toe'*. Live Feed from JCHS, Roanoke, VA. 2002
- Guest: WDBJ-TV Channel 7 (CBS Affiliate), Roanoke, VA. *Olympic Experience and Mental Skills for Stress*. 2002
- Facilitator: *Handling Holiday Stress*, Open Seminar (2 hr.), Roanoke Higher Education Center, Roanoke, VA. 2002
- Guest: Cablevision Extra-Help Channel: *Job Search* – Interview segment: *How to Create Your Ideal Job*. Long Island, NY. 1998
- Regular guest on Cablevision Extra-Help Channel: *Active Life - Tennis*; and *Active Life - Nutrition*. Long Island, NY. 1995 > 2000
- Featured Guest: *The Trainer's Corner*. Weekly pre-game radio interview on injury status of NY Jets players. WNBC Radio, New York, NY. 1984-85
- Consultant: Regarding injuries and rehabilitation status for NY Jets Players to local and national media (print, radio, and TV). 1977-1996
- "CAREER DAYS" presentations at numerous Long Island, New York City, and Connecticut High Schools and Junior High Schools. 1977-1996

PERFORMANCE & SUCCESS COACHING

- Personal Executive/Success Coaching clients include executives, sales professionals, and on-air personalities: The Gartner Group, Korsnäs Paper Sacks, Ltd., Spectra East, Leith Management, Qwest Communications, ICON, American Airlines, AT&T Wireless, Banque Paribas, New York Jets, Metro-Call, Atlantic Marketing, CNN-SI, The Paxson Network, Rockland Auto Plaza, Denny's Restaurant's, Delta Sports & Fitness Club, and Stream, as well as numerous individual entrepreneurs, small business owners, lawyers, and health professionals. 1996 > present
- Sports peak performance clients are comprised of U.S. Olympic athletes, professional athletes (NFL, NHL, USTA, PGA, LPGA), amateur, college, high school athletes and coaches. 1996 > present
- Mental Skills Trainer: Virginia Tech Varsity Volleyball Team. 2004

EXPERIENCE (cont'd):

PERFORMANCE & SUCCESS COACHING

- Facilitator: *Develop the Winner's Mentality*, (2 day) Continuing Education Seminar for Sports Coaches, Jericho School District, Jericho, NY. 2000
- Facilitator: *Develop the Winner's Mentality – A Workshop for Coaches*, (1 day) Open Seminar for H.S. coaches, Colorado Springs, CO. 2000
- Facilitator: *Team Building for Directors*, (½ day) Seminar, Stage Directors & Choreographers Assoc., New York, NY. 2000
- Facilitator: *Train Your Brain for Success in Acting & Directing*, (2 day) Open Seminar, Association of Directors & Choreographers, New York, NY. 1999
- Co-Facilitator: *NLP for Actors & Directors*, (1 day) Seminar, NY Space, New York, NY. 1999.

CONSULTING

- **Reese Resolution Services/Train Your Brain**, **Inc.** , Roanoke, VA; Nashville, TN; Colorado Springs, CO; New York, NY. Founder: Success Coach. 1996 > present
  - ⇒ U.S. Olympic Luge Team, Salt Lake City, UT
    Success Coach, Adam Heidt, 1997 > present; Winter Olympics, 2002
  - ⇒ The Pacific Institute, Seattle, WA
    Project Director, National Campus Coordinator – Education Initiative. 2001 > present

- Korsnäs Paper Sack, LTD., Northfleet, England, UK.
  Consultant: Change Management & Sales Turn-around; 1:1 Coaching. 2001> present
- Gibbs Training & Consulting, New York, NY
  Master Coach (Coaching Coaches); Leadership, Teambuilding. 2000 > 2001
- Qwest Communications, New York, NY
  Consultant: Change Mgmt., Sales Performance, 1:1 Coaching. 1999 > 2000
- American Airlines, JFK Airport, Brooklyn, NY
  Consultant: Pre-Employment & Back to Work Evaluations. 1997 > 2000
- ICON™ CMT Corp., Weehawken, NJ
  Consultant: 1:1 Coaching, Team Building, Sales Performance. 1998- 1999
- INRTEK, Inc., Twinsboro, OH
  Consultant: Pre-employment & Back to Work Evaluations. 1997 > 2000
- Duke University Men's Soccer Team, Durham, NC
  Consultant: Peak Performance ~ International Men's Soccer Camp. 1999
- C.W. Post – Long Island University, Brookville, NY
  Consultant: Mental Skills & Peak Performance ~ Varsity Football Team. 1999
- WEVD News Talk Radio 1050, New York, NY
  Co-producer: *Your Personal Best*. 1999
  Writer/Host: *The Coaches Corner*. 1999
- EXECUTIVE COACHES – Official Coaches for the 21st Century, Dallas, TX
  Coaching Staff Member/Consultant. 1998 > 1999
- Lexicor Medical Technologies, Boulder, CO
  Consultant/Sports Liaison: Peak Performance Programs. 1997 > 2000
- Alexandria Institute, Hastings-on-Hudson, NY
  Consultant/ Professional Sports Liaison. 1995 > 1997
- Musculo-Skeletal Institute (MSI) of North Shore Hospital, East Meadow, NY
  Consultant/Sport Psychology Facilitator: "Total Golf Program". 1996 > 1999
- Buckskills Tennis Club, East Hampton, NY
  Consultant/Mental Skills Trainer. 1997 > 1999

EXPERIENCE (cont'd):

CONSULTING (cont'd)

- **The Pacific Institute**, Seattle, WA
  Project Director/Master Facilitator TPI Curriculums, Coach. 1998 > 2001
  - Leith Management Group, Goldsboro, NC
    Consultant: Facilitator, Coach. 2000 > 2001
  - Spectra East, Pearl River, NJ
    Consultant: Facilitator, Coach. 2000 > 2001
  - The Gartner Group, Stamford, CT
    Consultant: Facilitator, Coach. 2000
- **The Pacific Institute**, **Education Initiative**, Seattle, WA
  Master Facilitator; Retention Consultant. 2001 > 2002
- **The Pacific Institute**, **Education Initiative (cont'd)**
  National Campus Coordinator, Education Initiative. 2000 > 2002
  Retention Consultant; Master Facilitator, Coach. 1999 > 2002
  - Community College of Denver, Denver, CO
  - Indiana Business College, Indianapolis, IN
    Master Facilitator; Retention Consultant. 2001 > 2002
  - Caliber Training Institute, New York, NY
    Master Facilitator; Retention Consultant. 2000 > 2001
  - National American University, Rapid City, SD

Consultant: On-line/Distance Learning Program. 2000 > 2002

- Sanford Brown College, St. Louis, MO
  Master Facilitator. 2000
  Master Facilitator, Vision/Mission Pipeline. 2002
- Katharine Gibbs School, Inc., New York, NY
  Retention Consultant; Master Facilitator. 1999 > 2001
- Katharine Gibbs Schools, Inc., Montclair, NJ; Piscataway, NJ
  Co-Facilitator. 1999

- **New York Jets Football Club**, Hempstead, NY
  - Johnson & Johnson Athletic Products Division, New Brunswick, NJ
    Consultant: Products & Marketing. 1979 > 1996
  - Aroma Vera, Inc., Los Angeles, CA.
    Advisory Board. 1994 > 1997
  - Chattem, Inc., Chattanooga, TN
    Consultant: Products & Maketing. 1990 > 1996
  - Arthur Young Associates, New York, NY
    Advertising Consultant. 1988
  - NFL Properties, New York, NY
    Consultant: Products & Marketing. 1982 > 1996
  - Casco, Inc, Ft. Lauderdale, FL
    Consultant: Products & Marketing. 1979 > 1988
  - NOVA-TV
    Consultant and on-camera expert for hour-long program on *Concussions and Protective Headgear in Football*. 1977

EXPERIENCE (cont'd)

CURRICULUM DEVELOPMENT

- Curricula in Development:
  - Conversion of Sports Hypnosis Certification Course – NGH/CFAV to partial distance learning format. FA-06
  - Curriculum for *Mental Skills Training*, an on-line/distance learning course for Certification and/or College credit (3 hr.). College For Awareness Vocations, Roanoke, VA, and Jefferson College of Health Sciences, Roanoke, VA. For 2005-06
  - Curriculum for *Mental Skills Training*, a self-contained interactive two-tier course for CEUs and Specialization Designation for Allied Health Professionals. College For Awareness Vocations, Roanoke, VA. For 2006
- Curricula Developed for Jefferson College of Health Sciences, Roanoke, VA:
  (*D1 = Distance Learning*; *S1 = On-ground Blackboard Assisted*)
  - PSY 201 S1/D1 (3 cr. hr.) *General Psychology.* Redevelopment to include and enhance student success and retention. 2005
- Curricula Developed for Jefferson College of Health Sciences, Roanoke, VA (cont'd):
  - PTA 221-S1 (2 cr. hr.), *Psychosocial Aspects of Therapy for the PTA*. 2005
  - PSY 204-D1 (3 cr. hr.), *Abnormal Psychology*. 2004
  - PSY 201-S1 (3 cr. hr.), *General Psychology*. 2004
  - Emergency Medical Services Program, *Effective Mentoring for Preceptors*. Voice-over PowerPoint distance learning course. 2004
  - PSY 204-S1 (3 cr. hr.), *Abnormal Psychology*. 2004
  - PSY 238-S1 (4 cr. hr.), *Developmental Psychology*. 2004

- PSY 238-D1 (4 cr. hr.), *Developmental Psychology.* 2003
- PSY 201-D1 (3 cr. hr.), *General Psychology.* 2002
- ATH 401 & 401Lab (3 cr. hr.), *Principles of Athletic Training III – General Medical Considerations.* 2002
- ATH 421-S1 (3 cr. hr.), *Computer Application for Athletic Training.* 2002
- ATH 422 (3 cr. hr.), *Concepts of Administration in Athletic Training.* 2002
- ATH 401 & 401 Lab (3 cr. hr.), *Principles of Athletic Training III – General Medical Considerations.* 2002
- ATH 302 & 302 Lab (3 cr. hr.), *Principles of Athletic Training II – Assessment of Athletic Injuries.* 2002
- ATH 322 & 322 Lab (3 cr. hr.), *Principles of Chemistry and Physics in Athletic Training.* 2002
- ATH 485 (3 cr. hr.), *Seminar in Athletic Training.* 2002

- Curricula Developed ~ Miscellaneous
  - *The Winner's Mentality Mental Skills Training Package ~ Specific curriculum adaptation for the Virginia Tech 2004 Volleyball Team* (12 hr. Educational Intervention). EDCI 5974: Independent Study – Instructional & Curriculum Design, Virginia Polytechnic Institute and State University, Blacksburg, VA. FA-2004
  - *Creating a Motivating Environment*, (1.5 hr. Continuing Ed. Seminar Series) Carilion Leadership Institute, Roanoke, VA. 2003
  - *Coaching Certificate Program*, (100 hr Continuing Ed.) College For Awareness Vocations, Colorado Springs, CO; Roanoke VA. 2001
  - *Sports Hypnotist Certification Course*, (20 hr. Continuing Ed.) College For Awareness Vocations, Roanoke, VA, and National Guild of Hypnotists, Nashua, NH. 2001
  - *The Psychology of Healing* & *The Psychology of Rehabilitation* allied health seminar series (1 & 2 day formats). 1999

EXPERIENCE (cont'd)

CURRICULUM DEVELOPMENT (cont'd)

- Curricula Developed ~ Miscellaneous (cont'd)
  - *Winner's Mentality* (formerly *Train Your Brain*) corporate success seminar series (½ day; 1, 2, & 3 day formats). 1998
- Curriculum Consultant:
  - The Pacific Institute and National American University/TOIES on development of The Pacific Institute's *Thought Patterns for Success* on-line course (3 cr. hr.), Seattle, WA, Ft. Lauderdale, FL & Rapid City, SD. 1999 > 2001
  - Advil Forum on Health Education - *Sports Sense* program, sponsored by American Home Products, New York, NY. 1990

PUBLICATIONS

Reese, B. (2005). *Develop the winner's mentality: 5 essential mental skills for enduring success*. Philadelphia, PA: Xlibris.

Reese, B. (2004). Sports and hypnosis. In D.F. Damon (Ed.), *The official consumer guide to hypnosis* (p. 61-62). Merrimack, NH: National Guild of Hypnotists.

Reese, B. (2003). *The enneagram: personality and behavior*. Unpublished paper in partial requirement of Ph.D. EDCI 5974: Independent Study – Behavioral Concepts (The Enneagram). Blacksburg, VA: Virginia Tech.

Reese, B. (1997 > 2002). *Win-men news* (formerly *The Brain Train)* Author, editor. Weekly inspirational e-newsletter <www.reeseresolution.com>.

Reese, B. (1997 > present). *Jets confidential: Ask the trainer*. Newspaper column/interview focused on current sports medicine and sport psychology aspects of the New York Jets, LI, NY: Jets Confidential, Inc.

Reese, **B.** (1999) *Your personal best*, Co-producer. Weekly radio program directed toward physical, emotional, spiritual and intellectual personal best. WEVD Radio, New York, NY.

Reese, B. (1999) *Coaches corner*, segment host/writer on *Your personal best*, WEVD Radio, New York, NY.

Reese, B. (1997). *Train your brain … and develop the winner's mentality: 5 essential mental skills for causing enduring success*. Curriculum and facilitation guide for personal and organizational growth, development and change navigation. Northport, NY: Pyramid Peak Performance Press.

Reese, B. (1997). *Motivation for the millennium: Certification – mental skills trainer: Companion to lecture series*. Unpublished Masters Project, Regis University. Denver CO: Regis University Press.

Reese, B. (1996 > 1998). *JOCK DOC*, weekly column on Sports Medicine/Sport Psychology on Internet, *SportsFan-on-Line*, a division of the Sports Fan Radio Network, New York.

Reese, B. (1997 > 1998) *The war room: Scouting player personnel through free agency and the draft*. Weekly football personnel e-zine, correspondent and columnist. Phoenix, AZ: War Room, LLC.

Reese, B. (1996). A case involving hypnosis/guided imagery as an adjunct treatment of a fractured wrist", *Athletic therapy today*, Vol. 1, No. 5, 18-20, September 1996

Reese, B., Conway, D.P., Hershman, E.B., and Patten, J. (1996). Anterior/posterior tib-fib ligament sprains in the NFL. Paper presented at the annual meeting of the *American College of Sports Medicine NFL Team Physicians and Athletic Trainers Scientific Meeting*, Indianapolis, IN. Feb. 1996

Reese, R., Burruss, T.P., Patten, J., and Conway, D.P. (1995). Chapter 12: Shoulder equipment; Chapter 20: The elbow, athletic taping and protective equipment; and Chapter 29: Wrist and hand, athletic taping and protective equipment, in *The upper extremity in sports medicine* (2nd Ed); Nicholas, J.A. and Hershman, E.B. (Eds). St. Louis, MO: C.V. Mosby.

Reese, R., Burruss, T.P., and Patten, J. (1994). Chapter 9: Athletic training techniques, *The lower extremity and spine in sports medicine* (2nd Ed); Nicholas, J.A. and Hershman, E.B. (Eds). St. Louis, MO: C.V. Mosby.

PUBLICATIONS (cont'd)

Reese, R., Burruss, T.P., and Patten, J. (1990). Chapter 12: Shoulder equipment; Chapter 20: The elbow, athletic taping and protective equipment; and Chapter 29: Wrist and hand, athletic taping and protective equipment, in *The upper extremity in sports medicine*; Nicholas, J.A. and Hershman, E.B. (Eds). St. Louis, MO: C.V. Mosby

Reese, R., Burruss, T.P. (1985). Chapter 9: Athletic training techniques, in *The lower extremity and spine in sports medicine*; Nicholas, J.A. and Hershman, E.B. (Eds). St. Louis, MO: C.V. Mosby.

Reese, B., Murry, J. (1982). New York Jets strength testing program, *National Strength and Conditioning Association Journal*; February-March, 1982.

Nicholas, J.A., Gliem, G.W., Nordeen-Snyder, B.A., **Reese, R.** (1980). On the probability of injury in professional football players: A model of discriminant analysis. Paper presented at annual meeting of *American orthopedic surgeons society of sports medicine* at Big Sky, Montana, July 1980.