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The Coach Education Internship Experience: An Exploratory Study

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Abstract

Little is known about the nature of the academically structured student coach internship. This study provided a preliminary exploration of the internship experience in the university setting from the student coach perspective. Student coach internship experiences were found to vary widely both in terms of opportunities to coach and in the nature of the academic supervision received. While the majority of students felt their internships were a positive experience that prepared them for a career in coaching, a small percentage of participants reported that they had few opportunities to perform coaching actions, highlighting the lack of consistency in coaching education internship experiences. Recommendations for coaching educators and future researchers are explored.

Key words: internship, coach development, professional preparation, novice, student coach

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Introduction

With nearly 7.3 million participants in scholastic sport (National Federation of State High School Associations, 2007), approximately another 50 million children in non-school organized athletics in the United States (U.S.; Sporting Gods Manufacturing Association, 2007) and even more in youth sport, it is no surprise that coaching education is a growing area of interest in sport science research (Gilbert & Trudel, 1999).

Currently, coaching education varies widely within the U.S. (NASPE, 2008). However, the profession of coaching has great potential for growth and the standards for coach training have evolved with the publication of the original and second edition of the National Standards for Sport Coaches (NSSC) (NASPE, 1995; 2006), which standardizes skills and knowledge expected of coaches at various levels of competition. The National Council for Accreditation of Coaching Education (NCACE) uses the NSSC to accredit coaching education programs in the U.S. The National Association for Sport and Physical Education (NASPE) and NCACE, along with several key sports institutions and organizations, advocate for coach education programs to adopt the NSSC and seek accreditation to help enhance the professionalization of the field (NASPE, 2008). Currently, there are 13 organizations (academic and nonacademic based) that have been confirmed as accredited coaching education programs under the NSSC (NCACE, 2009).

Among the standards of the NSSC (NASPE, 2006), evaluation (domain 8) has been recognized as an important component within the coaching field in order to continue to develop coaching education programs and ensure quality training of pre-professional student coaches. However, under the current standards, the evaluation guidance outlined in domain 8 focuses on systematic program evaluation for goal achievement and athlete progress. Currently, the standards do not address or provide guidelines for the programmatic development of novice coaches in an internship based experience beyond the recommendation that coaches should gain practical experience.

Internships are not new in pre-professional academic preparation. The experiential learning that takes place during internship has been documented in both business and academics (Moorman, 2004) and is thought to be one of the most critical components of professional preparation (Stratta, 2004). The internship experience is likely the first time the pre-professional is exposed to the actual work environment, giving the student a chance to develop a realistic perception of the profession. As such, it plays a key role in professional development.

Sport is unique in that pre-professional student coaches have typically had a lengthy exposure to their future work environment; however, they have often only experienced it as an athlete. This is similar to pre-professional teachers who have spent years on the student side of the desk; yet know little about the actual demands or duties of the teacher. This makes the internship opportunity a valuable experience for the student to understand the nature of their

chosen career from a different perspective. Traditionally, assistant coach positions have served as informal job training. However, the move towards higher professional standards (e.g., NASPE, 2006) and the growth in academically based programs has created more structured educational and internship experiences for future coaches.

The existing student teacher model provides a useful framework for looking at the student coach internship education model. Teacher education has a long history of integrating the experienced to novice relationships in the student teaching experience (Bradbury & Koballa, 2008). In an attempt to offer a similar experience, many sport coaching education programs have adopted an internship experience as part of the curriculum (Smith, 2008), with the purpose of providing a realistic picture of the coaching profession and responsibilities. Central to the internship is the experienced to novice relationship, in which the experienced coaches are in a significant position to impact the development and coaching philosophies of the novice or student coaches. The internship and the experienced to novice relationship are especially important given the unique position that coaches hold within the athletic environment, in which they are often viewed by their athletes as a mentor, parental figure, or close friend whose judgments are often trusted and respected (Dieffenbach, Gould, & Moffett, 2002; Jowett & Cockerill, 2003).

Because a coach has many roles and responsibilities, including working with novice coaches, the preparation and training of qualified coaches has become a topic of concern and great importance, especially given that studies indicate only a very small percentage of U.S. coaches receive formal training or coaching education (Gould, Giannini, Krane & Hodge, 1990). Furthermore, a sample of high school athletic directors did not fully agree that the current education system adequately prepares coaches for the profession or most of the challenges associated with coaching (Collins & Medbery, 2008). On the other hand, researchers and practitioners alike can be encouraged that when coaches do receive education materials, they report increased efficacy for using that information in their coaching (Malete & Feltz, 2000). In addition, Campbell and Sullivan (2005) found a significant increase in coaches' confidence related to motivation, strategy, technique, and character building after taking the National Coaching Certification Program's (NCCP) theory course on coaching efficacy of novice coaches. Coaching education appears to be an important source of coaching efficacy. In order to continue to strengthen coach education, and perhaps coaching efficacy, we must first understand the knowledge and experience gained by student coaches in current educational systems, particularly during internship experiences.

Louis (1980) cautions that many new professionals have unrealistic expectations of their new career, which can produce a great deal of stress and dissatisfaction. Previous research indicates that role clarity and task identity in professional settings is related to motivation and commitment to the profession (Holton & Russell, 1999). A student internship can alleviate some

of the misconceptions prior to entering the profession and can provide the pre-professional with a clear picture of the tasks and responsibilities associated with the job. Holton (1996) suggested that the internship experience provides students with an opportunity to apply previously learned knowledge and skills to an actual work experience (work savvy), to understand specific duties related to the job (task knowledge), and to perceive skills necessary for doing the job effectively (knowledge of skills and abilities).

Student coaches learn in a variety of ways and the internship experience has the potential to maximize student coach knowledge. For example, learning through experience and other coaches have consistently been identified as important components in gaining coaching knowledge (Cushion, Armour, & Jones, 2003; Erickson, Bruner, MacDonald, & Côté, 2008; Gould, Giannini, Krane, & Hodge, 1990; Lemyre, Trudel, & Durand-Bush, 2007; Reade, Rodgers, & Hall, 2008). Also identified as a frequent learning tool is reflection, in which experiences are transformed into knowledge by consistently monitoring and evaluating oneself in terms of behavior, decisions, and strategies (Gilbert & Trudel, 2005; Irwin, Hanton, & Kerwin, 2004; Martens, 1997; Nelson, Cushion, & Potrac, 2006). Therefore, the internship experience has the potential to prompt student coaches to engaging in using a variety of learning tools which nurture critical inquiry, knowledge, and development.

Ideally, students enrolled in an internship are supervised by a qualified person with experience in the profession. The purpose of this relationship is to allow the student maximum experience opportunities, while still ensuring guidance and self awareness of their development. In the case of the coaching internship, this guidance by a qualified person also allows the pre-professional exposure to the training environment while minimizing risk to the athletes involved. However, because a formal standardized student coach internship model does not exist and there are no set guidelines for the experience, there is likely to be a great deal of variability in what the students actually experience. This variability in the student coach internship model is important to highlight. According to guidelines for NCACE accreditation, appropriate practical experiences are expected to be included as an integral part of program content (NCACE, 2006). Unfortunately, neither the standards nor the accrediting body provide clear guidelines with regard to what form these internships should take. In addition, criteria have not been clearly identified as to what constitutes a qualified or experienced mentor coach during student coach internships. Therefore, as an initial step in the evaluation process, it is important to first understand the academically based internship experiences, as well as the variation in experiences, within university coaching education programs. The purpose of the present study is to complete a preliminary examination of internship experiences in coaching education programs in the university setting. The exploratory nature of the study will allow the researchers to present descriptive, inferential, and qualitative results.

Methods

Participants

Fifty three students ranging in age from 20 to 41 years participated in this study, including 39 males and 14 females. Participants included students enrolled in collegiate coaching degree programs at three different Midwestern universities and who were completing or had already completed a required semester long coaching internship. The majority of the participants (62%) were Caucasian, while 23% identified as African-American, 9% as Hispanic, and 4% as Asian. Twelve of the students reported they were pursuing a graduate coaching degree (36 hours of graduate coursework required for graduation) and the other 39 indicated they were completing undergraduate coaching programs (128 undergraduate hours required for graduation).

Instrumentation

The researchers reviewed the sport and coach education literature (e.g. Cassidy, Jones, & Potrac, 2009; Gilbert, 2002; Stratta, 2004,), the NSSC (NASPE, 2006), and the Coaching Efficacy Scale created by Myers, Wolfe, and Feltz (2005), to aid in the construction of the Coaching Internship Experience Survey (CIES). The CIES was designed to assess the nature and satisfaction with academic based coaching internship experiences of student coaches was created. A panel of three coaching education professionals reviewed the CIES and revised it to reflect the key research questions.

The CIES created for this study (see Appendix A) was comprised of five sections and utilized both Likert scale (1 = strongly agree to 5 = strongly disagree) and open ended questions to explore the student's coaching internship experience. Section one of the CIES, "Demographics", looked at general variables such as age, gender, academic program information, certification, and coaching aspirations. The second section, "Student Coach Internship Experience" explored the demographic nature of the internship experience that the student had just completed and included information such as the sport and team they had worked with during their program. Section three, "Academic Preparation and Guidance for Coaching Internship" explored the academic requirements related to their degree and internship (e.g. credits earned and nature of academic supervision) as well as the student's experience and satisfaction with the internship from both the coaching and the academic support and preparation perspective. For example, students were asked to respond on a Likert scale (1 = Strongly Agree to 5 = Strongly Disagree) to statements such as "My academic coursework completely prepared me for my internship." Section four, "Student Coach Internship Opportunities", was designed to explore the coaching duties that the student coach was exposed to during his or her internship. This section was based on the Coaching

Efficacy Scale (Myers et al., 2005) and was modified to reflect coaching based actions and activities the students may have been allowed to perform during their internship. The student coaches were asked to respond to a list of statements all starting with "I always had the opportunity to" and response choices ranged from strongly disagree (5) to strongly agree (1). The final section, "Perceptions Regarding Preparation to Coach", asked participants to assess how helpful they felt their internship experience was in their preparation for becoming a coach. Open-ended questions, such as "if you could make changes to the coaching internship program, what would they be?" and "what are the three most important things you learned through your internship experience?" were asked in this section.

An online survey methodology was chosen as the most effective way to collect data, as it is common for students to do internship experiences away from campus. An online data collection tool allowed students to complete and return the survey in an anonymous fashion regardless of where they were completing their internship experience. No IP addresses, program information or other identifying information was collected from the participants. Students did not receive any compensation for completing the survey nor were there any penalties for choosing not to participate. All data was maintained on a secure computer.

Data Collection

Approval by the Human Subjects Protection Review Committee was received prior to data collection. Participants were recruited from three university academic programs offering academic coaching education bachelor and/or master's degrees. Approximately ninety students currently completing or who had recently completed an academic coaching internship class were contacted via email. The email contained study information, an assurance of study confidentiality and a link to an online secure survey site. The introductory page of the survey contained study investigator contact information, human subjects approval, and study details. Participants were invited to click to enter the survey as a means of providing their consent to participate. Follow up emails to request participation were re-sent to all potential participants one and two weeks following the original survey participation request.

Results

Career Aspirations

The majority of the participants from this study aspired to coach at the high school level (58.5%) after the completion of their degree, while 30.2% were aiming for collegiate coaching

positions. Only a small number of students were aiming for elite/professional coaching (5.7%). One student each indicated they were either planning to coach at the club level, do personal training, or not coach at all upon the completion of their degree. Most participants were hoping to go into a head (37.7%) or assistant position (34.0%). Other student interests included starting as a specialty positions coach (15.1%) or as a strength and conditioning coach within an athletic program (5.7%).

By the time they reach the peak of their career, the majority hope to be coaching at the collegiate level (51.9%), while another 23.1% hoped to be at the high school level at the peak point in their career. Additionally 19.2% indicated they hoped to be at the elite/professional sport level when they reached the peak of their career. Interestingly, not all students aspired to be head coaches. While the majority (80.8%) wanted to be head coaches at the peak of their career, another 9.6% indicated they aspired to be an assistant coach or a specialty/ position coach at the top of their career. Further, one individual expressed an aspiration to be an athletic director.

Student Coach Internship Experience

Student coaches interned across a wide range of sports, with the highest numbers (73.6%) working with team-based ball sports including baseball, basketball, football, lacrosse, soccer, softball, and volleyball. The remaining students (26.4%) interned with diving, personal training, strength and conditioning, swimming, wrestling, cross country/track and field. By far the most popular sports for internships were football (20.7%), basketball (18.9%), and baseball (17%). The remaining sports had between one to four coach interns. Sixty percent of the participants (60.4%) had been a competitive athlete in the sport with which they did their internship, with most having participated at the high school level (37.8%) or higher (college or professional, 43.2%). The majority of the student coaches worked with male athletes (53.1%), while 20.4% worked with female athletes and 26.4% worked in a co-ed sport environment. Most of the participants (54.9%) expressed an interest in continuing to work with their internship team once their academic semester was over.

Most of the students indicated they were in an assistant type role with a team for their internship, however, four individuals said they were head coaches for their internship. The students in assistant roles had job titles including assistant coach, helper/team aid, position/specialty coach, strength and conditioning intern, video person and camp counselor.

Students gained access to their internship experience through a variety of avenues. Many students (30.6%) had been an athlete with the team/coach they interned with or set up their internship with a coach they knew or had worked with prior to doing their internship (22.4% and 12.2% respectively). Another 14.3% of the students indicated they had set up their internship with a coach they did not know prior to doing their internship. Only one participant was placed in an internship by their academic department.

Academic Preparation and Guidance for Coaching Internship

In their internship experience, students earned a range of one to twelve collegiate credits (M = 5, SD =3.34). Time spent weekly at their internship ranged from five to more than thirty hours. The greatest number of students (30.3%) indicated they spent 10-20 hours per week with their team. Another 24.6% of the student coaches spent 20-30 hours with their team, 22.6% indicated they spent more than 30 hours a week with their team, and only 15.1% spent less than 10 hours a week with their team.

Most students felt their academic coursework had prepared them for their internship (74.5%), with less than 10% disagreeing. Specific to the academic instructor for their internship, 66.7% of the students felt that their professor/advisor had helped them bridge the gap between classroom knowledge and their internship experience while 7.8% felt this person had not been helpful. The internship class itself was reported as being extremely useful by 53.2% of the participants, while 14.9% either disagreed or strongly disagreed.

Table 1. Internship Class Format

	% of Participants
Met with instructor a few times across the semester but no required class meeting	18.9
No required class meeting or individual meetings	17.0
Only had to meet with the instructor at the start and end of the semester	13.2
Met regularly as a class to discuss internship experience, and meet one on one with instructor	9.4
Only met with the instructor at the start of the semester to set up the internship	7.5
Once I completed the paperwork necessary to do the internship, there were no meetings as a class or with the instructor	7.5
Met as a class only a few times during the semester	5.7
Met regularly with my instructor across the semester but no required class	5.7
Met regularly as a class to discuss internship experience, but not required to meet one on one with instructor	3.8
Only had to meet with the instructor at the end of the semester	1.9
We only met as a class at the start and end of the internship	1.9

Student coaches were asked to indicate which class program structure description best met their recent internship class experience. The academic structure for the internship experience varied widely across participants. Many of the participants (18.9%) never met in a class setting, but rather had spread out, individual meetings with their instructor. Seventeen percent of the participants reported that they had neither the formal class meeting or required one on one meeting with the instructor. Table 1 provides an overview of the different internship class designs

for the study participants.

In addition to pursuing an academic degree in the field of coaching, many participants also held certifications from nationally accrediting sport or related safety organizations. The majority of the participants (92.5%) were first aid certified by an organization such as American Red Cross or the American Heart Association. Eighty-one percent were CPR certified and only 54.7% held the AED certification. Interestingly, only 26.4% of the participants held the more specific sport first aid certification and only 9.4% had the sport safety training designation. In addition to health and safety training, many of the participants also held certifications from national accreditation organizations that related to program management, personal training/group fitness instruction, or water safety. Only 7.5% held any type of sport specific coach certification or accreditation such as those offered by USA Soccer or USA Track and Field.

Student Coach Internship Opportunities

In exploring the internship experience itself, 83.7% of the participants agreed or strongly agreed with the statement "I always received guidance from the coach that I worked with during my internship". Another 8.2% of the interns were neutral and 8.2% strongly disagreed. When asked whether they were mentored by the head coach regarding ethical decisions, 73.5% felt that the head coach had done this, while 10.2% felt they had not done this. Not surprisingly, 77.5% of the participants agreed or strongly agreed with the statement "After I complete my internship, I will always contact the coach I did my internship with when I need coaching guidance", while 2% disagreed and 8.2% strongly disagreed with this statement. To the statement "the internship completely prepared me for coaching", most participants agreed (41.3%) or strongly agreed (34.8%). Eleven percent indicated a neutral position and 13.1% disagreed.

Table 2 provides an overview of responses to the Student Coach Internship Opportunities survey section that was based on the Coaching Efficacy Scale (Myers et al., 2005) designed to look at student coach exposure to coaching actions and activities during their internship. Across all the coaching opportunities, the majority of student participants indicated that they felt they were given opportunities to 'coach' during their internship experience. The coaching behavior areas that the students were least likely to report gaining experience were discouraging fair play (38% reporting they disagree or strongly disagree that they had the opportunity to discourage fair play), creating a team line up (32%), coaching in a losing situation (28%), coaching in a close or tight game situation (28%) and imposing penalties or punishments (25%). The coaching behaviors that they reported strongly agreeing or agreeing that they always had the opportunity to perform were talking about sportsmanship (87%), correcting technique errors (84%), encouraging athletes to maintain a positive attitude (84%), making confidence boosting statements to athletes

(83%), providing motivational statements to individuals (83%) and building self esteem in athletes (82%).

Table 2. Reported Internship Coaching Responsibility Opportunities

I always had the opportunity to	Percent of Students	
	disagreed or strongly disagreed	agreed or strongly agreed
Discourage fair play	38%	47%
Create the team line up	32%	45%
Coaching in a losing situation	28%	56%
Coach in a close or tight game situation	28%	54%
Impose penalties or punishments	25%	49%
Lead drills at practice	24%	73%
Explain game strategy to athletes	24%	66%
Coach in a winning situation	24%	58%
Conduct small group instruction	23%	66%
Lead team building activities	22%	58%
Discuss team responsibilities with athletes	21%	60%
Help make strategic game decisions	21%	56%
Help athletes make decisions unrelated to sport	20%	64%
Give motivational speeches	19%	67%
Create new drills	19%	66%
Discuss respecting others	18%	71%
Help athletes mentally prepare for competition	17%	72%
Provide motivational statements to the group	17%	70%
Analyze game film	17%	66%
Discuss the game strategy with the head coach	17%	64%
Develop game plans	17%	63%
Build team confidence through statements or actions	17%	52%
Conduct practice when head coach was not present	17%	51%
Talk about sportsmanship	15%	87%
Correct technique errors	15%	84%
Make confidence boosting statements to athletes	15%	83%
Build self esteem in athletes	15%	82%
Explain technical aspects of a skill to the athlete	15%	79%
Give suggestions on how to concentrate better	15%	73%
Develop practice plans	15%	62%
Encourage athletes to maintain a positive attitude	13%	84%
Provide motivational statements to individuals	13%	83%
Discuss with athletes how to make choices between right and wrong	12%	64%

In accordance with procedures set by Myers and colleagues (2005) for the Coaching Efficacy Scale, the sum of the student coach experience was created for the Student Coach Internship Opportunities section of the survey. A Total Experience Score (TES) was calculated as the sum of the 33-line item responses students gave regarding how often they 'always had the opportunity' to perform the coaching duties included on the measure. Possible scores ranged from 33 (if a student strongly disagreed with all statements) to 165 (if there was strong agreement to all statements). Thus a higher TES score indicates an individual who perceived they had more opportunities to perform the coaching behaviors than those with a lower TES score. Internal consistency was calculated (α = .977), however, the small sample size in this exploratory study limits further tests of reliability and validity. The mean total experience score was 78 (SD = 34; range = 34 to 162). Using the median (72) as a cut-point for two equal groups, individuals who had a 72 or lower TES were classified as high experience (N = 24, range = 34-72) and those with a higher than 72 (N = 23, range = 74-162) TES were classified as low experience (see Table 3).

Table 3. Descriptive Statistics for TES Groups

Group	N	Range	M (SD)
High Experience	24	34-72	53.17 (13.84)
Low Experience	23	74-162	103.35 (29.36)

A one way ANOVA was conducted to explore the impact of the level of experience in the internship (independent variable as measured by the TES) and the reported perceived readiness to coach (dependent variable). Results indicate that the high experience group was significantly more likely to report that they felt their internship prepared them to coach, $F(1,44) = 5.44$, $p = .02$. The mean score for the high experience group was 1.83 (SD = 0.95) while the mean for the low experience group was 2.69 (SD = 1.54). A global effect size was calculate by dividing the between groups sum of square by the total sum of squares ($\eta 2 = .11$), indicating that 11% of the variance in how prepared a student feels to enter the coaching profession is explained by their coaching experiences during the internship.

There were no group differences found between the high and low TES groups in relation to gender, having participated in the sport where the internship occurred, knowing the coach prior to the internship experience or level of competition the student interned with.

Perceptions Regarding Preparation to Coach

Participants were also asked several open-ended questions to learn more about the internship

experience from their perspective. Following procedures recommended by Miles and Huberman (1994) and Côte and colleagues (1993) and successfully employed in previous qualitative studies (e.g., Gould et al., 1992a, 1992b; Gould et al., 1999) these responses were organized into a data base and content analyzed. For each of the questions, the participant responses (raw data) were organized into categories, then into dimensions and finally umbrella groups using a three person consensus process to ensure the meaning of the original response was properly represented.

Table 4. Student Responses (N = 178) to "The Three Most Important Things Learned During the Internship"

Umbrella Group	Dimensions	Categories (# indicates multiple identical responses)
Administrative responsibilities	Administrative responsibilities	Administration responsibilities
	Coach responsibilities	Coach responsibilities
	Importance of keeping records	Keeping records
	Organizational skills	Organization (7)
	Recruiting techniques	Recruiting techniques
	Time management	Time management (4)
Challenges	Can't please everyone	You can't please everyone
	Challenging decisions	Need to make good decisions, can't please everyone
	Coaching is not P.E.	Coaching is not P.E.
	Head coach responsibilities /challenges	Not easy being a head coach
	Long hours	Long hours
	Make tough decisions quickly	Make tough decisions quickly
Coaching game strategies	Coaching in game situations	Coaching in game situations
		Working with athletes in game situations
	Coaching skills	Coaching skills (2)
		How to coach, rather than play
	Game strategies	Game strategies
		Strategic planning
Communication	General communication skills	Communication (3)
	Giving positive feedback	General positive reinforcement
		How to give good feedback
		Specific positive reinforcement
	Listening skills	Listening
	Public speaking skills	Public speaking
		Speaking skills
	Receiving feedback	How to get feedback from athletes
Developing and nurturing relationships	Develop player relationships	Building relationships with player
	Earn respect	Earning respect
	Handle kids	How to handle children
	Handle parents	How to handle parents
	Importance of relationships	Relationships
Ethics and Philosophy	Importance of ethics	Ethics of coaching (2)
	Importance of respect	Respect amongst athletes
		Respect for teammates

	It is all about the kids	It is all about the children (2)
Leadership in coaching	Being a good leader	How to be a positive coach
		How to be a great coach
		How to be a leader
		Leadership (5)
Motivation	Motivation	Motivation (4)
	Motivational techniques	Building positive attitudes
		How to interact with and motivate athletes
		Motivational techniques
	Understanding positive development	Understanding positive motivation
Networking/ politics	Importance of networking	Importance of personal connections over knowledge
		All about who you know
		Networking
	Make connections	Make connections
	Person doesn't matter, job does	Programs like free labor - don't care as much about the people doing the work
Personal skills and attributes	Accountability	Accountability
	Adaptability	Adaptability
	Attitude	Attitude
	Caring	Caring
	Commitment	Commitment
		Never lose focus
	Composure under pressure	Adversity
		Composure
		How to handle situations beyond personal control
		Self control
	Confidence	Confidence
	Dedication	Dedication
	Experience	Experience
	Hard work	Hard work (3)
	Knowledge	Knowledge
	Passion	Importance of passion for what you do and making a difference
	Patience	Patience (3)
	Responsible	Responsibility (3)
	Self control	How to lose as a coach
	Self reflection	Reflecting
	Trust	Trust (2)
Sport science issues	Consequences of overtraining	Consequences of overtraining
	Importance of health issues in sport	Health issues with sports
	Importance of nutrition	Importance of nutrition of nutrition to performance
		Protein for muscle building
Teaching strategies	Keep it fun	Children are willing to learn, especially if it is fun
		Fun
		Keep the game fun

	Practice planning	Effective practice planning (2)
		Practice planning
		Preparation
		Writing practice plans
	Skills and exercises	New training exercises
		Technique
	Teaching methods	Different approaches to teaching skills
		Effective teaching
		How to coach the material I know
		Skill development
Understanding individual differences	Coaching within child's developmental age	Able to give different instructions to different ages
	Elderly aren't frail	Elderly aren't frail
	Individualize coaching	All players are different
		Every athlete is individual and should be coached as one
	Know your athletes	Know your athletes - that override theories
		Need to know your athletes strengths and weaknesses

Important things learned during the internship. Students were asked to list the three most important things they felt they had learned from their internship experience. Forty-one of the participants responded and responses that included what the researcher believed to be multiple themes were separated resulting in 178 most important things (4.34 key things learned per respondent) that the students reported they learned through their internship experience. Raw data themes were organized into categories, dimensions, and ultimately formed 13 umbrella groups, listed in Table 4. The majority of the key areas of important things learned through internship as reported by the student coaches focused on coaching related items. These 11 umbrella categories included administrative responsibilities (e.g. organization and time management), coaching game strategies, communication, developing and nurturing relationships, ethics and philosophy, leadership in coaching, motivation, networking/politics, sport science issues (e.g., importance of nutrition, consequences of overtraining), teaching strategies, and understanding individual differences. A twelfth umbrella group, personal skills and attributes, emerged that focused on personal skill development of skills such as confidence, importance of hard work and having patience. The thirteenth and final umbrella group, challenges, was a large group that covered all the areas of challenge as it related to the job of coaching that the student coaches felt they learned about during their internship. These challenges included gaining awareness of issues such as not being able to please everyone, the difficulties associated with decision making, and the long work hours associated with the field.

Student coach perceptions of program strengths. In the final open ended question, participants were asked to indicate the strengths of their internship program, with 34 participants

responding and providing 41 raw data points. The data presented in Table 5 provides an overview of the three umbrella groups for student perceived strengths of the internship programs and the dimensions and categories within each group. The program strength umbrella groups included (a) exposure to the field (of coaching), (b) program strengths and (c) the sum of the experience. Students indicating program strengths felt that their internships provided opportunities to work with athletes and exposure to the coaching skills needed. For example, one student said that a strength of their program was "actually physically coaching, the hands on stuff." The scholastic programs received positive comments regarding the educational nature and organization, such as "I was able to learn about the research process, safety issues, and administrative issues of coaching." Finally, the totality of the experience was noted as being a positive strength. "I think the strengths are the overall experience I gained from the internship. The experiences are invaluable and are very realistic to how it will be for me in the future."

Table 5. Student Noted Program Strengths (N = 41)

Umbrella	Category	Dimension
Exposure to field	Exposure to administration side of coaching	Helped gain a better understanding of administrative side of sport (2)
		Helped gain a better understanding of research side
		Helped gain a better understanding of safety issues
		Networking opportunity
	Exposure to coaching skills needed	Better understanding of team cohesion
		Better understanding of the field
		Game knowledge
		Getting into the leadership role
		Handling change and adapting
		How to handle self
		Learned how to get players to work harder
		Opportunity to learn what not to do
		Opportunity to see positives and negatives of coaching
		Time to observe a coach
	Opportunity to work with coach	Experience with the head coach (3)
	Opportunity to work with athletes	Hands on coaching (9)
		Learned how to work with different age groups
		Working with the kids (3)
Program strength	Educational aspect of program	Getting sport specific certifications
		Materials created
		Program provides good content foundation
	Program organization	Program is well organized (2)
	Specific program strength	Communication
Sum of experience	Sum of experience	Everything I learned
		Invaluable realistic experiences
		Learned a lot from all the experiences (2)

Student coach program suggestions. As consumers of their programs, participants were asked to provide constructive suggestions to improve their programs. Twenty two students responded and provided 22 raw data points that were organized into categories, dimensions and then into three umbrella groups (Table 6) regarding internship program improvement suggestions. The three main umbrella groups for student suggested improvement included (a) the actual internship experience, (b) the internship class and (c) the general program suggestions. Suggestions that made up the improvements for the actual internship experience umbrella group included suggesting better placement, more coaching time in the placement and more opportunity for growth as coaches. For example, one student commented "I would have picked working with a coach with a philosophy that was closer to the way I think." With regard to ideas for the internship class, participants suggested fewer assignments but also suggested an improvement in the depth and diversity of the type of assignments given related to the internship. The third umbrella group, general program suggestions, was made up of requests for better organization, more sport science education, and an overall shorter program.

Table 6. Student Internship Program Suggestions (N = 22)

Umbrella	Category	Dimensions
Actual internship experience	Better placement	Better placement with coach/sport (3)
	More hands on time	More hands on experience (2)
		More opportunity with athletes
	More opportunity for growth	Needs more progression
		Wider range of opportunity
	True coaching experience	Need true coaching experience
General program suggestion	Improved organization	Better program organization and dedication
		Needs more organization
	More sport science education	More sport science training
	Reduce program length	Shorten program
Internship class experience	Assignment changes – improve	More diverse activities
		More variety in assignments
		More interaction and depth with internship
	Assignment changes – reduce	Fewer papers
		Reduce assignments
		Reduce assignments or align due schedule with sport better
	Better match up of work to credit load	Internship credit load inconsistent with amount of time worked
	Increase instructor interaction	Improve teacher interaction
		Require more interaction with instructor

Discussion

The present study is an exploratory investigation that sought to lay a foundation for the examination of the student coach internship experience within U.S. coaching education programs. Specifically, the researchers were interested in the types of activities student coaches engaged in during their academic pre-professional internships, their experience with the academic internship program, and how prepared the students felt for their career in the coaching profession based on their experiences.

As noted, field placement internships are a capstone or culminating experience within the educational model. Thus, as student coaches, participants had completed the majority of their educational coursework prior to participating in their coaching internship. As one would hope for soon to be program graduates, overall, student coaches reported that they felt their academic coursework had prepared them to coach. On a positive note, in open-ended responses many students noted that through their internship they learned about key areas of coach knowledge (e.g., communication, motivation, philosophy and ethics). These areas are highly related to the standards as listed in the NSSC (NASPE, 2006). Thus, upon the completion of their academic training, these coaches are feeling well prepared for their professional careers.

Specific to the internship experience itself, the majority of student coaches felt their internship class was helpful and reported that their professor/advisor helped to bridge their classroom knowledge and internship experience. These findings were mirrored by the qualitative findings indicating the majority of the responses regarding their internship course as positive in nature. These findings are encouraging and provide support for the perceived student value of and usefulness of academic training in coach development and preparation through the internship process. However, it is important to note that the participating students were just or had just completed their internship experience and had not yet had an opportunity to test their skills or knowledge in a professional coaching opportunity. Further study should examine discrepancies in perceived and actual preparedness for the coaching profession (are they as prepared as they think they are).

A closer look at the nature of the academic side of the internship revealed a good deal of variation how the internship ‘class’ was structured. While three different university programs were studied, more than three class variations were found suggesting that even within programs the nature of the academic internship experience is not uniform. The level of interaction between the student and the faculty or program instructor responsible for overseeing the internship experience ranged from almost no interaction to routine meetings. It is curious that many students felt their internship experience instructor was helpful when for some interaction with the instructor did not appear to be a part of the experience. These findings may reflect that while students believe they

are getting useful guidance, they are not aware of what quality guidance should be for an academically based experience. This lack of academic structure seems to be a wasted opportunity for education enhancement. As suggested by Gault, Redington, and Schlager (2000), academically based internships should provide a clear and solid opportunity to link classroom theories to field application, a process that requires leadership from and interaction with an individual trained in this area. In the future, researchers may want to consider in-depth investigation into the effectiveness and structure of the student coach internship class and the role it plays in the facilitation of coach development.

As anticipated and consistent with previous assertions (e.g., Cushion, Amour, & Jones, 2003), roughly three quarters of the student coaches had experience in sport as athletes prior to beginning their coaching studies, following the traditional player to coach model. Although years of experience as an athlete may influence the developmental stage of learning (Gilbert & Trudel, 2005), researchers have identified the importance of diversity of experiences (i.e. different athletes, facilities, coaching strategies, etc.) in fostering coach learning and improvement (Schempp, McCullick, & Mason, 2006) due to the fact that the roles and responsibilities of coaches are much more complex and diverse than just the surface observation of what occurs at practice. Unfortunately, many of the student's internships were conducted with coaches they had played or worked for previously or were done within the sport in which they had competed, providing little if any true diversity in experiences. Further, growth as a novice coach is potentially more difficult when attempting to make the transformation within a team structure where the individual already has an established athlete role and a pre-established coach–athlete relationship with the coach. While the students did not mention a concern regarding lack of breadth in their experiences, from an educational perspective, these internship experiences were lacking in the depth and diversity recommended for optimal learning and development (Gilbert & Trudel, 2005).

Within coaching education, 'coach' is used as a general term, while in the realm of sport there are many different sub-categories of coach. This key distinction is critical as coaching continues to emerge as a specialized and unique profession that requires specialized and unique training and education. This reality of the broad range of coaching specializations was reflected in the many different career aspirations of the student coach interns. This suggests the need for coaching education programs to be mindful with regard to providing and fostering opportunities for exposure and development along different coaching related career paths. As with all professions, one-size-fits-all training is not appropriate for coaching, not only along sport lines but also with regard to the wide variety of roles coaches play from technology to special position coaching to strength and conditioning in today's sporting arena. Coaching educators should consider encouraging novice coaches to intern in a variety of positions and should, accordingly, provide opportunities for them to do so.

While future student coaches were not fully aware of the wide range of duties and responsibilities that coaching involved prior to their internship experience, the majority of those participating in this study identified clear entry level through peak career goals. Students appeared to be willing to start lower on the career ladder before climbing the coaching ranks. These findings provide some indication that student coaches understand the nature of the career development path in the coaching profession. Additionally, it appears they are aware of the importance for continued self-development for growth within the coaching role. This is encouraging given that expert coach development is a process that requires extensive years of education and experience (Schempp, McCullick, & Mason, 2006). It also suggests that these novice coaches have a realistic understanding of the profession, hopefully reducing the stress, dissatisfaction, motivation and professional commitment concerns associated with less realistic expectations (Louis 1980; Holton & Russell, 1999).

Internship Experience

A major strength of the student coach internship experience was reflected in the open ended responses regarding things learned. The wide range of management skills and personal growth areas outweighed the mention of sport specific skills or tactics as top areas of learning, indicating that the internship provided valuable real world experiences as well as professional insight. The inclusion by many of the internship coaches regarding the challenges associated with their chosen field, a reality very difficult to convey in a classroom setting, further highlights the value of such an experience.

The majority of the student coaches reported that they felt the coach they interned with provided guidance throughout their internship. However, a subsection of the participants noted that the experienced coach they worked with did not provide guidance. Like the academic supervision experience, the nature of the experienced to novice coach relationship varied. This is in line with the finding of Cushion and colleagues (2003) that, the experienced to novice coach relationship is unstructured and variable in quality and outcome. Training for coaches interested in working with student coaches should be explored to help experienced coaches learn how to effectively integrate novice student coaches into the coaching profession. Experienced coaches could be educated regarding how to gradually increase the coaching opportunities they give the student coach while closely monitoring the student and providing feedback. Training models for preparing mentor teachers within the student teaching model may provide effective insight for the preparation of coaches working with students in coaching internships.

The variability of the coach intern experience was also seen in wide range of opportunities available to student coaches. During the actual internship experience, the opportunities to perform

a wide range of coaching duties varied. Students were given more opportunities to perform 'supportive' activities such as building motivation and developing character than they were to perform traditional coaching duties such as teaching techniques, running practice or developing game strategies. Some of the areas that the novice coaches got the least experience with included creating team line ups, coaching during a losing situation and coaching during close or tight game conditions. All of these areas have been identified as components of coaching efficacy (Myers, Wolfe, & Feltz, 2005). The lack of these experience opportunities suggests the coach internship experience may not be complete for all student interns, further emphasizing the importance of a more structured experience. In this regard, the field of coaching education may further benefit from examining the design and implementation of the student teacher training model.

Although coaching efficacy was not investigated directly, it makes sense that student coach's confidence in their coaching ability may be related to the quality and quantity of the coaching behaviors they most frequently had the opportunity to engage in during their internship. In the most important things learned open ended responses, many of the respondents indicated personal skills, including confidence specifically. These finding suggest that students experiencing a greater range of coaching opportunities were more likely to feel confident about their ability to coach. It appears that student coaches may leave their internship with confidence in their skills to motivate a team, but with much less experience or confidence in their ability to design and run a practice or create and implement effective game strategy.

Not only does the lack of opportunity to practice a wide variety of coaching behaviors have a potentially negative impact on confidence, it may also hurt professional development as experience has been continually reported as an important factor in developing as a coach (Cushion, Armour, & Jones, 2003; Gilbert & Trudel, 2005; Gould, Giannini, Krane, & Hodge, 1990). Furthermore, previous research indicates that coaches with higher coaching efficacy related to character building, motivation, game strategy, and teaching technique report greater commitment to the field (Boraderly, Kavussanu, & Ring, 2008). It is important, therefore, that novice coaches in internships are given the opportunity to engage in a broad range of coaching behaviors during their internships.

Limitations

A few limitations should be considered when viewing these results. First, given the lack of previous work in this area, the present study was designed to be exploratory in nature and while it provides many future directions, it is not a comprehensive examination of the student coach internship process. Second, the students in the present study represent a small sample of students

currently enrolled in academic based coaching education degree programs in the United States, which limits the generalizability of the results. Due to the current structure and lack of standardization in coaching education, the number of credit hours taken by students varied. This resulted in participants with a wide range of coaching exposure over the course of their internship. Student coaches who took fewer credits were required to accrue fewer contact hours with their internship coach and those taking more credits were required to log more, which may have influenced the level of opportunities experience and the quality of the experienced coach to novice coach relationship. Student coaches were involved in only a small number of sports with an emphasis on team sport coaching, which also impacts generalizability. Additionally, because the survey was e-mailed, a self-selected sample was used. Finally, the current study did not have a large enough sample to compare graduate and undergraduate students regarding their experiences or perceptions.

Implications and Future Directions

The present study has begun an important exploration of the student coach internship experience within academically based coaching education. The academic student coach internship experience has the potential to provide a structured and guided opportunity to increase both the content knowledge and skills to coach. From a pre-professional development best practices standard, the current student coach internship structure does not consistently provide meaningful professional preparation. This suggests a need for clear guidelines and recommendations for both the coach internship process and for the experienced coaches involved in the experience to novice coach relationship. The National Standards for Sport Coaches level five accreditation, designed for programs preparing coaches for all levels of competition and across coaching positions (NASPE, 2006) could provide a useful format for the development of such guidelines.

It is important to note that while the majority of the participants reported positive experiences and growth opportunities in their internship experience, there were student coaches on the other end of the spectrum. These voices were seen both in the qualitative and quantitative findings. As such, an important area of further research would be to take a closer look at individuals who do not feel they have benefitted from their internship education. Their experiences could potentially assist in the further improvement of coaching education.

Although the current investigation based the CEIS section of the survey on the Coaching Efficacy Scale (Myers et al., 2005), it did not directly measure coaching efficacy. Researchers interested in the coaching education process should consider focusing future studies on changes in coaching efficacy that occur during the internship. Efficacy has been tied to many variables, including player satisfaction, player efficacy, team efficacy, and professional commitment

(Boraderly, Kavussanu, & Ring, 2008; Kent & Sullivan, 2003). It would also be worthwhile and appropriate to conduct further analysis on the survey measuring coaching opportunities, such as exploratory and confirmatory factor analysis procedures, as well as examine how it relates to the already established Coaching Efficacy Scale.

A better understanding of the experienced coach's knowledge, readiness and willingness to work with a novice coach is also a key area for future research, especially given that the experienced to novice relationship has been consistently highlighted as an important aspect of coach development (Cushion et al., 2003; Gilbert & Trudel, 2005; Gould et al., 1990). Clear guidelines and preparation information would help experienced coaches become better prepared to nurture and assist novice coaches. In order to provide student coaches with quality educational experiences with learned to applied skill opportunities for growth and development, it is necessary to continue to review and modify the internship process through research and understanding. It is our hope that the discussion and development of student coach internships will continue to evolve and grown.

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Athletes' perceptions of the psychological, emotional, and performance effects of coaches' pre-game speeches

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Abstract

Pre-game speeches are a popular coaching technique. While recent research has begun to examine their effectiveness (Vargas-Tonsing & Guan, 2007; Vargas-Tonsing & Bartholomew, 2006), little is known about athletes' perceptions of the effects of these speeches. Participants were 151 soccer players representing 10 elite soccer teams (five male and five female teams). Athletes had a mean age of 14.21 years (*SD* = 1.85) and reported an average of 8.83 years (*SD* = 2.26) of soccer playing experience. Athletes completed a questionnaire at the conclusion of a game that asked them to describe and elaborate on their perceptions of the coaches' pre-game speech; responses were analyzed qualitatively. The results showed that the majority of the athletes reported liking the speeches and indicated that the speeches impacted their performance and met their psychological, emotional and performance needs. The results offer insight into athletes' preferences for speech content and demonstrate the need for further research in this area.

Keywords: pre-game speeches, self-efficacy, performance accomplishment, verbal persuasion

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Introduction

> "Great moments... are born from great opportunity. And that's what you have here, tonight, boys. That's what you've earned here tonight. One game. If we played 'em ten times, they might win nine. But not this game. Not tonight. Tonight, we skate with them. Tonight, we stay with them. And we shut them down because we can! Tonight, we are the greatest hockey team in the world. You were born to be hockey players. Every one of you. And you were meant to be here tonight. This is your time….Now go out there and take it" (Coach Herb Brooks, from "*Miracle*").

Some of the most memorable scenes in sports movies, like *Miracle*, are those when the coach is delivering his pre-game speech. Many of the greatest quotes in sport history come alive through these clips. Even though Hollywood may take some liberty when recreating these moments, sport psychology researchers have shown that coaches are an important source of external information for athletes, and that what coaches' say, when they say it, and how often they say it, can significantly alter the learning, development, and performance of athletes (Allen & Howe, 1998; Amorose & Weiss, 1998; Feltz, Short, & Sullivan, 2008; Kirschenbaum & Smith, 1983).

One of the most important roles of a coach is to prepare their athletes for competition (Short & Short, 2005). Game day preparation is vital for optimal performance yet much is still unknown about how coaches can best influence their athletes during this critical time period. Researchers have shown that coaches use various communication-based techniques, including pre-game speeches (Allen & Howe, 1998; Amorose & Weiss, 1998; Gould, Hodge, Peterson, & Giannini, 1989; Feltz et al., 2008).

Information on pre-game speeches, from the perspectives of coaches and athletes, can be gleaned from the popular media. For example, in terms of content, volleyball coach Julie Jenkins, from Trinity University, stated that she focuses on strategy in her pre-game speeches: "There isn't a lot of rah-rah in my pre-game speeches. They're basically a quick review: 'Here's what we're going to do offensively. Here's what we're going to do defensively.' That's it. My whole focus is on keeping it simple, and being really clear on our game plan" (in Berkowitz, 2003, para. 6). A different approach is illustrated by University of Miami Head Coach Nicole Lantagne Welch who prefers a combination of information and inspiration: "Typically, I'll remind the team about a couple of key things we're going to do against our opponent… then I talk about how there's always more on the line than just the match itself. I want to push their buttons, because I want to get their adrenaline going. I want them to be really fired up about playing their best" (in Berkowitz, 2003, para. 20). From an athlete's perspective, Drew Stafford, a National Hockey League player, noted that his coach "keeps it simple and basically just gives us reminders on systems and coverage." Although Stafford prefers it when his coach keeps the pre-game speeches

“short and sweet,” he also noted that there are other guys “who would love to see <the coach> deliver a speech straight out of "*Miracle*." Kyle Behrens, a former standout college basketball player, revealed that, for him, “pre-game speeches were affected by the importance of the game. Against weaker opponents, when you were expected to win but didn't want a let-down, a pre-game speech meant to fire you up was generally ineffective. A big game with an exciting atmosphere, combined with a good pre-game speech, did help feed that excitement…I think a speech to help reiterate the game plan and keep the focus were the most important.” Similarly, before Notre Dame’s huge win over Michigan in 1993, legend has it that Assistant Head Coach Mike Trgovac gave a thunderous pre-game speech. Athlete Pete Bercich stated that he “was never so emotionally charged for a game” (http://www.irishlegends.com/Pages/calendar/9.asp).

What these examples show is that pre-game speeches can differ in both content and effectiveness. They further show variability in athletes’ preferences and perceptions of them. In his commentary, Berkowitz (2003) noted that pre-game speeches seem mostly to contain game strategy instruction and/or emotional/inspirational content, and that they can motivate athletes or relax them, and/or help athletes or hurt them. Given the extreme popularity of pre-game speeches and their importance relative to athlete preparation and performance, it is surprising that there is a limited amount of research done in this area.

The study of coaches’ pre-game speeches can be grounded in efficacy theory. Self-efficacy is defined as a person’s belief in his/her ability to perform a specific task (Bandura, 1997). Theoretically, coaches can impact athletes’ behaviors, thoughts, and feelings through athletes’ efficacy beliefs (Bandura, 1997; Feltz et al., 2008). Bandura (1977) proposed four principal sources of efficacy information: performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. Performance accomplishments are considered to be the most influential source of information, while vicarious experiences, verbal persuasion, and emotional arousal are generally seen as less powerful but still important sources of efficacy. While a coach should try to positively impact athletes’ efficacy beliefs through all possible sources (Short & Ross-Stewart, 2009), on game days, coaches’ may rely more on verbal persuasion.

Verbal persuasion has been defined as the act of leading others, through the use of suggestion, exhortation, instruction and interpretation, to believe that they can be successful (Bandura, 1977). Within efficacy theory, pre-game speeches are considered a form of verbal persuasion (Bandura, 1977, 1986, 1997; Feltz et al., 2008). On a general level, Bandura (1986, 1997) hypothesized that the extent of the persuasive influence on self-efficacy beliefs would depend on the prestige, credibility, expertise or knowledge, and trustworthiness of the persuader. Specific to sport, Bandura (1997) discussed the important role of the coach in effecting individual efficacy perceptions through verbal persuasion, and Feltz et al. (2008) pointed out that coaches are usually believed to be credible information sources of their athletes’ capabilities and should

therefore be able to influence their athletes' self-efficacy beliefs.

Empirical, theoretically grounded research on pre-game speeches is lacking; there have only been three studies conducted in this area. In the first study, Vargas-Tonsing and Bartholomew (2006) examined the effects of pre-game speeches on team efficacy beliefs. Male and female soccer players imagined taking part in a championship match, and were then exposed to one of three speeches. The speeches were created by the experimenters and were based on the informational/instructional and emotional/inspirational content differentiation (Berkowitz, 2003). The first speech emphasized "uniform and field information;" in it the coach told the athletes what uniform to wear, how to walk onto the field to be individually introduced to the crowd, and gave instructions to stay hydrated throughout the game. The second speech was focused on game strategy where participants were given information on the other team's strengths (restarts) and weaknesses (defense), how to counter their opponents' strengths while capitalizing on their weaknesses, and how to defend the leading scorer. The third speech was an emotionally charged persuasive plea where participants were told that the other team's coach had discounted them as any kind of threat and predicted that he would be able to play his second and third strings. The participants were asked how they felt about that and reminded to play with desire, to play with pride, and to play without fear. The results showed that athletes how were exposed to the emotionally charged pre-game speech prior to the imagined championship game had the highest efficacy scores compared to those who were exposed to the other speeches.

In the second study, Vargas-Tonsing (2005) showed that changes in youth soccer players' efficacy beliefs were related to the amount of perceived information present in pre-game speeches, as opposed to the perceived amount of emotion. In this study, rather than the experimenter creating the pre-game speeches, 151 competitive soccer players were surveyed during one of their regular season games − immediately following their coach's pre-game speech. The athletes' perceptions of the coaches' pre-game speeches were examined by having the athletes indicate the amount of information and emotion they perceived to be present within their coaches' speeches. These results showed that the speeches could be classified as primarily informational or emotional. Athletes also completed a three item efficacy scale before and after the coaches' pre-game speeches. When examined in relation to the perceived pre-game speech content, the results showed that informational speeches had stronger effects on efficacy change scores compared to emotional speeches. The differences in the results between this study and those of Vargas-Tonsing and Bartholomew (2006) were suspected to be caused by the competitive setting. Vargas-Tonsing and Bartholomew (2006) focused on an imagined championship situation while Vargas-Tonsing (2005) collected data during an actual, regular season game.

To determine whether the competitive setting was the reason for the differences, Vargas-Tonsing and Guan (2007) explored athletes' preferences for pre-game speech content

according to various sporting situations. Participants were 208 collegiate varsity athletes from a variety of team sports (e.g., basketball, football, soccer, and volleyball). They completed a questionnaire that assessed the amount of informational and emotional content athletes preferred in their coach's pre-game speech according to nine different sporting situations. More specifically, the athletes were given examples of informational content (e.g., scouting reports, strategy, game plans, technique information, etc.) and emotional content (e.g., arousing phrases, appeals to emotions such as pride or anger, strong language, analogies, etc.) and were told to indicate in which situation they would prefer to hear this content from their coaches. The results showed that athletes preferred more emotional speeches before a championship game, when competing against an opponent that was higher ranked, and when considered an underdog. On the other hand, more informational speeches were desired when the athletes were competing against an unknown opponent and when competing against an opponent to whom they had narrowly lost to on a previous occasion. Thus, it appears that pre-game speeches might not only effect athletes' efficacy beliefs, but also that to do so they need to vary in the amount of information and emotion they provide depending on the setting.

In summary, past research on pre-game speeches has shown that the content in coaches' pre-game speeches can be categorized as primarily informational or emotional, and that athletes' preferences for this speech content varies according to the setting. In addition, there is support for Bandura's (1997) theoretical assertion that pre-game speeches can effect athletes' efficacy beliefs. To date, efficacy beliefs have been the only psychological variable that has been studied in relation to pre-game speeches. It is possible that pre-game speeches could affect other psychological states and emotions. Along these lines, the effect of pre-game speeches on performance has not been addressed. Thus, the primary purpose of this study was to examine athletes' perceptions of the psychological, emotional, and performance effects of their coaches' pre-game speeches. In addition, we also examined athletes' perceptions of the content of their coaches' pre-game speeches, but extended this line of inquiry to also include athletes' preferences for content in pre-game speeches. More specifically, athletes were asked about what they would like their coach to include in a pre-game speech.

Method

Participants

Participants for this study were 151 soccer players representing 10 soccer teams (five male and five female teams). The soccer teams were part of a Midwestern premier soccer league (i.e.,

they were elite athletes for their age-groups who competed at the state level against other elite teams) and were in season at the time of the data collection. These participants were specifically recruited because, at this level, the athletes had to "try out" to make the team and all coaches were paid. It was our assumption that the study of pre-game speeches would be more meaningful in this context compared to, for example, intramural or recreational leagues where all athletes can participate regardless of ability level and many teams do not have coaches or have "player-coaches." Of the 10 teams, there was one under-12, one under-13, two under-14, two under-15, two under-16, one under-17, and one under-18. The athletes had a mean age of 14.21 years (*SD* = 1.85) and had spent an average of 2.31 years (*SD* = 1.51) playing with their team, and an average of 2.01 years (*SD* = 1.56) playing with their respective coach. They had an average of 8.83 years (*SD* = 2.26) of soccer playing experience. Relative to position, 7% of the athletes were goalkeepers, 27% were defenders, 32% were midfielders, and 24% were forwards (3% of the athletes listed multiple positions, and the remaining 7% did not indicate a position).

Dependent Measures

The athletes completed an initial questionnaire containing demographic information (e.g., age, gender, playing experience). This information was used primarily to describe the sample. After the game, the athletes were asked to complete a 7-item questionnaire to gather in-depth information about their perceptions of their coaches' pre-game speech. The questionnaire was created by the authors based on past research. Specifically, the participants were asked to recall any words, phrases or ideas from their coaches' speeches (open-ended item). This question was the same one used by Vargas-Tonsing (2005). They were also asked if they liked the speech (yes/no and why or why not?), what else they would have liked their coach to have said (open-ended), and what could have made the speech more effective (open-ended). These questions were designed to assess the athletes' preferences for speech content. To examine the effects of the pre-game speeches, athletes were asked if the speech impacted their performance (yes/no and if so, how?), if the speech met their emotional needs (yes/no, why or why not?), if the speech met their psychological needs (yes/no, why or why not?). A focus group with individuals who had expertise in sport psychology, coaching, and soccer (i.e., former athletes and coaches) reviewed the questionnaire prior to use. This group indicated that it was best for the items to be broad in nature, and that outcomes should be separated into the three categories of performance, psychological and emotional needs.

Procedure

Permission to conduct this study was obtained from the Institutional Review Board for

human subjects. The coaches were contacted first and were asked not only for their participation, but also for assistance in gaining permission from the athletes and their guardians, as the athletes were minors. Consent to conduct this study was received from athletes, athletes' parents/guardians, and the coaches.

Each team was surveyed once during their season. Together, the researcher and the coach selected the game in which the athletes were surveyed. The game was chosen by the strength of the opponent; challenging opponents were chosen for all teams. Research in sport psychology has shown that competitions where there is a 50/50 chance of success effect athletes' behaviors, thoughts, and feelings differently compared to those where wins or losses are expected (Weinberg & Gould, 2006). All designated games were mid-season. Athletes completed the demographic questionnaire at one of their practices the week before the selected competition to introduce the researcher to the athletes to increase comfort with the procedure and to save time following the game when the questionnaire was completed. At this practice, athletes were also assured that their answers would remain anonymous and confidential through the use of an identification number that they created. At the conclusion of the selected game, athletes completed the questionnaire. Because this was field-research, it was not possible to have the athletes complete the questionnaire immediately after the coach delivered the pre-game speech as the athletes then had to compete. After completing the questionnaires, the athletes and coaches received a debriefing form detailing their role in the study.

Treatment of Data

Primary analyses focused on the post-game questionnaire responses by the athletes. The open-ended questions required the use of a qualitative data analysis strategy (Patton, 2002). Content analyses allow a researcher to organize and sort the raw data (i.e., the responses or "quotes") into interpretable and meaningful text units which are then sorted and categorized into themes based on similar meanings. An inductive (or grounded) approach was taken (Patton, 2002). The analysis was completed by the second author, and then checked by the first author. Agreement rates, for all questions, were greater than 95% and the few disagreements were resolved by discussion. The results are presented separately for each question.

Results

Did you like the speech your coach gave immediately prior to the game?

For this question, 143 athletes responded. Most (n = 129, 90%) indicated that they liked

the speech (*n* = 9, 6.5% indicated no, and *n* = 5, 3.5% circled both yes and no). For the "why or why not" portion of the question, the athletes who responded yes/no stated: "I liked it because it gave me things to concentrate on but I don't like it when he tells us we should win," "it was a good speech, the content was good but it would have been better with more enthusiasm," "speeches don't pump me up," "parts of it, I don't remember it," and "couldn't tell, I zoned out." The athletes who responded no gave the following reasons "didn't pump us up," "not very inspirational" (mentioned twice), "need more profanity," it wasn't a very good analogy," "not very encouraging, " "speech was the same as usual," "he says the same thing every game," "it wasn't enthusiastic" (mentioned twice) and "it wasn't something to get us motivated."

From the remaining 129 participants who indicated that they liked the speech, eight of them did not give a qualitative response. In addition, six of the responses were uncodeable. Examples of responses that were considered uncodeable were "because we are in division 2," and "he's my coach." These responses do not answer the "why or why not" part of the question. After these were removed from the data set, there were 137 text units to be coded as generated by 116 participants. Although the athletes could provide multiple responses (which is why there were more text units generated than the number of athletes responding), for the most part, the athletes' comments contained just one primary reason, such as "it made me want to work harder," and "it was helpful." The longer responses (in terms of word count) were: "because he gave us confidence that we could do it. We needed the boost," "it calmed my nerves down and made me think about how I am going to go into the game," "he made me remember our loss and get angry and want revenge," and "he told us exactly how it was and that we control our outcome of the game." The meaning of each text unit was extracted and coded and like-meaning words and phrases were combined into higher level themes and dimensions.

From the outset, it was evident that participants responded to the "why or why not" question in two ways: some athletes made comments about their coach and the speech (28 out of 137 text units), while the majority of the athletes made comments about what the coach's speech did for them (109 text units). Comments about the coach included quotes such as "because he is a good speaker," "he kept it short and sweet," and "because he didn't yell at us." Comments about the speech included quotes like "because it was a good speech," and "because it was a positive speech. With respect to what the speech did for the athletes, all responses related to a "preparation" function. More specifically, participants indicated that the speeches helped them regulate their energy levels (*n* = 32 of 109 text units; 29.4%), gave them information (*n* = 27 of 109 text units; 24.8%), effected their confidence beliefs (*n* = 10 of 109 text units; 9.2%), provided encouragement (*n* = 10 of 109 text units; 9.2%), provided inspiration (*n* = 8 of 109 text units; 7.34%), gave motivation (*n* = 8 of 109 text units; 7.34%), helped

them focus (*n* = 5 of 109 text units; 4.59%), and helped them want to win (*n* = 4 of 109 text units; 3.70%). Five comments were put into a miscellaneous type category; they were: "it added great deal of determination to our game," "because it gave us pride," "because it prepared us well," it set the tone for the game," and "it took into account psychological preparation."

Did the speech your coach gave immediately prior to the game impact your performance?

Of the 145 responses to this item, 65.5% (*n* = 95) of the athletes indicated "yes" and 33.1% (*n* = 48) indicated "no" (2 athletes (1.4%) circled both yes and no). Responses to the question "if so, how" resulted in 105 text units that were sorted into 3 broad categories. More specifically, the athletes felt that the pre-game speeches effected their performance by facilitating effort (*n* = 56 out 105; %), effecting psychological states (*n* = 29 out of 105; 27.6%) and providing information (*n* = 19 out of 105; 18.1%).

Did the speech your coach gave immediately prior to the game meet your emotional needs?

Of the 140 athletes who responded to this question, 70.7% indicated yes while 26.3% indicated no (3.0% circled both yes and no). Responses (105 text units) to the "why" part of the question from athletes who indicated that the speech met their needs were grouped into three themes. Sixty percent of the text units fell under "regulated arousal" including quotes such as "helped me to play relaxed," "he was calming," and "pumped me up." The second theme was related to "made me focus" and included quotes such as "got my head in the game." The third theme was labeled "created desire to win" and was used for responses like "made me want to win" and "made me play with pride." The percentage of text units in these two other themes was both 7.6. From those athletes who indicated that the speech did not meet their needs, there were 36 text units. The main reason for the inhibitory effect of the pre-game speech was related to "poor arousal regulation." Fifty-six percent of the responses were "because I was tense," "wasn't emotional enough," and "I didn't get pumped up". The other responses were grouped into themes labeled "already prepared" (11%) and "had no emotional needs" (11%). Some of the more interesting responses to this question were "I just play the game; it doesn't matter what the pep talk is," "I need to feel energetic and enthused rather than neutral," and "because my calmness and my own thoughts are enough."

Did the speech your coach gave immediately prior to the game meet your psychological needs?

Results for this question showed that 142 athletes responded with 83.1% indicating yes and 16.9% indicating no. There were 118 text units provided for the follow-up question. Of these,

43.3% were categorized as "focus-related" (e.g., "helped me focus"), 32.7% as confidence-related (e.g., "made me feel more confident"), and 15.0% as "arousal-related" (e.g., "charged me," "lowered nerves," and "because I felt more comfortable"). Most of the athletes who indicated that the speech did not meet their psychological needs responded to the follow up question (21 out of 24 athletes). The most common responses were "already prepared," "made me tenser," and "speeches don't work."

What specific words, phrases or ideas do you remember from your coach's speech immediately prior to the game?

When the athletes were asked to recall any words, phrases or ideas from their coach's speech, there were 204 text units. Sixty-six percent of the responses were related to information – such as "watch #13," "play possession," and "need to win this game to be in Division 1." Thirty-four percent of the responses related to the emotional aspects of the speech (i.e., "go hard," "give it your all," and "take the goods home").

What else would you have liked to hear from your coach in the speech immediately prior to the game?

When queried as to what else they would have liked their coach to have said, there were 150 responses. Forty-four percent of the responses, however, were "nothing" or "I don't know." Of those that could be categorized, 36.4% were related to more emotion. Examples of comments were "it could have been spoken from the heart" and "if he got into it and was intense." Only 12.4% were related to more information. Examples of these comments were "more positional talk," and "he should have told us what kind of plays they made."

What would have made the speech your coach gave immediately prior to the game more effective?

For this last question, there were 130 comments or text units. Most of them, however, were "nothing/ I don't know/ was fine as is" (55.4%). Making the speech more emotional was the second category (23.0%). For example, athletes indicated that they wanted to hear "how much our game means" and be told to "do your hardest." The remaining text units were coded as informational (16.9%). For example, hearing "more about how other team plays," and "more of what to do and how to do it" were popular responses. The final category was "fun." Text units (4.6%) were related to athletes wanting to be told to have fun.

Discussion

This study explored athletes' perceptions of their coaches' pre-game speeches. Results indicated that overall, athletes liked the pre-game speeches and perceived them to meet their psychological and emotional needs and to impact their performance. A serendipitous finding was that the athletes commented on the coaches' delivery of the speech quite often (e.g., "he needed to show more emotion").

Results indicated that the emotional arousal aspect of the speeches seems to play an important role in the effectiveness of the pre-game speech. Often, the majority of the athletes responded to liking the speech or finding it effective, due to the emotion present; and when athletes disagreed with the effectiveness or likeability of the speech, it was due to a lack of emotional arousal. Similarly, athletes responded favorably to the motivating effort aspects of the speech and felt that these comments help impact their performance.

The influence of emotion and motivational comments is not surprising. In addition to impacting cognitions, researchers have also proposed several motivational consequences due to emotion. Fridja (1986) proposed the idea that action tendencies are inherent in emotion and would lead individuals either towards or away from an object. Izard (1993) suggested that emotions would dictate an individual to attend to immediate concerns and needs. Over two decades ago, Weiner (1977) suggested that motives were largely determined by emotions, as well as that specific emotions were linked to specific motives. For example, the emotion of anger would lead to an aggressive play style. Hanin (2000) also suggested that athletes considered feelings of motivation optimal for performance.

In terms of interplay between emotional and informational content, results support that coaches should remind the athletes of their goals within the speech. These goals can be both broad and specific; "let's play the best we can" and "don't give them a corner kick." The reason is twofold: one, motivation is considered the link between the drive and the goal (Schilling & Gubelmann, 1995), and two, because it reminds the athletes of their purpose, another of Hanin's (2000) top nine optimal positive emotions.

However, it is difficult to know if the athletes' perceptions of the speech were based solely on the pre-game speech, or if there were additional variables that might have been impacting their perceptions. A limitation of this study is that the athletes completed the questionnaire after the game (it was impossible to have them respond immediately after the speech was delivered). It is possible that the outcome of the game and/or their performance left them feeling more positively (or negatively) about their coach and his speech. This occurrence would be consistent with Niedenthal and Setterlund's (1994) view that stimuli are often perceived in line with their emotion. We provided the information on game outcome in Table 1. As you can see, 6 teams

won their game, 3 teams lost, and one team tied. Intuition suggested that the athletes' perceptions of the pre-game speech could be tainted by game outcome. For example, if a team lost, they may perceive the coach's pre-game speech more negatively than if the team would have won. However, when looking at the data, for example for the question asking if the athletes liked the coach's pre-game speech, the majority of responses were that they did like it and of the 9 athletes who indicated "no," 4 of them were on the same team, and they won their game. Additional analyses also showed no discernable patterns. These results do not mean that game outcome is not important to consider when studying pre-game speeches. Researchers could design studies where they assess and compare athletes' perceptions of coaches' pre-game speeches before and after the game. That type of design would be better suited for that research question.

Table 1. Athletes Perceptions of Pre-Game Speeches

Team	Gender	Division	Outcome	Liked Speech	Impacted Performance	Met Emotional Needs	Met Psychological Needs
1	Female	u12	Loss	89	78	67	89
2	Female	u15	Loss	77	47	53	71
3	Female	u14	Win	100	71	86	93
4	Female	u18	Win	44	50	31	50
5	Female	u17	Win	93	40	47	80
6	Male	u14	Win	94	75	75	88
7	Male	u15	Tie	88	53	77	65
8	Male	u13	Win	100	93	80	93
9	Male	u16	Win	87	60	73	87
10	Male	u16	Loss	100	75	88	75

Note. Numbers are percentages that reflect the number of participants agreeing with these statements.

It is also possible that the perceptions of the speech are indicative of the athletes' overall perceptions of the coach. Research has shown that athletes who feel more compatibility with their coach are more likely to evaluate him or her in a positive manner (Kenow & Williams, 1999). However, this finding should provoke interest and continued attempts to fully understand the pre-game speech. For example, former Notre Dame football coach Lou Holtz said,

"The pre-game speech in the locker room is overrated. I remember when I was in college, the coach gave the greatest pep talk pre-game. I was so fired up and then I go down on the opening kickoff and a guy hits you in the throat and you can't remember a word he said" (in Landman, 2006).

This insight into a coach's thoughts is important, as not only did Coach Holtz indicate that

he too, found the speech emotionally arousing (at least temporarily), but he also points out the need for further research on this topic, particularly on the lasting effect of the coach's words. As well, it is important to explore the possible interaction between an athlete's personality traits such as anxiety, and the effectiveness of these speeches.

There appeared to be less agreement among athletes on whether or not the coaches' speeches impacted their performance. These individual differences may be due to differences in playing experience at the elite level, as some of these athletes probably believed that they were prepared for performance regardless of the coach's speech. However, while there was less agreement, it is important to note that more than 50% of the athletes believed the coaches' speeches to have impacted their performance. This result is highly important information for coaches as it implies that the majority of athletes find the pre-game speech to be beneficial prior to competition.

In examining the athletes' perceptions, it is interesting to note the perceptions of Team 4 (see Table 1). Out of the 10 teams surveyed, this female team reported the lowest positive perceptions for liking the coach's speech (44%), the speech meeting their emotional needs (31%), and the speech meeting their psychological needs (50%). Team 4 also had the second lowest positive perceptions of the speech impacting their performance (50%). Upon recollection of the coach's speech and of the characteristics of this team, it is not surprising to note these low perceptions and it perhaps serves as a reminder to all coaches of the importance of the content within the pre-game speech. Team 4 was among the older female participants and their age would suggest that they were more susceptible to deriving ability cues from informative feedback than the younger teams surveyed (Amorose & Weiss, 1998; Black & Weiss, 1992). The coach's pre-game speech began by noting that the team had been lacking intensity, a criticism that would likely negatively impact the athletes (Black & Weiss, 1992). Additionally, the speech failed to offer the athletes any real strategy or offer a plan for goal attainment; rather, the speech informed the team that they would need to figure the plan out on their own within the first few minutes of the game. This speech's lack of instructional cues and overall focus on improving what the team had previously been lacking likely lessened the effectiveness of the speech for the team. Future research should consider in-depth interviews with athletes to help explain the causes for their perceptions.

The majority of athletes also felt that the speech given by their coach met their emotional and psychological needs. The speeches seemed to help athletes with their arousal regulation, often by either calming the athlete or increasing their level of arousal. This result would seem to lend support to previous suggestions that if a coach can create the appropriate stimulus event to help the athlete appraise the situation positively, the athlete will experience appropriate emotions, which in turn will influence performance (Cerrin, 2003). Interestingly, the athletes who disagreed with their teammates were unable to properly locate their ideal arousal or felt that they were

already prepared. This finding underscores the need for more research on the individual athlete's personality and reaction to pre-game speeches. Athletes also felt that the speeches primarily impacted their psychological needs by enhancing their concentration and confidence. Certainly strong emotions can help maintain focus and effort on a task (Hanin, 2000), and when athletes' perceptions have been considered, verbal persuasion has been found to be one of the most effective methods coaches can use to build feelings of efficacy (Vargas-Tonsing, Myers, & Feltz., 2004).

In using verbal persuasion, it is important to understand the role and impact of the words chosen. Within this study, the majority of athletes recalled words and phrases focused on informational content. This is inconsistent with Bock's (1987) suggestion that highly-affect-arousing words are better recalled than less emotional words. However, it is possible that the coaches may use certain informational phrases (e.g., win the 50/50 balls) more during practice and/or within every pre-game speech, and thus athletes remember the information due to repetition. It is also possible that past experiences, or even compatibility with the coach, impact the athletes' ability to recall information from the speech. Longitudinal data would help clarify this situation and should be incorporated into future research.

Athletes' also noted the importance of how the coach delivered the speech. They indicated that the speeches would have been improved and/or they would have liked to have heard more emotion from their coach. Certainly this is not surprising to Kuchenbecker (2003) who suggested that without emotions, it is impossible to excite and push players to a higher level of performance. Inducing emotions can be extremely beneficial to athletes as emotions not only convey information regarding the importance of the event, but also information regarding the athlete's ability to cope with the situation as well as how to respond (Fridja, 1986; Green & Sedikides, 1999). This finding is of particular interest as critics of the pre-game speech often suggest that when a coach uses this technique to "pump-up" athletes, the coach is actually at risk for pushing some athletes beyond their optimal arousal and potentially towards a performance decline (Duffy, 1981; Mack, 1999). Rather, perhaps pre-game speeches have the potential to benefit these very athletes. It is possible that an emotional pre-game speech might serve athletes by redirecting worrisome thoughts towards more facilitating emotions as the adverse effects of anxiety on an individual's performance are often due to worry rather than to emotionality (Deffenbacher, 1980; Morris, Davis, & Hutchings, 1981).

Conclusion

While this study has offered several valuable insights into athletes' perceptions regarding

their coaches' pre-game speeches, it is important to note that limitations were present. However, these limitations should not undermine the value of these results. As this was a field study, it was impossible to hold all outside variables constant for each game. Additionally, coaches may have altered their routines and speeches or spent more time preparing for the pre-game speech. While these circumstances do not necessarily impact the results of this study, the possibility remains that athletes may have been influenced by subtle changes in the coaches' tone or choice of content. Future research should consider following coaches across multiple games to account for any such change. Such a design would also allow for researchers to assess the impact of a speech before a championship game, or when underdogs, as athletes have reported a desire for varying levels of information and emotion according to game situation (Vargas-Tonsing & Bartholomew, 2006; Vargas-Tonsing & Guan, 2007). A more qualitative approach utilizing interview techniques should also be used in future research as this would offer a more in depth analysis of athletes' and coaches' perceptions of the pre-game speech. The present study, while laying a solid foundation for future research, was also limited by the use of a paper survey. It is possible that athletes did not fully respond to questions due to fatigue from the competition, or due to impatience to leave the field. It is also possible that some of the participants may not have fully understood the terms "emotional and psychological needs." As well, further study should investigate coaches' perceptions of the speech content (i.e., what they are trying to convey to athletes) to assess the congruency between coaches and athletes.

It is also important to note that the pre-game speech may act through various mechanisms on the athletes' performance, of which efficacy beliefs and emotions are but two aspects. Pre-game speeches may also influence performance by impacting other motivational processes such as goal attainment. By offering information on goal progress, the coach helps sustain motivation in athletes, thus promoting performance (Schunk, 1995). Pre-game speeches may also encourage a sense of shared purpose amongst the team which helps to promote team unity and cohesion; cohesion can help lead to a successful performance (Carron & Chelladurai, 1981; Shangi & Carron, 1987). It is also possible that pre-game speeches may help focus athletes on more task/performance oriented behavior, which can promote higher effort (Burton, 1989; Duda, 1988), including when faced with difficult goals (Dweck, 1975). Future research should begin to incorporate and examine the role of these various constructs as impacted by the coach's pre-game speech.

As researchers continue to gain knowledge and understanding of a coach's influence through his/her pre-game speeches, it will become important to begin to explore the impact of other similar-type speeches (e.g. half-time, timeouts, etc.). Additionally, future research should begin to explore the strength of pre-game speeches. While it is not expected that the effect of a pre-game speech would last through an entire competition, it would be hoped that the pre-game speech would last long enough to create a positive cycle for the team. In other words, coaches could

use the pre-game speech to assist athletes in having a strong opening sequence within their competition. Doing so, would hopefully then create a positive cycle in which the strong performance would increase positive feelings of expectancy and efficacy, which would then continue to positively impact performance. However, it is unknown if the pre-game speech actually has a long enough effect to provoke such a positive cycle, or if the speech's effect can prevent a breakdown when athletes struggle in the opening moments of a competition.

In summary, the results of this study indicate that athletes perceive pre-game speeches to impact performance. These results indicate that the pre-game speech has the potential to be a highly influential coaching technique; however, much more research is needed to fully understand this tool. This study furthers our understanding in this area and seeks to provide introductory exploration into athletes' perceptions.

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Accelerometry Measurements of Sprint Kayaks: The Coaches' New Tool

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Abstract

In flatwater paddling competition, optimal physiological power, effective technique and the correct race strategy are essential for peak performance. However, other important factors are the matching of equipment with athlete and placement order in crews. In this study, an in-board accelerometer measured craft dynamics of the sprint racing K-1 and K-4 with various combinations of international class paddlers. Acceleration values were greater on the right when compared to the left for the K-1 paddler. In the K-4 trails, crew 3 demonstrated greater accelerations, achieved faster times over the measured distance with the fewest number of strokes when compared with crews 1 and 2. Acceleration data sets were consistent with personal observations and video analysis conducted by Olympic coaches. This study clearly demonstrated that acceleration data sets can augment the analysis of performance, match equipment with athlete, identify stroke technique faults, and in the crew selection process.

Key words: paddling, flatwater racing, sport technology

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Introduction

It has been thought that superior performance in flatwater paddling competition is the result of the correct blend of physiological power, effective technique and correct strategy. However, in Olympic sprint kayaking, another important factor is the proper matching of equipment with the athlete. In the team events, the matching of equipment and the placement order in the boat are also major considerations.

In the sports of sprint Olympic canoeing and kayaking, sport science peer review research is lacking (Robinson et al., 2002). Indeed, advances in sport technology and engineering have far out paced the academic activities of sport scientists (Robinson et al., 2002). This is quite surprising, given the fact that in canoeing and kayaking the difference between winning gold and not qualifying for the final could be in the hundredths of a second (Robinson et al., 2002).

It should be quite evident that providing relevant research generated evidence to coaches should be the primary goal of sports scientists. Public and private funding opportunities could assist sports scientists in the establishment of evidence-based approaches for coaches. The development of objective outcome measures (quantitative information) would lead to evidence-based approaches.

Best practice approaches do require objective data sets to assess interventions. Coach-directed skill development, performance evaluations, and training programs (interventions) must instill evidence-based approaches. At minimum, these approaches would reduce the likelihood of needless injury, particularly among young developing athletes (Holt et al., 2008).

Supporting coaches and athletes with objective methods for the evaluation of the stroke, selection and matching of crewmembers, the ordering of athletes in crew boats, and the matching of equipment with athletes are desirable. Instrumentation of the paddle, as demonstrated by Aitken and Neal (1992), has long provided researchers a quantifiable method to evaluate on-water paddle force characteristics during the stroke. Although paddle force is a major factor in sprint kayak performance, the ultimate measure that the coach and athlete must concern is craft propulsion. Craft accelerometry rather than paddle force provides a direct, objective and more relevant evaluation of performance. The purpose of this study was to determine whether an in-board accelerometer could fulfill the above objectives.

Methods

In this study, a user friendly, portable in-board accelerometer (PadLog) was used to measure craft dynamics of a sprint racing K-1 when propelled by a female World Champion athlete and with various combinations of female Canadian Olympic Team paddlers in a sprint racing K-4.

Accelerometry Collection and Analysis

The accelerometer and data logger unit, dubbed 'PadLog', consisted of an ADXL105 ±5g accelerometer sampling at 100Hz (Analog Devices, P. O. Box 9106, Norwood, MA. 02062-9106). The Data Logger was a Tattletale Model 8 (Onset Computer Corporation, 470 MacArthur Blvd., Bourne, MA 02532).

Accelerometry data files were stored on a 30-Megabyte flashcard (Persistor Instruments Inc., 254J Shore Rd, Bourne MA 02532-4104, USA) then transferred to a Windows based computer where data sets were analyzed using a popular spreadsheet application (Microsoft Excel).

For the purposes of this study, raw data was used. In real time situations, for example, on-water training situations, it is desirable to give immediate feedback to the athlete in an effort to correct technique faults, or improve race strategy. Coaches do not have the luxury of a smooth shape to the data. Although the removal of the noise would have been ideal, the distinctive features of the acceleration data were clearly visible, and available for analysis.

Assessment of the Stroke of the K-1Paddler

The PadLog unit was firmly fixed to the midpoint of a sprint racing K-1 when propelled by a World Champion female paddler. The orientation of the PadLog was such to measure boat accelerations parallel to the longitudinal axis of the craft. Acceleration measures were then recorded over the course of a normal early season training session with performance intensities ranging from 50 - 100% of her perceived maximal effort. Acceleration data sets were interpreted as related to various features of her stroke.

Assessment of K-4 Crews

In order to gain information valuable to the crew selection process, Canadian Olympic coaches allowed the PadLog to be fixed to the midpoint of a sprint racing K-4 when propelled by varying combinations of five international level female K-4 paddlers. The orientation of the PadLog was such to measure boat accelerations parallel to the longitudinal axis of the craft.

Olympic coaches assigned each paddler a position in the craft for a total of three different crew combinations. Each crew combination (four of the five paddlers) performed all-out trials over a 500-meter race distance. Video recordings of each trial were collected with two cameras. One camera was placed at the end of the 500-meter course and collected a front view. A second camera was placed in a moving vehicle that kept pace with the K-4 in each of the trials and recorded a lateral view. All digital video was collected at a sampling rate of 30 frames per second. Wind conditions did not change throughout the duration of the three trials. Olympic coaches analyzed video and performance times for each trial to determine the best crew

combination. Independent from the coaches the acceleration data sets were analyzed for each crew to determine the optimal crew combination. The coaching observations were then compared to assessments derived from the acceleration data sets.

Results and Discussion

K-1 Trials

In the sport of rowing, where stroke rhythm is paramount in crew boats, minor differences in force application between rowers can have major consequences on boat performance (Forthergill et al., 2008). Indeed, where up to 8 rowers must perform highly complex, skilled physically demanding activities on a unstable platform at high speeds, precise coordination of efforts is the critical factor for peak performance (Forthergill et al., 2008).

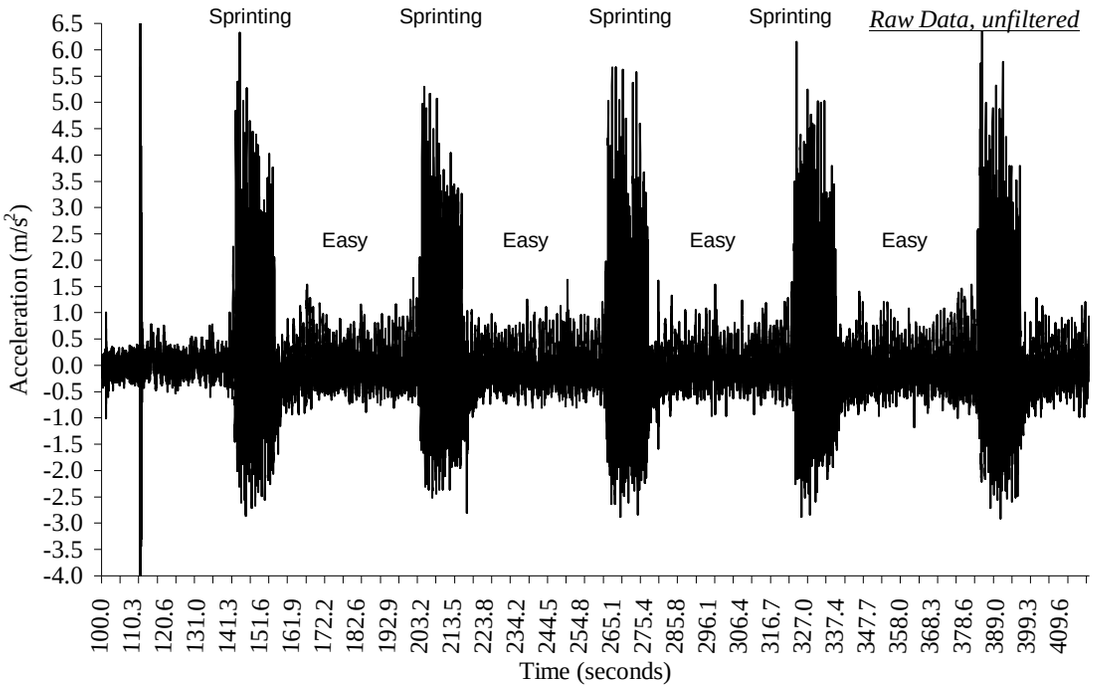

Figure 1. Craft accelerometry of a World Champion female K-1 paddler during an early season training session.

Notes: Sprinting = perceived near maximal effort
Easy = 50 percent of perceived maximal effort

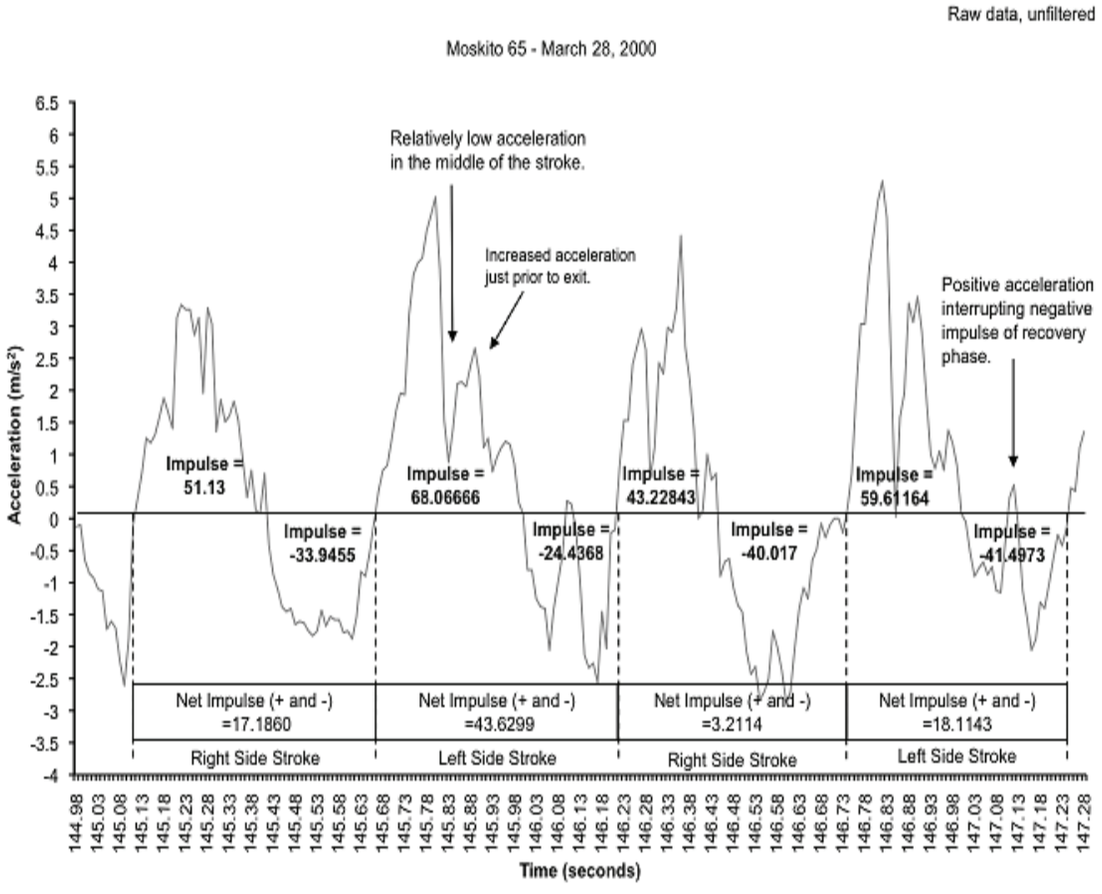

Figure 2. Four strokes of a World Champion female K-1 paddler recorded near the start of a perceived near maximum sprint effort.

Although the skills are very different, the aforementioned findings in rowing can be said with regards to Olympic sprint kayaking. Propulsion of a sprint kayak involves altering right and left strokes via a paddle with blades at either end (Qiu et al., 2005). Effective forward propulsion will require the symmetrical application of neuro-myofascial force via the right and left blade.

Qiu et al. (2005) found international caliber male kayakers achieved an almost symmetrical stroke rhythm over a 100-meter distance during race conditions. Whereas, the stroke rhythm of females over the same race distance was less symmetrical. Other technique variations were observed. Males increased stroke rates by reducing the time in the recovery phase. Whereas, women increased stroke rates by reducing the time in the propulsion phase. Similar findings were found with our case study of a female K-1 paddler.

Figure 1 represents positive and negative accelerations collected from the K-1 paddler during a normal early season training session. The paddler performed five 10-second intervals at near maximal perceived exertion interspersed with 30 seconds of easy paddling.

To eliminate fatigue-related technique changes, a four-stroke segment from the first trial was selected. This 4-stroke segment captured the typical important characteristic of the paddler at race pace. Figure 2 shows positive and negative directional accelerations collected from four strokes early in the first of the 10-second sprint segments as seen in Figure 1. The paddler produced a left/right stoke imbalance with the left-side stroke acceleration values exceeding that of the right-side stroke (Figure 2). Areas of relatively low acceleration can be seen in the middle of the propulsive phase of strokes 2, 3 and 4 followed by increased acceleration late in the stroke (Figure 2). The negative acceleration phase of the right-side strokes (Figure 2) are interrupted by a brief period of positive acceleration near their midpoint. The general profile of the acceleration data (Figure 2) was consistent with that throughout all strokes recorded by this paddler.

The athlete was aware of her left/right-side stroke imbalance through communication with her coach and it has been an area of concern in the past. The acceleration plot served as a useful tool to evaluate her progress in eliminating the imbalance.

From the coach's viewpoint, it was determined that the athlete performs a strong push just prior to the paddle exiting the water. This can be seen in the 2nd half of the positive acceleration phase of her stroke. However, not identified by the coach was the low acceleration period in the middle of the stroke. Given the existence of this low acceleration phase, the athlete should work to enhance the middle phase of her stroke resulting in higher total acceleration values throughout the whole of the stroke.

Similarly, the coach did not detect the positive acceleration period that was seen interrupting the negative phase of her right-side strokes. With the knowledge of the above stroke characteristics, it may be possible to manipulate her technique to minimize negative and increase positive acceleration in the stroke cycle.

K-4 Trials

Along with manual counts of stroke rates, 100-meter time intervals were recorded via a stopwatch over the measured 500-meter course where markers were positioned at 100-meter intervals (Olympic Basin, Montreal, Quebec, Canada). Post-trials, stroke rates were confirmed via the acceleration data sets. Table 1 displays performance times and number of stokes taken to complete each 100-meter segment of the 500-meter race distance. Crew combination 3 had the best 500-meter performance time, 5.1 seconds faster than crew combination 1 and 2. Crew 3 performed the 2nd, 4th and 5th 100-meter segments in less time and with equal, or fewer strokes than the other crews over the same race segments (Table 1). Crew 3 consistently generated higher acceleration values than did Crew 2 (Figure 3). Coaches described Crew 3 as looking "more solid" than Crew 1 and 2 but could not identify the specific variation with the naked eye.

Video analysis with frame-by-frame replay allowed the coaches to determine individual stroke synchronization of Crew 3 was superior to Crew 1 and 2.

Table 1. Performance times and strokes of the three K-4 crew combinations.

Crew Combination 1

Distance (meters)	Time (seconds)	Strokes
0-100	21.6	43
100-200	20.3	40
200-300	20.5	39
300-400	21.5	40
400-500	22.9	42
TOTAL	106.8	204

Crew Combination 2

Distance (meters)	Time (seconds)	Strokes
0-100	21.5	42
100-200	20.2	40
200-300	21.4	38
300-400	21.8	39
400-500	21.9	40
TOTAL	106.8	199

Crew Combination 3

Distance (meters)	Time (seconds)	Strokes
0-100	21.4*	43
100-200	19.7*	40
200-300	20.4*	40
300-400	20.3*	39
400-500	20.1*	39
TOTAL	101.9*	201

Note: * Best Performance Time

With data sets generated by the PadLog, the coach staff was able to more easily see differences in acceleration generated by the different crew combinations. Figure 3 clearly shows the superior peak accelerations generated by the fastest crew combination. Coaches found the interpretation of the acceleration data sets were consistent with their own evaluations of the three crew combinations. Poor timing of individual members of the crew, as determined from video analysis, may well have been the cause of both inconsistent and lower craft acceleration values of Crews 1 and 2.

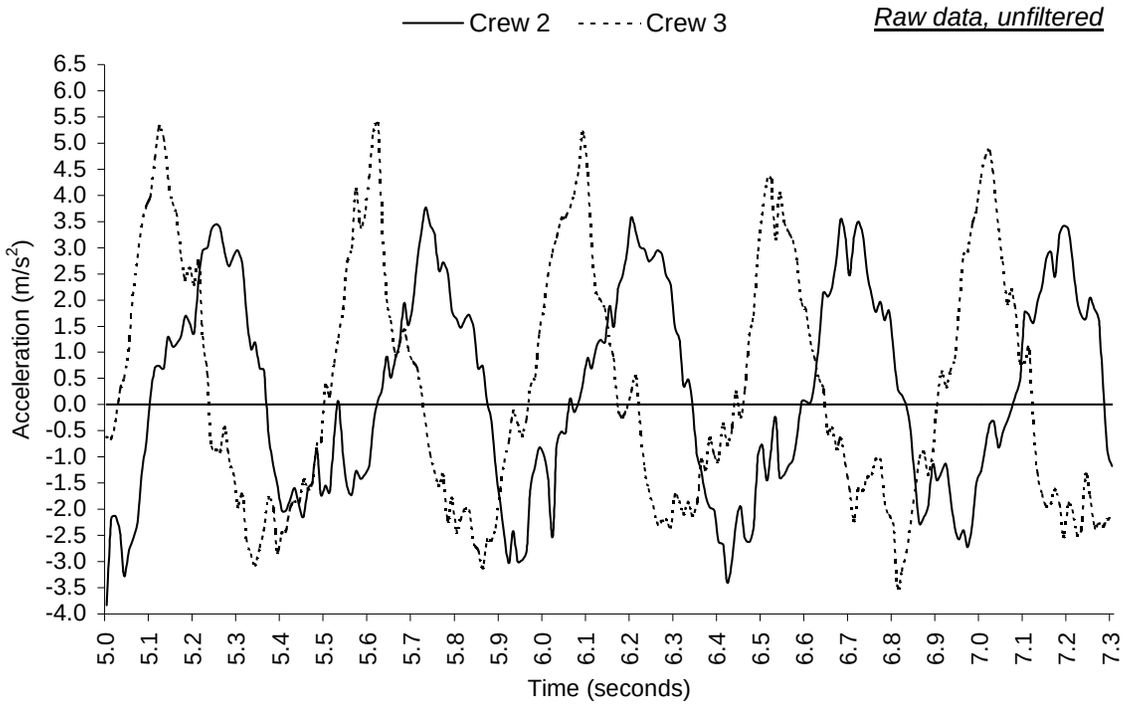

Figure 3. Five strokes from K-4 crew combination 2 and 3 overlaid in the same time sequence during a 500-meter race trial.

Matching of equipment

Carter et al. (1994) used an in-board accelerometer sampling at 10 Hz to evaluate Sprint C-1 dynamics in trials performed by an Olympic paddler with five variations of the Olympic C-1 paddle. Small differences were seen in craft accelerometry for trials between the various paddles. Accelerometry measures were able to effectively evaluate paddle designs and provide objective performance measures for both the coach and the athlete. Since the time of this initial study, technology has advanced considerably allowing in-board accelerometers to be lighter, sample at higher rates, and improved capacity to capture larger volumes of data. These data sets can now be easily transmitted and stored in most home computers for analysis with widely available and affordable software.

A visual capture system is either a handheld camera with filming on an unstable platform such as a coach boat, or from a distance shoreline. Sensor complexes, such as the PadLog are small, lightweight and telemetric (Pelham et al., 2006). These sensor complexes do not disrupt, or distract the paddler during training sessions (performance evaluations), or competition. They generate real-time, accurate data in most environmental conditions (Pelham et al., 2006).

James et al. (2004) has developed and begun initial testing of an accelerometer based

sensor platform. The prototype has been promoted to have the capacity to capture three-axial accelerometry, determine position via global positioning system, and record heart rate via a telemetric hear rate monitor. Data sets are transmitted and stored via a computer. Trails have been conducted with swimmers and scullers. A preliminary finding with swimmers has shown that the system has the capacity to generate accurate stroke counts when compared with the traditional manual (labour intensive) counts. Clearly defined phases of the rowing stroke of a single sculler were obtained from the system. The ability of the system to identify fundamental and important features of swimming and rowing that were previously performed manually could redefine the activities of the coach. That is, the coach may spend less time collecting information, and more time teaching.

More recently, a Hungarian company (Polaritas Ltd., Budapest, Hungary) appears to have developed equipment (DigiTrainer) and software (TechnigueStudio), where preliminary information was unveiled at 2009 International Canoe Federation Coaching Symposium (Polaritas, 2009). According to the manufacturer website (http://polaritas-ltd.hu/DigiTrainer/digitrainer/what-is-digitrainer/), the system among other features has the capacity to measure heart rate, boat speed, stroke rate, and capture three-dimension acceleration. However, the authors could not find any peer-review research publications on the system.

Prior investigations (Pelham et al., 2006; Robinson et al., 2002) have suggested that empirical evaluations of acceleration augment most methods of kinematic analysis (for example, video analysis). Further, the lead author (Robinson, 2006) has queried senior coaches of the Canadian Canoe-Kayak Program as to the sports science tools most needed to assist them as they prepare paddlers from international competition. Unanimously, they requested equipment and methods that will enhance their capacity to effectively and efficiently collect comprehensive, objective, real-time information on boat dynamics under race conditions. However, the priority of the coaches was the capacity to assess the technical (stroke) proficiency of the paddler under race conditions.

Overall, Robinson (2006) has identified six criteria variables that meet the questions. These were: 1. velocity of the boat, 2. stroke dynamics (rate), 3. three-dimensional kinematic features of craft, 4. paddle kinetics, 5. the effectiveness and efficiency of the propulsion phase, and 6. physiological dynamics (heart rate). Robinson (2006) has proposed a system of three-dimensional video synchronized with kinetic information from paddle sensors, three-dimensional accelerometry of the craft with the global positioning system. Physiological data from a telemetric heart rate monitor would complete the system. Robinson (2006) has referred to this comprehensive system as Olympic Canoe-Kayak Performance Analysis System.

According to Robinson (2006) the system would be able to assess and match equipment

with athlete, analyze and appraise paddler-paddler interaction, aid in crew selection, identify the most favorable set-up for the paddler in the craft, optimal race strategy, fine-tune sport-specific physiological evaluations and training programs, and provide productive information to club and developmental coaches through the Canadian development stream.

The capacity to generate quantitative information with regards to corrections to faulty training programs of young athletes, and the resultant prevention of needless sports injuries has long been advocated by sport scientists (Holt et al., 2008) and primary health care providers (Pelham et al., 1995).

The paddle and craft are customized equipment, specially selected and sized for the individual. In the case of the paddle, length of the shaft, area of and shape of the blades must match the anthropometrics and style of the paddler. It is essential that calibration of any such data gathering tool be simple and precisely performed if valid performance assessments are to be made. Placement of the sensors is critical and must be exactly replicated between trials and among test paddles. Positioning the sensors on the mid-point of the shaft would generate quite different results than sensors at points closer to the blades. The position of the sensor, and the wiring between it and the transmitter must be concealed within the paddle shaft architecture. Obviously, the wires cannot interfere with the motion of the paddler, telemetry rather than a hard-wired assembly between the paddle and data receiver is a preferred design criteria. Perhaps one of the most critical and difficult design elements to meet is the extreme lightweight of the sensor and transmitter system. Any change in the normal sensation of the athlete may introduce foreign motions into the data set. Eliminating any intrusion into the normal athletic environment is imperative to gather valid performance data.

Conclusion

It was found that the precise acceleration data collected in K-1 and K-4 trials were consistent with the more subjective personal observations and video analysis conducted by Olympic coaches familiar with the athletes training and performance. Further, the assessment of acceleration data sets generated by the PadLog revealed additional positive and negative stroke characteristics not detected by expert coaches. Knowledge of these "hidden" elements may allow coaches and athletes to modify stroke technique and training to further maximize performance.

The results indicate that the PadLog can be used effectively to compare team boat performances with varying combinations of athletes.

This study clearly showed that on-water acceleration data sets from paddling activities in a sprint K-1 and K-4 can easily be collected, analyzed and then used in the modification of stroke

technique, in the crew selection process and matching of equipment with athlete(s). Coaches can use the information generated by the PadLog as an additional tool while formulating important decisions.

Although the collection of information by direct observation may be a convenient approach, coaches may wish to consider the practices of primary health care providers where in the clinical sciences, best practices have been defined by evident-based approaches. An important feature of an evidence-based approach has been the application of objective outcome measures to assess treatment effectiveness. Possibly, coaches should follow the same principles. Ideally, kinetic and physiological data should be gathered and synchronized with kinematic information for a comprehensive analysis.

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Determining the effectiveness of Small-Sided Football (SSF) implementation in metropolitan Association Football

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Abstract

The aim of this research was to assess and analyse a large group of practicing coaches' perceptions of Small-Sided Football (SSF), a modified games-based training and playing format, and whether its implementation throughout the grassroots of Australian Association Football has been effective. A survey was developed and completed by 127 coaches based in the Sydney metropolitan area. The demographic and psychometric data collected indicated that the governing body, Football Federation Australia (FFA), has effectively implemented SSF across the board. This study has shown that more work could be done in the areas of education and training, and the issue of winning versus development. Coaches indicated support of FFA's philosophy and implementation of SSF, and are willing to adapt and implement the curriculum together with promotion and support of club administrators.

Keywords: small-sided football, Australian Association Football, Football Federation Australia, coaching experience

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Introduction

After the creation of a new national governing body for football in Australia during 2005, Football Federation Australia (FFA) set out to enforce revolutionary reform throughout the game's grassroots. In developing its national plan, one of the fundamental components was the implementation of the Small-Sided Games (SSG) model for players aged between six and twelve years. This model consists of a uniform training and playing format that by 2011 should be standard procedure throughout all associations and their member clubs within Australia (Football Federation Australia, 2007).

The SSG model is part of a national plan to develop players to an international standard and/or world's best practice. FFA's mantra on the cover of its National Football Development Plan (2007) is "Making Australia a World Leader in the World Game." During 2008, FFA released its Small-Sided Games Handbook, and then rebranded it as Small-Sided Football (SSF) during 2009. This document has been copied to all member associations and clubs as a blueprint for success during the developmental stages of a player's life.

SSF is based on the street football concept seen throughout Europe, and in particular, the Netherlands. FFA has employed a string of Dutch technicians to facilitate this model throughout Australian football. Utilising components of the Dutch football philosophy, known as TIC, FFA has also produced its National Football Curriculum (2009). TIC stands for "Technique," "Insight" and "Communication." It is believed that no matter how small children are, or how elementary the standard of play, the players possess a certain degree of technical ability. Insight is primarily a question of experience and football intelligence that a child will develop over time. The connection between technique and insight is bridged by communication, that is, the interaction between players and the elements involved in the game, first and foremost the interaction with the ball (Michels, 2001; van Lingen, 1997).

In order to gain a conceptual understanding of the structure of SSF, FFA's model is outlined in Table 1.

The objective of SSF between the ages of six and twelve is to develop technical ability. As outlined in FFA's National Football Curriculum (2009), "learning to master the ball, learning to act with the ball purposefully, and learning to play together purposefully" (p.16) are fundamental outcomes. So, the "T" in TIC is of particular focus during this elementary stage of learning. The Dutch believe the key outcomes for participating in the game from six to twelve years are; familiarity through play, gaining control over the ball, as the ball is the most important obstacle, and to always be involved in small-sided games where each player achieves as many ball contacts as possible (Kormelink & Seeverens, 1997; van Lingen, 1997).

Table 1. Small-Sided Football (SSF) playing formats. Reproduced from "Optus Small-Sided Football Handbook," by Football Federation Australia, 2009, p. 10. Copyright 2009 by Football Federation Australia. Retrieved from http://www.footballaustralia.com.au/site/_content/document/00000576-source.pdf.

Playing Format	Under 6	Under 7 & 8	Under 9 & 10	Under 11 & 12
Numbers	4 v 4	5 v 5	7 v 7	9 v 9
Field Size	30m x 20m	30m x 20m	40m x 30m	60m x 40m
Field Markings	Markers or painted line markings	Markers or painted line markings	Markers or painted line markings	Markers or painted line markings
Penalty Area	Nil	Nil	8m length x 16m width	8m length x 16m width
Goal Size	Min: 1.80m x 0.90m Max: 2.00m x 1.00m	Min: 1.80m x 0.90m Max: 2.00m x 1.00m	Min: 4.80m x 1.60m Max: 5.00m x 2.00m	Min: 4.80m x 1.60m Max: 5.00m x 2.00m
Goal Type	Markers, Poles, Goals	Markers, Poles, Goals	Markers, Poles, Goals	Markers, Poles, Goals
Ball Size	Size 3	Size 3	Size 3	Size 4
Goalkeeper	No	No	Yes	Yes
Recommended Playing Time	2 x 15 minutes	2 x 20 minutes	2 x 25 minutes	2 x 30 minutes
Half Time Break	5 minutes	5 minutes	5 minutes	7.5 minutes
Referee	Game Leader	Game Leader	Instructing Referee	Instructing Referee
Competition Tables & Finals	No	No	No	Optional

Note. FFA has amended its playing formats since the publication of its Small-Sided Football Handbook (2009), making minor adjustments to the field size, penalty area and goal size along with the removal of competition tables and finals as an option for Under 11s.

The unique defining element of Dutch football is space and the theory that space is flexible. The Dutch believe that the size of a football field can be altered by a team playing on it. In particular, spreading play to the wings aiming to make the pitch as large as possible to increase and exploit the available space (Winner, 2000). In order for a team to utilise this space, it must have possession of the ball. This is a fundamental component of Dutch football. Possession is no guarantee for success but it has the great advantage that the opponent is forced do a lot more running after the ball (Kormelink & Seeverens, 1997; Michels, 2001; van Lingen, 1997).

Perhaps, the most critical aspect in the implementation of SSF is how the coaches, largely made up of volunteers and/or parents, coach the players to play the games. Implementing SSF from a coaching perspective requires significant cultural change. Traditionally, coaching

methodologies in Australia have been based on the direct instruction model. The direct instruction model is thought to have provided an organised learning environment based on movements, skills and concepts organised and segmented into blocks of time, providing high levels of feedback in order for learners to practice each task or skill. This method has been the universal method of choice for teaching and to a similar extent coaching from around the 1890s well into the 1970s (Metzler, 2000) and is still used today.

There is merit to the direct instruction model; it breaks skills down into small steps, is visually demonstrative in nature and well structured. However, there are some central issues around information overload from coaches, unnecessary detail, varied competency levels, boredom and the need for greater tactile stimulation (Metzler, 2000). In contrast, the games approach, on which SSF is based, is more about training for the game scenario. Its core focus being enjoyment, creativity, expression, and innovation whilst promoting inclusion, active participation regardless of ability, and encouraging decision-making (Griffin & Butler, 2005; van Lingen, 1997).

The aim of this research is to assess and analyse the impact SSF has had on the grassroots and in particular, feedback on the experiences from the people coaching it. As coaches act as facilitators and mentors to young children (McMorris & Hale, 2006), it is of the utmost importance to appraise the coaching environment for the betterment of youth development and sustained growth for the sport. Areas such as coaching qualifications and experience, understanding of the SSF model, perceptions on winning versus development, and support of the national philosophy are key components of the attitudes and culture surrounding coach education.

The research question for this paper is: Determining the effectiveness of Small-Sided Football (SSF) implementation in metropolitan Association Football. Since its implementation during 2008, a number of associations have had two full seasons to trial its effectiveness. FFA has conducted its own research, as outlined in the Small-Sided Football Handbook (2009), surveying “over 70,000 children across all Member Federations in varying age groups” (p.4). However, it is in the best interests of the game to allow independent research to be conducted on coaches in order to gauge how SSF is applied at the grassroots to facilitate a strong development pathway for Australia’s youth.

Methods

In an effort to determine the effectiveness of SSF implementation in metropolitan Association Football, six FFA member associations based in the Sydney metropolitan area were chosen at random to complete a series of demographic and psychometric questions. Questions

were predominantly measured using a Likert-type scale, a form of ordinal and psychometric measurement (Gratton & Jones, 2004; Smith, Todd & Waldman, 2009). The numbers represent categories rank ordered from 1 to 5, where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree. With this kind of data it is possible to describe people's level of satisfaction. However, the distances between the categories might not be equal. This means that the reader cannot assume that someone who gives a 5 score is five times more satisfied than someone who gives a 1 (Smith, Todd & Waldman, 2009).

Table 2. Outline of qualitative research survey questions with the aim to determine the effectiveness of Football Federation Australia's, Small-Sided Football (SSF) implementation.

Number	Question
1	Sex
2	Age
3	How many years have you been coaching?
4	Club (list the name of your football club and where you are currently coaching)
5	Age group coaching (if more than one, indicate in additional comment field)
6	Coaching licence held (if not current, indicate in additional comment field)
7	Playing experience
8	I prefer the Small-Sided Football (SSF) model to the previous format
9	Feedback from parents has been supportive of the implementation of SSF
10	My club has taken positive steps to implement SSF throughout the club
11	I have been provided with coach education and training on how to implement SSF by my club or association
12	There has been an increase in volunteerism from parents since the implementation of SSF
13	I have noticed a marked increase in the number of touches each player receives on the ball under the SSF model
14	The fundamental shift away from competition (winning/points tables/finals) has made for a more inclusive and enjoyable experience for children
15	The cost to me as a coach in implementing SSF has increased compared to previous years
16	As a coach, I fully support Football Federation Australia's national philosophy that skill development between the ages of six and twelve is best achieved through "fun"
17	I believe an improved pathway has been established through the SSF model to identify talented young players
18	Additional comments

Each question was structured to establish each participant's actual coaching scenario and/or understanding based on perception. This form of analysis is subjective but valuable in gaining an insight into the challenges, barriers and issues within the coaching environment. The questionnaire was constructed and distributed via the internet with a link sent to each participating association.

Chief football administrators were contacted and briefed on the aims and objectives of the research paper. It was agreed that each participating association would distribute an email with a link to the survey to their member clubs, who in turn, forwarded the link onto their SSF coaches.

The research question, structure, and objectives were decided after a review of available literature including key documents produced by FFA, the National Football Development Plan (2007), Small-Sided Football Handbook (2009) and FFA National Football Curriculum (2009). Additionally, a review of available literature on Dutch football methodology and direct instruction versus games sense-based training principles provided a holistic basis for which to compile the series of questions, as outlined in Table 2.

Results

Of the six associations selected, three decided to participate with two providing the majority of the data. There were a total of 127 complete surveys. Discussion on the interpretations associated with each question is beyond the scope of this research paper and perhaps an opportunity for further study. However, a number of important observations can be made in relation to specific questions. Of the 17 defined questions, 10 have been selected for review.

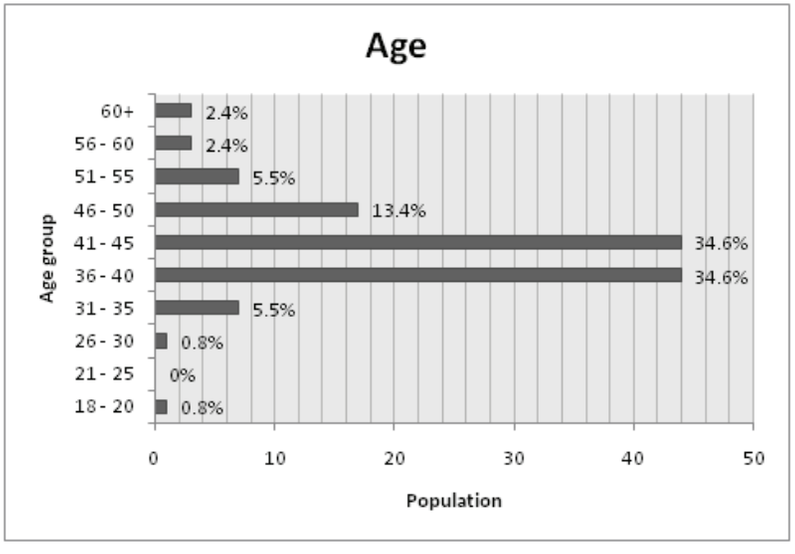

Figure 1. Population by age. Majority aged between 36 and 45 years.

Demographic questions are outlined in Figures 1 through 4, with psychometric questions

summarised in Table 3. Demographically, 85.8% of the sample population are males. The majority of respondents are aged between 36 and 45 years, with less than 5 years coaching experience, coaching from Under 6s to Under 8s with no FFA accredited coaching qualifications.

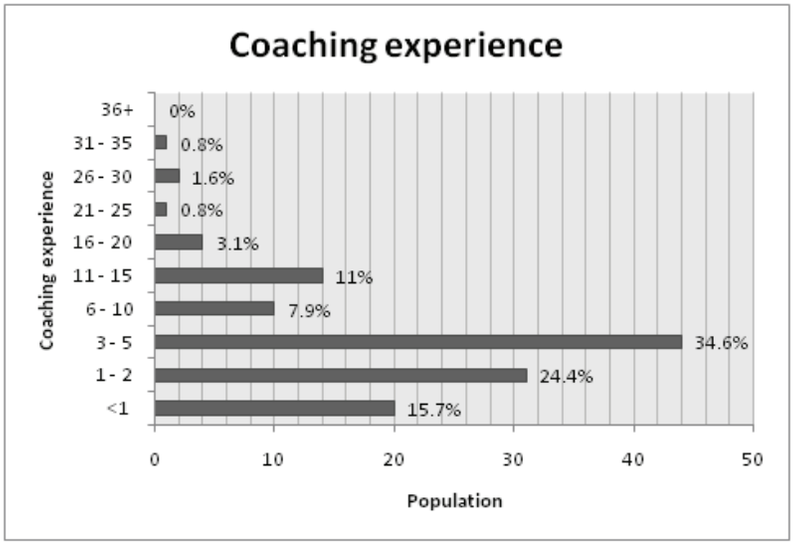

Figure 2. Coaching experience by year. Majority of coaching experience between 1 and 5 years.

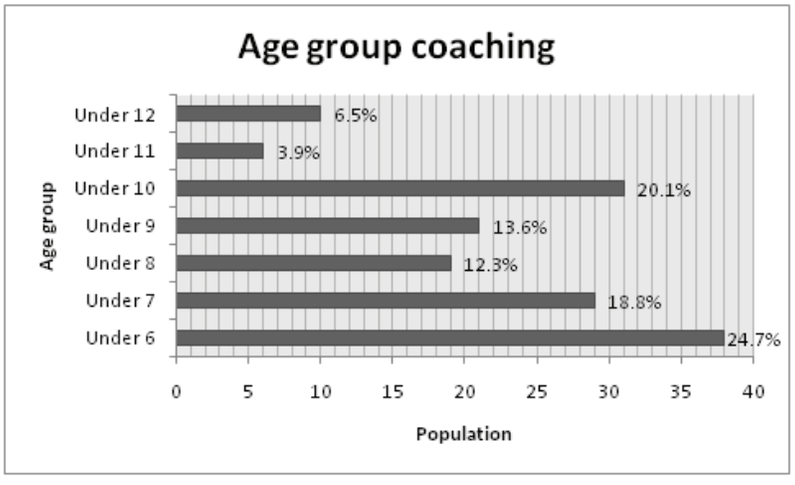

Figure 3. Population of coaches by age group coaching. Majority coaching Under 6s to Under 8s.

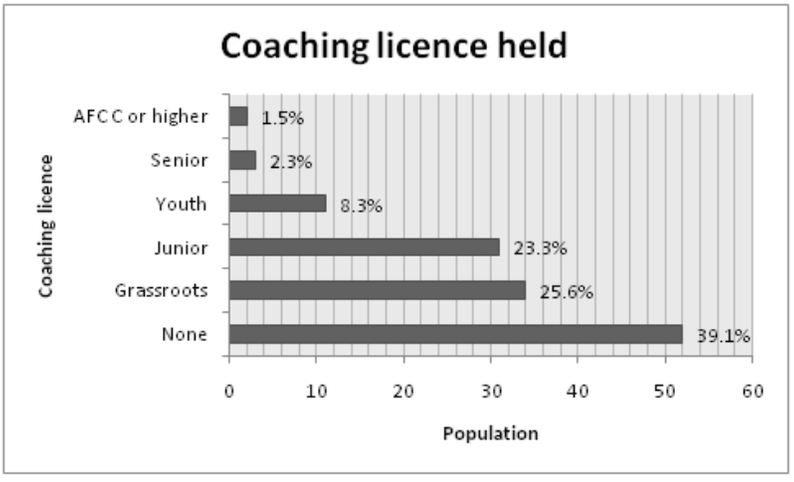

Figure 4. Level of formal coaching accreditation. Overrepresentation of coaches with no qualifications.

Table 3. Summary of Mean (M) and Standard Deviation (SD) for psychometric questions.

Question	Mean (M)	Standard Deviation (SD)
I prefer SSF model to the previous format	3.99	1.08
My club has taken positive steps to implement SSF	4.57	0.61
I have been provided with SSF coach education and training	3.95	0.87
I have noticed a marked increase in the number of touches on the ball	4.09	0.93
The fundamental shift away from competition has made for a more inclusive and enjoyable experience for children	3.50	1.17
I fully support FFA's national philosophy of skill development through "fun"	4.24	0.97
I believe an improved pathway has been established to identify talented players	3.27	1.05

Chi Square was used to explore relationships using the ordinal data collected from the Likert-type scales. It does two things in one test. It is a test of independence and also a test of association, formally testing the null hypothesis that two things are independent (Barnes & Lewin, 2005). That is, the removal of results by chance. With this in mind, a number of fundamentally important questions have been selected and tested with the "Probability" or "P value" indicating that answers given were not attributed to chance. Key questions were tested with observations outlined in Table 4.

Table 4. Probability of Chi Square (X^2) with key data interpretations.

Question	Chi Square (X^2) or "Pvalue"	Interpretation
How many years have you been coaching?	<0.01	Overrepresentation of coaches with <1 year; majority between 1 and 5 years coaching experience
Age group coaching	<0.01	Overrepresentation of coaching Under 6s; underrepresentation of coaching Under 11s and Under 12s
Coaching licence held	<0.01	Majority of coaches with no coaching qualifications; overrepresentation of coaches with grassroots certificate
I prefer the Small-Sided Football (SSF) model to the previous format	<0.01	Overrepresentation of coaches who strongly agree and agree
My club has taken positive steps to implement SSF throughout the club	<0.01	Overrepresentation of coaches who strongly agree and agree
I have been provided with coach education and training on how to implement SSF by my club or association	<0.01	Overrepresentation of coaches who agree
I have noticed a marked increase in the number of touches each player receives on the ball under the SSF model	<0.01	Overrepresentation of coaches who strongly agree and agree
The fundamental shift away from competition (winning/points tables/finals) has made for a more inclusive and enjoyable experience for children	<0.01	Overrepresentation of coaches who agree; reasonable number of responses neutral and disagree
As a coach, I fully support Football Federation Australia's national philosophy that skill development between the ages of six and twelve is best achieved through "fun"	<0.01	Overrepresentation of coaches who strongly agree and agree
I believe an improved pathway has been established through the SSF model to identify young players	<0.01	Underrepresentation of coaches who strongly agree and strongly disagree; overrepresentation of coaches who agree; overrepresentation of coaches who remain neutral

In response to the psychometric line of questioning, results have shown that SSF coaches generally prefer the SSF model to the previous format, and clubs have taken positive steps to implement SSF with the majority agreeing that they have been provided with SSF education and training. Furthermore, the majority have noticed a marked increase in the number of touches on the ball. Interestingly, there is a mixed response to the questions of winning versus development and the removal of competition with just under half either unsure or despondent with the removal of scores, points tables, and finals. An overwhelming majority believe that skill development is best

achieved through fun; this is in line with FFA's national philosophy. However, the identification of a clear pathway for talented players has not returned a favourable response.

Discussion

The results have presented a number of consistencies between this independent research and that conducted by FFA as outlined in its, Small-Sided Football Handbook (2009). However, there are some inconsistencies which need to be addressed, and perhaps, represent an opportunity for further study. In particular, the need for an increase in coach education and training has been clearly identified with 39% of SSF coaches without an accredited coaching qualification; a further 26% held a Grassroots Certificate.

When linked with coaching experience, a 40% majority of SSF coaches had less than 1 year to 2 years coaching experience with 75% having no more than 5 years. When reviewing available literature on teaching and/or coaching games, Bunker and Thorpe's (1982) Teaching Games for Understanding (TGfU) model has been advocated by various professionals as a sound idea in relation to games education (Butler, Oslin, Mitchell, & Griffin, 2008; Griffin & Butler, 2005; Holt, Strean, & Garcia Bengoechea, 2002; Mandigo, Butler, & Hopper, 2007). According to Randall (2008), "TGfU requires that teachers know games enough that they can create and modify existing games to satisfy a particular need. For example, teachers may have to create or modify a game to highlight the particular tactic to be focused on that day" (p.17).

This presents the question, "Are coaches sufficiently qualified to coach SSF?" In this research, the results indicate they are not. When analysing the demographic data provided in this sample, interestingly, most SSF coaches are male, aged between 36 and 45 years, and coaching children primarily from Under 6s to Under 8s. During these significant developmental stages of a young player's life, they like to play with freedom. However, key outcomes should be achieved as stated in FFA's Small-Sided Football Handbook (2009) such as, "dribbling, passing and receiving, ball feeling, juggling and shooting" (p.9). Therefore, coaches need to have a conceptual understanding of how to best utilise games in a supportive and inclusive coaching environment. Perhaps, FFA should specifically target middle-aged men in an effort to improve coach education, as they appear to be more likely, based on this research, to volunteer their time to coach their children and children of their peers or community.

Analysis of the survey sample based on psychometric questioning has returned mostly positive results which are encouraging for FFA. In particular, 95% of coaches believe that their club has taken positive steps to implement SSF with 81% indicating that they have been provided with education and training. Here, education and training appear to contradict their

coaching qualifications. This could be a limitation perhaps based on an individual's perception of what is meant by education and training. In a technical sense, 80% of coaches have noticed a marked increase in the number of touches a player receives on the ball which is in line with the national philosophy, as is the ideology that skill development is best achieved through "fun" with 85% in favour of the inclusive position taken by the governing body. This reflects positively on the idea that developing a deeper understanding of the game, decision making and the ability to use information in a variety of situations is the main purpose of the implementation of the games model (Griffin & Butler, 2005; Hubball, Lambert, & Hayes, 2007; Kirk & MacPhail, 2002; Light, 2004; McBride & Xiang, 2004).

However, the debate surrounding competition has returned the most divided response in this research. As the removal of competition, that is, winning, points tables, and finals, is a fundamental component of FFA's national philosophy and central to the SSF model amongst this age group, results indicate 46% of respondents were either neutral, in disagreement or strong disagreement with the removal of competition. FFA justifies the removal of competition in its Small-Sided Football Handbook (2009) by stating, "With the emphasis on participation and enjoyment, and an associated removal of the current emphasis on the importance of winning, children are much more likely to enjoy their football playing experience" (p.5).

Feedback provided in the additional comments field of the survey, or Question 18, has highlighted some continuing themes in relation to competition and/or the lack of, leading to an increase in dropout rates and dissatisfaction with the game, which FFA claims SSF is less likely to incur. Respondent #67 stated, "What we must be careful of with our game is not to turn our players to other codes due to it being non-competitive." Similarly, Respondent #38 stated, "Personally, I have lost six extremely talented children to rugby league because of the introduction of SSF." Likewise, Respondent #104 stated, "The lack of competition is difficult for children to understand. The lack of competition is hard for parents to embrace." Also, Respondent #19 stated, "Parents are very sceptical as they are used to the big game and that winning is more important than skill development."

There is a need for persistent education on the benefits of development first, winning later. As stated in FFA's National Football Curriculum (2009), "short-term losing, long-term winning or short-term winning, long-term losing" (p.10) is for the governing body to decide. Based on this survey sample, evidence suggests that coaches' attitudes towards winning over development provide significant barriers to effective implementation of the SSF model. When linked to the question of establishing an improved pathway to identify talented players, results have shown a 58% majority are either neutral, in disagreement or strong disagreement on whether this has been implemented. Respondent #37 stated, "Unfortunately, I saw no evidence of this during the season."

Similarly, Respondent #86 stated, "I have been given no information on the pathway and wouldn't know how to go about finding it." A recommendation to FFA would be for more transparency and access to this information for the broader football community.

Conclusion

By collecting data and feedback from coaches charged with implementing revolutionary reform at football's grassroots, one could conclude that coaches agree with FFA's philosophy in implementing SSF across the board. However, this study has shown that more attention is required in the fundamental areas of education and training, and the debate over winning versus development. Although the SSF model is in its infancy in Australia, evidence suggests that with a mandate, promotion and support from club administrators, coaches are willing to adapt and implement the curriculum for the betterment of Australia's youth development.

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Research Note

A competency-based coach education in the Netherlands

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In top class sport both the athlete and the coach are pushed to their limits. Many hours of training are invested in this outstanding level of performance. It is a process of many years in which the coach's task is to help the athlete get the best out of him or herself. The athlete's personal qualities and abilities are of vital importance to this. There is no single route to the top: each athlete is unique and calls for an individual approach: tailored to the athlete's specific needs.

What shape does the development of (future) top coaches take? What must they be capable of, and how are their individual qualities taken into account in their training? How do we get the best out of our coaches? In other words: how do we take a tailor-made approach to the development of these coaches?

These are the questions that played an important role in the development of the TopCoach5 programme in the Netherlands. The result is a coach programme that centres on personal qualities and abilities. The programme focuses on the individual and is tailor-made. It focuses on the student.

This article is about the philosophy, development, programme and results of TopCoach5.

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Background

The Netherlands is a relatively small European country situated between England and Germany. Its surface area (41,528 km2) and population of 16,400,000 give the country its urban character.

Participation in sport (organised and free sport) is high: 10,200,000 people take part in sports. There are approximately 1,200,000 sports volunteers. There are 360,000 active coaches, 38,000 of whom work professionally. These are mostly part-time jobs. Converted into full-time positions, this represents 11,000 jobs. The same number (11,000) work in health and fitness centres, with about 2,500 employed at schools.

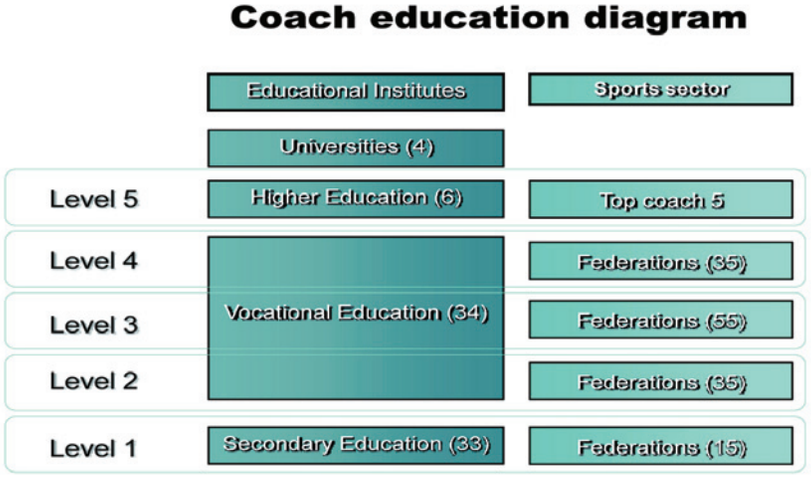
In organised sport there are 73 sports federations, covering 200 sports, 30,000 sports clubs and 5,200,000 sportspeople.

Since 2000 the Netherlands has aspired to be one of the world's top ten countries for sport. That has resulted in better facilities for athletes, including accommodation, coaching, fees, payments, training camps and financial support. There was a growing awareness that these fulltime athletes were still being coached by part time trainers. That is why since 2004 a course has been set to make fulltime coaches available and to improve the training level of top coaches.

Coach education in the Netherlands

The first step in the coaching education process was to describe the profession of coach. Tasks, responsibilities and the context in which a coach works are described in the professional profile. This profile has been drawn up by sports federations and NOC*NSF (Netherlands Olympic Committee* National Sports Federation) and applies to all organised sports. The second important step was to place all coach programmes within this model. We call this the qualification structure. This model makes a distinction between levels, with the tasks and responsibilities laid down for each level. Complexity and responsibility increase at each level. Level 1, for example, features an assisting role, at level 2 simple training tasks are carried out and people work independently at levels 3 and 4. Competencies are laid down for each level. In this context competencies are formed by the set of knowledge, skills and attitudes needed to operate at the relevant level.

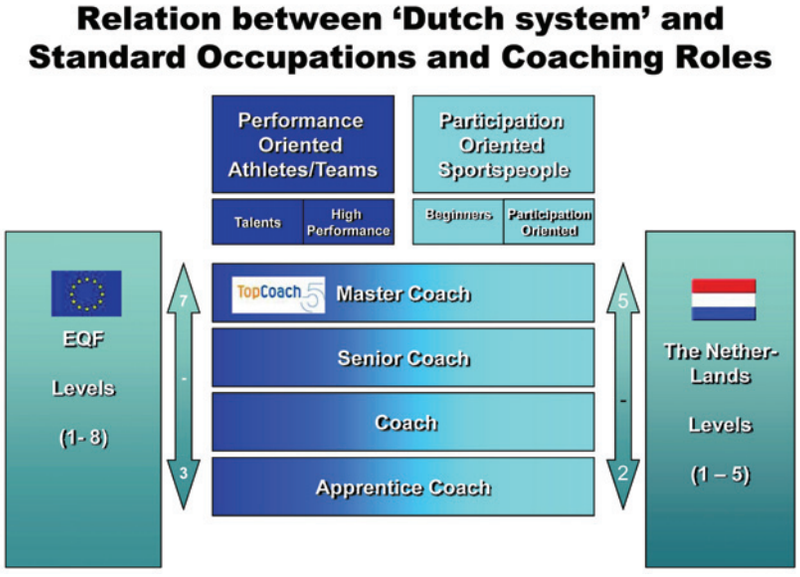
The first pilots with this qualification structure (swimming, volleyball, track and field sports) were carried out in 2003 and 2004. All coach programmes now have the same setup and fit within the structure. Coach programmes are offered by educational institutes and by federations. This is shown in the chart below.



We made a start with building the TopCoach5 programme in 2005. This programme is a unique partnership between 2 universities of applied sciences and the NOC*NSF. Both Amsterdam University of Applied Sciences (Hva) and Hanze University Groningen have a very good Physical Education degree programme and sports management programmes. The combining of forces in the areas of expertise, network and the level of authority are very important in this

regard. The TopCoach5 programme is the highest coach programme in the Netherlands. The first group of TopCoach5 students began in 2007.

Since that time a European qualification structure (EQF) has been developed. Here too, there is a division into various levels, 1-8. The intention is to place all European coach programmes within this structure. The European structure differentiates between programmes for participation sport and competitive sport.



The TopCoach5 concept

The following considerations played an important role in the development of the TopCoach5 programme:

• It is a competency-based programme (sets of knowledge, skills, attitudes and personal characteristics)

• Every coach, like every sportsperson, has to get the best out of him or herself. That means individual routes, a tailor-made approach.

• We work in multidisciplinary groups, which means bringing various sports together.

• Our aim is to train genuine coaches, who are always willing to continue to develop.

• The programme is based on professional practice: the students work in practice from the very beginning of the programme.

To put the development of people in motion, the learning person occupies a central position

in competency-based learning. It is very important for individual development to be used and shaped on the basis of experiences already gained. As well as these existing learning experiences, the student must also have a clear image of what the development should lead to. The level to be achieved is described in final attainment levels and qualifications. They originate from the professional profile and are therefore derived directly from everyday practice. The student thus learns mainly the matters that are of importance to the practice of his or her profession. In combination with the student's individual development, this results in a high return from the education and implementation of what has been learned. Learning is experienced as being of practical significance. This gives the student's career development direction and structure.

Professional practice serves as the starting point. Working in practice is therefore a precondition for taking part in the programme. That way everything that is learned can be applied in practice and is based on 'practical issues'. Learning could not be any more direct.

Supervision in the TopCoach5 programme

Professionals are available to support students in the development of knowledge, skills, attitude and personal characteristics. We define 4 roles:

1. The expert (knowledge)

The programme has interesting speakers who are able to develop the concepts, the vision and the approach of the trainee coaches. For this purpose, two-day meetings are organised at the national sports centre. Each presentation lasts for 3 hours. There are 5 presentations in each two-day meeting. A total of 75 expert meetings are held for each intake. Trainees can of course also put forward their own suggestions for subjects.

2. The practical leader (skills)

The student works in practice; supervision by one or more experienced coaches is an important aspect of this. The student is free to call on one or more coaches. It is interesting to note that some trainees approach coaches from other disciplines.

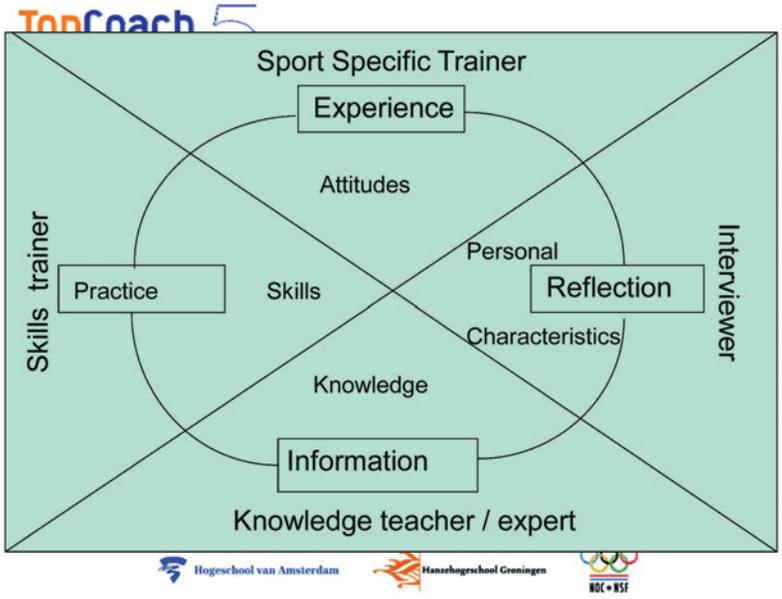
3. The skills trainer (attitudes)

The skills that the trainees work on range from "learning to hold interviews" and "using the video analysis program" to "carrying out the Snatch as a form of strength exercise". Many of these skills are practiced at the expert meetings touched on above, but they can also be given

in different forms.

4. The learning coach. (personal characteristics)

The student chooses his or her own learning coach. His or her role is to support the student as a process supervisor. He or she is an expert in reflection and asking questions. These people have a sporting background, but do not have any connection to the student's specific sport. The learning coach is the only expert to remain linked to the student throughout the entire 8 to 24 month process.



The competency-based curriculum

The complex reality of high performance coaches in sport has been unravelled by experts into 7 areas. These 7 competencies or competency areas always affect each other, but make it possible to base development on themes. The programme comprises 2100 hours of study (75 ECS)

- Coaching during top sports matches (20 ECS)
- The top coach is able to effectively coach top sportspeople during top matches in accordance with the match rules and the match plan, with the aim of achieving predetermined targets and taking into account the rules of conduct and safety and factors that affect performance.
- Training of top sportspeople. (20 ECS)

- The top coach is able to effectively prepare individual sportspeople and teams, in a structured manner and based on scientific knowledge, to perform optimally at a predetermined point in time.
- Supervision of the development of top sportspeople (8 ECS)
- The top coach is able to offer effective supervision that contributes to the personal development of a top sportsperson, such as independence and mental stamina, and which does justice to his or her ambitions and abilities.

- Management of the coaching team (8 ECS)
- The top coach is able to effectively put together a coaching team around a top sportsperson or sports team and to manage that coaching team and call it to account if it fails to perform adequately.
- The development and support of a long-term top sport policy (7 ECS)
- The top coach is able to analyse and evaluate plans, to provide input for the development of a top sport policy plan and make recommendations for future improvements based on the evaluation.
- The collection, development and sharing of knowledge. (7 ECS)
- The top coach is able to effectively gather sport-scientific knowledge, to apply that knowledge in his or her training and coaching practice and, on the basis of this experience, to contribute to the development of the performance of the top sportsperson and communicate this knowledge and experience to others.
- Promotion of competency development among trainers/coaches (5 ECS)
- The top coach is able to support in a competency-based manner fellow coaches in the development of technical sports insights and instruments for promoting expertise.

1 ECS represents approximately 28 hours of study.

Assessment in the TopCoach5 programme

The essence of competency-based learning is that the knowledge, skills and attitude needed to complete a task to the full satisfaction of all concerned in the actual practical situation (context) can be practiced separately but are demonstrated as a whole in the assessment. That means that the assessment consists of realistic, complete and complex coaching tasks. For that purpose we have related mastery criteria to the competencies. That makes the required standard clear to the student. Each student indicates the point at which he or she wants to be assessed. We call these assessments: Competence Tests. The student demonstrates on the basis of this test

that he or she meets the mastery criteria.

Assessment criteria	Registration of observed behaviour	Yes	No
Acts on the basis of a vision of the coaching of sports people in international top sport			
Presents an image of the field of influence and those involved in it.			
Analyses opponents.			
Determines a strategy together with the sportsperson/team.			
Sets competition targets together with the sportsperson/team.			
Holds preliminary and concluding meetings.			
Intervenes in the right way and at the right time during the competition.			
Organises and monitors the course of events on the day of the competition.			
Applies all relevant regulations.			
Manages the coaching team during the competition.			
Arranges the registration of competition and evaluation details.			
Translates conclusions of competition evaluations into programming and coaching.			
Maintains contact with the media, sponsors, management and officials.			
Top sportspeople are focused on the competition.			
Top sportspeople are actively involved in the preparation and the evaluation.			
Competition analysis.			
Competition result is in keeping with predetermined targets.			

The competence test includes, for example: coaching. This test is taken during a real national or international competition. The assessors are present at the preliminary talk with the athletes, are literally alongside the coach during the competition and attend the final talk with the athletes. The assessors (2) are from the study programme and the relevant sport federation.

Examples of other competence tests:

development of knowledge: the student writes an article in the coach journal Sportgericht (www.sport-gericht.nl) . E.g.: ‘jumping test for skaters’, ‘focal and decision behaviour of handball players’, ‘ligament injuries in handball’.

Managerial development: the student oversees one or more other coaches at level 3 and 4.

Student intake

Potential students sign up via the website at www.topcoach5.nl. The programme management contacts the potential student and the sport federation. The sport federation checks whether the student has achieved the required diploma level 4 and whether the group of athletes or team that he or she is working with is competing at the required level. If the requirements are met an individual intake interview is held with 2 people from the programme management. The implications of following this type of programme require that the student takes a very pro-active approach, is sufficiently able to reflect and has an image of his or her own future and the development towards it.

The students are assigned a learning coach when the course begins. At an initial meeting the student is given two self-analysis assignments. This clarifies their position regarding the formulated mastery.

The first assignment involves completing 360 degree feedback. They put a number of self-formulated questions to people they believe have a valuable opinion about their performance as people and as a trainer/coach. Some examples: did you ever think that I would want to become a trainer/coach? Which qualities do I possess as a coach? What should I add to my role as a trainer/coach? And so on. These questions are put to people in their professional area, such as managers, former athletes, current athletes, fellow-trainers. And also to people that know them such as father, mother, brother, sister, partner, children, family, friends. The student is free to choose which and how many people to ask (at least 8).

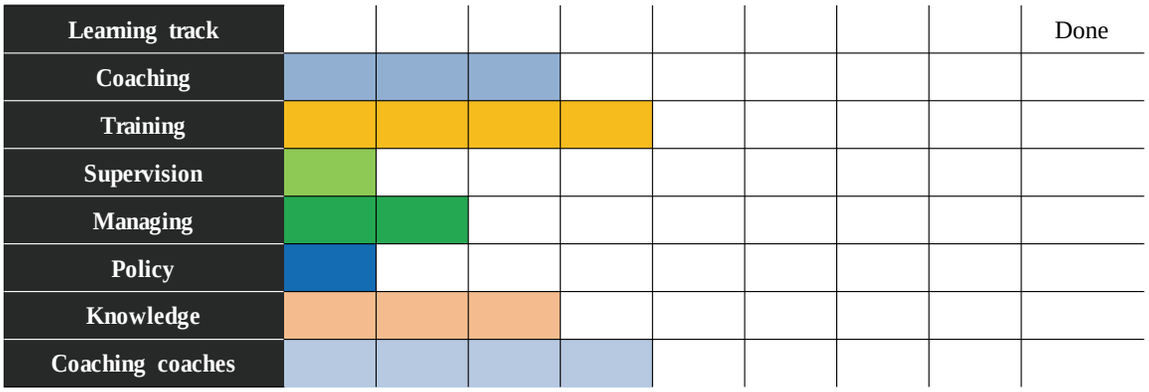
The result: a document setting out the knowledge, skills and attitude others ascribe to the student, which make him or her suitable for the profession. The document also sets out the areas in which the trainer/coach plans to develop and change his or her own performance.

The second assignment: self-assessment in relation to the final attainment levels.

The student reads the mastery criteria and specifies what he or she can already do. Many coaches find it difficult to show on the basis of "professional product" documents that they already have mastery of a given section at a certain level.

The result: a document setting out the analysis in relation to the finishing line. Which mastery criteria have I already achieved? And have I sufficiently detailed and documented them? It is now clear to the student what has to be done in each learning track to cross the finishing line. This document also sets out what the student wants to start with.

An example:



The next steps?

The way in which the student's development can be structured in such a way that all of the requirements are ultimately met is decided in consultation between the student and the learning coach.

Because everything revolves around practising in a realistic situation, the student and the learning coach focus on the question: "which assignment are you now able to complete in your sport in order to take the next step?"

The programme sets 5 to 10 assignments for each learning track. They can be used as "examples" or completed as they are. The mastery criteria being practised are described for each assignment. Each assignment is followed by a period of reflection: has anything changed? What else do I want to work hard on? It could be decided to repeat an assignment or to formulate a new one, for example. These assignments can be regarded as stepping stones.

The assignments and agreements are laid down in a Personal Development Plan. All assignments, the evaluations, the recorded interviews and videos are collected in a portfolio. This file on the electronic learning environment is available to the student wherever he or she is and can be amended or added to.

The participants

The students enrol in person. Many coaches already have an affiliation with their club and are given support to complete the programme in a career development context. It is also possible to enrol individually without any employment links to the relevant sport federation. The

programme is currently being followed by 65 students, divided over four intakes. Not all of the students will complete the programme at the same time. Various coaches have already been operating at the highest international level for so long that their portfolios are already very well-filled and are able to complete the programme within 8 months, whereas others need 24 months. Sixty per cent of the first intake has now successfully completed the programme. Many of the students are working on their competence tests. The participants are drawn from the following sports: squash, skating, swimming, water polo, judo, volleyball, sailing, aikido, billiards, cycle racing, track & field, pole vaulting, motor racing, etc. The graduates have all found a good, paid job in the sport. They range from national coaches (and talent coaches) to trainer coaches for professional sports teams.

To conclude

NOC*NSF has calculated that for the Netherlands to achieve its international target, a further 350 coaches will have to be trained during the next 8 years.

And if all of the participants attach the same amount of value to the programme as one of the first students who said: “I’ve learnt to view my own sport with renewed admiration. Experiences from other sports and my own development have given me a lot of new insights”: the TopCoach5 programme will have succeeded in its aims. That student is now working with a completely new concept in cycle racing.

For more information see www.TopCoach.nl info@topcoach5.nl

Korea Coaching Development Center(KCDC)

The Coaching Development Center (CDC) was established by Dr. Jeong-Keun Park (founder/co-president) and Dr. Ik Soo Moon (co-president) in November, 1998. On January 2002 the official name was changed to the Korea Coaching Development Center (KCDC). The mission of the KCDC as a non-profit organization is to improve the quality of elite, youth, and elder-sports coaching in Korea.

- The KCDC publishes a quarterly newsletter, academic journal, and books that relate to coaching. The KCDC also publishes a bi-annual international journal named the International Journal of Coaching Science (IJCS) in cooperation with the International Council for Coach Education (ICCE).

- The KCDC holds seminars and workshops and contributes articles in the newsletter of the Korea Professional Golf Association (KPGA) and Korea Football Association (KFA).

- The KCDC presents successful Coach Awards.

- The KCDC uses the internet website (www.ikcdc.net) for the exchange of information between members.

- The KCDC is supported by several university professors, coaches, and other members of the sporting community.

- The KCDC is financially supported by its membership fees, donations, and some business programs.

The International Council for Coach Education
About the ICCE

The International Council for Coach Education (ICCE) is a not–for–profit, international organization with the mission of promoting coaching as an internationally accepted profession. ICCE members seek to enhance the quality of coaching at every level of sport.

Every day around the world, tens of millions of athletes run, jump, throw, catch, swim and participate in other sport activities. And every day around the world, millions of coaches help those athletes chase their dreams. The ICCE believes that international collaboration and exchange can accelerate positive change in the realm of coaching development and help these coaches give athletes around the world a chance to pursue excellence.

By joining together in the ICCE, members seek to develop an international framework to share this vision with every nation in the world's sporting community.

The target audiences for the ICCE are National Representative Bodies responsible for coach education; institutions that deliver coach education; individuals who design and deliver coach education; coaches; and the international sport community at large.

The expected outcomes of the ICCE initiative are: A network of international organizations responsible for the development of coaches in their respective nations. International accords on coaching issues such as ethics, safety, and knowledge/competency. An international coaching culture that supports the values of Olympism: integrity, honesty, fairness, inclusion, tolerance, and commitment to excellence. The ICCE is uniquely qualified to address its mission because its members comprise the world's leaders in coaching development. There exists no other international sports body that focuses on programs for the individuals who introduce, teach, and deliver sport daily–coaches.

Organizational Structure

The ICCE organizational structure includes a General Assembly, Board of Directors, Finance Committee, Ethics and Disciplinary Committee, and Control Committee.

The General Assembly

The General Assembly brings together all ICCE members every second year. The membership structure includes four categories of members:

Category A – National Representative Bodies
Category B – Organizations
Category C – Individuals
Category D – Honorary members

Board of Directors

The Board of Directors consists of eleven members, elected by the General Assembly to a four year term of office, to include:

A President;
A General Secretary;
A Treasurer:
Five members representing the five continents: Vice President for Africa, Vice President for the Americas, Vice–President for Asia, Vice President for Australia/Oceania and Vice President for Europe.
Four additional members

The Board is responsible for establishing the programs, policies, and procedures of the ICCE.

Control Committee

The Control Committee consists of two members, elected by the General Assembly to a four year term in office. The Control Committee shall review the ICCE's monetary affairs and other actions, and report any errors or omissions to the General Assembly.

The International Council for Coach Education
Australian Sports Commission,
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