THE LEARNING PROCESS OF A COACH: PREFERENCES OF COACHES IN THE UNITED STATES

Authors: **Peter W. Van Mullem, Ph.D**. and **Heather I. Van Mullem, Ph.D**., Lewis-Clark State College

Abstract

The purpose of this study was to examine the educational methods coaches in the United States use to obtain coaching knowledge (CK) and develop a coaching philosophy (CP). Thirteen methods in learning how to coach were identified from the coaching education literature and used to develop an online survey instrument to examine the methods coaches most frequently use in obtaining CK and developing a CP. The results indicated that coaches (n = 1,082) in the United States preferred informal educational methods in acquiring CK and developing a CP. Additionally, 71.4 % coaches in the study utilized informal discussion with other coaches multiple times throughout the year to acquire CK compared to 54.2% of coaches seeking to develop CP.

INTRODUCTION

The coaching profession offers coaches a variety of avenues to be employed as a coach, including youth sport, club sport, interscholastic sport, intercollegiate sport, and professional sport. The number of opportunities for aspiring coaches is expected to continue at a rate faster than the national average for job growth, with the Bureau of Labor and Statistics reporting a 29% increase in coaching and scouting positions in the United States through 2020 (Bureau of Labor Statistics, 2013). As the number of opportunities for employment in the coaching profession continues to grow, the pressure to win and develop young people will continue to increase (Hoch, 2004). Currently in the United States there is minimal formal training required to be hired as a coach. Thus, with minimal required training is a coach prepared to teach, influence, and lead to meet this challenge? What educational methods should a coach seek in learning how to coach?

Coaches have an awareness of how their coaching knowledge and philosophy have emerged through their own personal experience and educational background (Jenkins, 2010). As lifelong learners, coaches develop their craft by experiencing several learning situations across their playing and coaching careers (Trudel, Gilbert, & Werthner, 2010). A review of the literature on

coaching education reveals two avenues frequently discussed in the training of coaches, informal and formal education (Cushion, Armour, & Jones, 2003; Gilbert, Côté, & Mallett, 2006; Mallett, Trudel, Lyle, & Rynne, 2009; Wilson, Bloom, & Harvey, 2010). Formal coaching education is institutionally sanctioned (e.g., coaching minor) and is taught using guided delivery, whereas informal learning occurs incidentally in the field (e.g., assistant coaching position) (Mallet et al., 2009). Informal learning opportunities in coaching typically begin as a participant in sport, through observation of the teaching methods, motivational tactics, and leadership demonstrated by their coach (Wilson et al., 2010). Upon completion of a playing career, an aspiring coach will immediately relate their experiences as an athlete in their new role as a coach (Erickson, Côté, & Fraser-Thomas, 2007) and continue to improve their craft through a variety of informal learning methods (e.g., discussion with other coaches, trial and error, observation, seeking the advice of a mentor, clinics, workshops, web sites, books, DVD's) and possibly formal educational opportunities such as a university degree program or a governing body certification program (Turner & Nelson, 2009).

Typically in the process of learning to coach, coaches seek information to increase their coaching knowledge and develop their coaching philosophy. Coaching knowledge (CK) is defined as the technical knowledge (techniques) a coach needs to teach sport specific skills and the tactical knowledge (strategies) a coach needs to prepare athletes for competition (Côté, 2006; Martens, 2012; Trudel, Culver, & Werthner, 2013). A coaching philosophy (CP) is defined as a set of standards a coach uses to influence, teach, and model in leading his or her team (Jenkins, 2010; Wooden & Jamison, 2005). Both the acquisition of CK and CP may occur through informal and formal coaching education methods. For example, to acquire CK coaches may enroll in a course on teaching the fundamentals of football to learn the techniques on how to teach football skills (i.e., formal education). Simultaneously, they may work as an assistant football coach and have frequent discussions with other members of the coaching staff on game strategy (i.e., informal education).

In previous studies, results indicated that coaching experience and other coaches had the greatest impact on a coach's knowledge (Carter & Bloom, 2009; Gilbert & Trudel, 2005; Gould, Giannini, Krane, & Hodge, 1990), and the preferred method of becoming a coach typically is focused on the informal, "hands-on" coaching experience compared to formal training procedures (Hedstrom & Gould, 2004). Furthermore, the amount of time a coach spends on coaching educational materials is minimal compared to the time they spend actually coaching, challenging the traditional methods of formal instruction and increasing the importance of being placed in a positive informal learning environment (e.g., hands-on training) as a novice coach (Lynch & Mallet, 2006). Thus, it could be argued that educating coaches involves a multidimensional approach

(Cushion et al, 2003), which may include reflecting on experiences as an athlete in the sport they are coaching, a formal coaching education program, and strong mentorship during informal learning opportunities (Erickson et al, 2007).

Currently, the United States lacks an established consensus on the requirements to become a coach and is deficient in a national coaching education or certification program for coaches (Dieffenbach & Wayda, 2010). The National Standards for Sport Coaches (NSSC), created by the National Association for Sport and Physical Education (NASPE), is commonly adopted by state high school associations and youth sport programs (Blom, Wininger, Zakrajsek, and Kirkpatrick, 2010). However, the standards are not implemented in every state or at every level of coaching, and the requirements for interscholastic coaches in regards to coaching education and certification vary by state (NFHS, 2012). In intercollegiate athletics, the standards are even less stringent or lacking entirely (Freeland, 2000).

Various studies have identified the preferred methods coaches seek in learning how to coach (Côté, 2006; Cushion et al., 2003; Gilbert & Trudel, 2001; Lemyre, Trudel, & Durand-Bush, 2007; Mallet et al., 2009; Nash & Sproule, 2009). However, the vast majority of research in coaching education continues to be conducted internationally (Callary, Werthner, & Trudel, 2011; Erickson, Bruner, MacDonald, & Côté, 2008; Lynch & Mallet, 2006; Nelson, Cushion, & Potrac, 2006). Studies on coaching education in the United States are often limited to interscholastic coaches (Hardin, 2000; Gilbert, Lichtenwaldt, Gilbert, Zelezny, & Côté', 2009), elite coaches (Gould et al., 1990; McCullick, Schempp, & Clark, 2002) or one region of the country (Dieffenbach, Murray, & Zakrajsek, 2011; Stewart, 2006; Vargas-Tonsing, 2007). Therefore, the purpose of this study was to examine the educational methods coaches in the United States use to obtain coaching knowledge and developing a coaching philosophy.

METHODS

Participants and Procedures

This study focused on coaches in the United States. A convenience sampling method was used to survey coaches using an online survey instrument. Coaches were invited to participate in the study via email. Email addresses of coaches were obtained through web sites of state high school associations, professional coach associations, collegiate governing bodies (NCAA, NAIA, NJCCAA, and NCCAA), and collegiate conference web sites. The web sites were selected based on the availability of email addresses of coaches. Before data was collected, approval was obtained from the university's Institutional Review Board (IRB) and the participants were provided with an

overview of the study, statement of voluntary participation, and confidentiality of the information prior to starting the survey. The survey link was distributed to the email address at the time the addresses were collected and a follow-up email was distributed two weeks before the survey closed.

The final sample consisted of 1,082 participants, 799 (73.8%) men and 283 (26.2%) women. The majority of the coaches participating in the study (674; 62.3%) had earned a master's or doctorate degree and 345 (31.9%) participants had 20+ years of coaching experience. Two hundred and fifty two (23.3%) of the coaches reported that they spent the majority of their coaching career in the Great Lakes Region (MN, WI, IL, IN, MI, OH). In regards to coaching experience, 121 (11.2%) of the coaches had never been a head coach and 197 (18.2%) had 20+ years of coaching experience. Fifty-two percent (464) of the 884 coaches with head coaching experience self-reported a career winning percentage of .600 or greater. In addition, 573 (53%) of coaches had won one or more championships at their level of sport (see Table 1).

Table 1: Participants Summary of Demographic Data

Participant Demographics	No. (%)
Gender	
Female	799 (73.8)
Male	283 (26.2)
Age	
18-25	71(6.7)
26-30	151(14.0)
31-35	168(15.5)
36-40	141(13.0)
41-45	146(13.5)
46-50	127(11.7)
51-55	118(10.9)
56-60	81(7.5)
61-older	79(7.3)
Highest Level of Education	
High School	25(2.3)
Associate Arts (AA)	22(2.0)
Bachelors	361(33.4)
Masters	618(57.1)
Doctorate	56(5.2)
Total Years in Coaching	
1 to 2	54(5.0)
3 to 5	111(10.3)
6 to 9	172(15.9)
10 to 14	226(20.9)
15 to 19	174(16.0)
20 to 29	197(18.2)
30 to 39	118(10.9)
40+ 30	30(2.8)

Total Years as a Head Coach	
NA (Never a Head Coach)	121(11.2)
1 to 2	119(11)
3 to 5	185(17.1)
6 to 9	163(15.1)
10 to 14	188(17.4)
15 to 19	109(10.1)
20 to 29	120(11.1)
30 to 39	56(5.2)
40+	21(1.9)
Total Years as an Assistant Coach	
NA (Only a Head Coach)	10 (0.92)
1 to 2	51(4.7)
3 to 5	109(10.1)
6 to 9	172(15.9)
10 to 14	222(20.5)
15 to 19	174(16.1)
20 to 29	197(18.2)
30 to 39	118(10.9)
40+	30(2.8)
1 or More Championships Won by Level	
NA (No Championships Won)	509 (47.0)
High School (State Championship)	139 (12.8)
College (Conference Championship)	361 (33.4)
College (National Championship)	55 (5.0)
Professional League Championships	18 (1.7)
Self-Reported Winning Percentage of Head Coaches	198 (18.3)
NA (Not a Head Coach)	22(2.0)
Less than .200	11(1.0)
.201 - .299	83(7.6)
.300 - .399	106(9.8)
.400 - .499	198(18.3)
.500 - .599	265(24.5)
.600 - .699	151(14.0)
.700 - .799	48(4.4)
Greater than .800	
Region of USA	
Northwest (WA, OR, ID, AK)	82(7.6)
West Coast (CA, NV, HI, AZ)	98(9.0)
Midwest Region (NE, IA, KS, MO)	146(13.5)
Southwest Region (NM, TX, OK, AR)	64(5.9)
Rocky Mountain (MT, WY, UT, CO, ND, SD)	61(5.6)
Northeast Region (ME, VT, NH, MA, CT, RI, NY)	136(12.7)
Great Lakes Region (MN, WI, IL, IN, MI, OH)	252(23.3)
Mid-Atlantic Region (PA, WV, VA, MD, DL, NJ)	100(9.2)
Southeast Region (KY, TN, NC, SC, GA, FL, MS, AL)	143(13.2)
	48(4.4)
Greater than .800	

Instrumentation

A survey instrument was designed to examine what methods coaches most frequently used in developing CK and CP. There were three major sections of the survey: (a) demographic questions, (b) two questions each with likert-scaled items associated with the 13 preferences towards either coaching knowledge and coaching philosophy, and (c) open-ended questions. The 10 demographic questions provided basic information about the respondents including gender, age, level of education, and the region of the country they spent the majority of their coaching career. In addition, the demographic questions identified the levels of coaching experience, total years in coaching, total years as a head coach, total years as an assistant coach, self-reported winning percentage, and number of championships won.

The two likert-scaled questions utilized a four-point scale (never, seldom, occasionally, and all the time) to examine the frequency in which coaches utilized thirteen educational methods to improve coaching knowledge (Table 2) and develop a coaching philosophy (Table 3). Each likert-scale item was defined for the participant as follows: (a) I have never used this method (Never), (b) I have tried this method once (Seldom), (c) I use this method at least once or twice a year (Occasionally), and (d) I use this method multiple times throughout the year (All the Time).

Table 2: Frequency in which coaches utilize the following educational methods to improve their coaching knowledge (CK)

Item	Never %	Seldom %	Occasionally %	All The Time %
A college course(s) for credit	37.5	30.3	24.9	5.5
Coaching Clinics/Workshops	3.1	8.2	46.7	41.5
State Certification Programs	50.5	23.7	16.0	5.3
Asking a mentor	2.1	5.1	27.5	64.0
Books on coaching	1.8	10.1	38.0	49.5
Web sites on coaching	5.7	18.5	36.9	37.3
Informal discussion with other coaches	0.4	3.4	24.1	71.4
Videos/DVD's on coaching	7.0	22.6	39.9	29.3
Trial and Error (on your own)	0.5	5.6	26.7	66.1
Hands-on Training (with guidance of instructor/coach)	16.1	33.8	30.2	19.9
Observation of other coaches	0.9	8.2	35.6	54.7
Reflecting on personal playing experience	1.5	11.4	35.8	51.3
Discussion with former players	2.9	15.2	50.4	30.4

Table 3: Frequency in which coaches utilize the following educational methods to develop their coaching philosophy (CP)

Item	Never %	Seldom %	Occasionally %	All The Time %
A college course(s) for credit	39.8	34.3	19.2	5.0
Coaching Clinics/Workshops	6.9	17.3	51.4	23.7
State Certification Programs	60.7	23.0	10.7	3.0
Asking a mentor	2.7	9.4	36.1	50.8
Books on coaching	4.6	18.1	43.3	32.9
Web sites on coaching	13.9	31.5	34.0	19.4
Informal discussion with other coaches	0.7	6.1	37.9	54.2
Videos/DVD's on coaching	18.0	33.8	30.7	16.1
Trial and Error (on your own)	1.8	7.8	27.4	62.7
Hands-on Training (with guidance of instructor/coach)	21.0	28.8	28.0	20.7
Observation of other coaches	1.8	9.8	37.0	50.6
Reflecting on personal playing experience	2.1	10.4	31.5	55.1
Discussion with former players	3.8	17.7	45.4	32.2

The same thirteen educational methods listed in each question included: (a) a college course, (b) coaching clinics, (c) state certification programs, (d) asking a mentor, (e) books on coaching, (f) web sites on coaching, (g) informal discussion with other coaches, (h) videos/DVD's, (i) trial and error, (j) hands-on training with guidance of head coach, (k) observation of other coaches, (l) reflection on personal playing experience, and (m) discussions with former players. Twelve educational methods were selected from the literature on the different developmental pathways a coach takes in learning how to coach (Côté, 2006; Cushion et al, 2003; Irwin, Hanton, & Kerwin, 2004; Lynch & Mallett, 2006) and the thirteenth item (discussion with former players) was added based on recommendation by an expert panel.

The expert panel consisted of two collegiate head coaches, two high school coaches, and two faculty members with experience in survey design. Both of the collegiate head coaches (one male and one female) had over 30 years of coaching experience and were well respected for their ability to teach sport skills. One collegiate coach was selected into three athletic halls of fame, and both coaches had won multiple (3 or more) conference championships. One high school coach (male) played competitively at the intercollegiate level and had over 30 years of coaching experience. The

second high school coach (male) won 5 state championships and was often asked to give presentations to coaches on coaching knowledge and coaching philosophy. Both high school coaches had master's degrees and were highly respected in their regions as credible coaches. The two faculty members (1 male and 1 female) on the expert panel had a combined 36 years of experience in research design related to sport studies. One faculty member had published research using survey design methods.

The third section of the survey contained the following eight open-ended questions: (a) which educational methods not listed in the 13 item list provided impacted their coaching knowledge, (b) which educational methods not listed on the 13 item list provided impacted their coaching philosophy, (c) which of the 13-items listed had the greatest impact on coaching knowledge, (d) which of the 13-items listed had the greatest impact on coaching philosophy, (e) what do coaches consider the best method for learning how to coach, (f) as a coach, how do you define success, (g) where would you go (which of the methods) "today" to learn more about coaching knowledge or coaching philosophy, and (h) what would you tell someone about the path to becoming a successful coach?

A preliminary study was conducted, employing a convenience sampling method to test the administrative procedures of conducting the survey (Andrew, Pederson, & McEvoy, 2011). Information gleaned from the pilot study suggested that the time required to complete the survey was approximately fifteen minutes. This information was used in the email invitation to recruit potential coaches for the actual study. To determine content validity, an expert panel reviewed the pilot survey items to ensure that the instrument was sound based on the purpose of the research (Thomas, Nelson, & Silverman, 2011). Two minor modifications were made. One was a clarification on the item "Hands-on Training." The panel suggested the words, "with guidance of instructor/coach" be added to avoid confusion with the survey item, "Trial and Error." The second adjustment included the addition of another item, "Discussion with former players." Two members of the expert panel stated that they frequently utilized this method in their continual development as a coach and mentioned that many of their colleagues have frequently utilized this method. Cronbach's alphas (an estimate of internal consistency) for the 13 CK and 13 CP items were (.70) and (.78) respectively, demonstrating acceptable Cronbach alpha levels of equal or greater than .7 (George & Mallery, 2006).

Data Analysis

Descriptive statistics including frequency, mean, and standard deviation were calculated to summarize the likert scale responses on CK and CP.

RESULTS

The purpose of this study was to examine the educational methods coaches in the United States use in acquiring CK and developing a CP. In acquiring CK respondents reported a preference for using informal learning methods multiple times throughout the year with 71.4 % of respondents indicating they used informal discussion with other coaches, 66.1 % of coaches utilized the trial and error method, and 64% sought expert advice from mentors. In comparison, coaches seeking formal educational opportunities experienced a much lower frequency with only 5.3% of respondents utilizing state certification programs multiple times a year. Only 5.5% of the respondents acquired coaching knowledge using a college course (see Table 2).

In the process of developing CP, coaches preferred to seek informal learning opportunities multiple times a year compared to formal methods of education, with 62.7% of the coaches stating they used the trial and error method. Fifty-five percent of the respondents reflected on personal playing experience multiple times a year whereas 54.2% of coaches used informal discussion with other coaches. Comparatively, only 5.0% of coaches annually enrolled in a college course for credit and 3.0% sought learning experiences through state certification programs (see Table 3).

DISCUSSION

The learning process of a coach is complex and often impacted by situational and environmental factors (Trudel, et al., 2013). Research on the best methods to educate and train coaches frequently reveals an unstructured and variable path (Mallett, Rynne, & Dickens, 2013). Thus, research in coaching education has consistently identified that coaches prefer informal educational opportunities to formal education (Mallet et al, 2009; Nelson et al, 2006; Trudel & Gilbert, 2005). Interestingly, research has also indicated that a coach values formal coaching education, deeming it useful and an appropriate learning opportunity (Erickson et al, 2008).

Formal Education

Arguably, all coaches have been exposed to formal educational methods as a student in high school and during undergraduate and, if applicable, graduate work (Mallet et al, 2009). Over 97.5% of the coaches participating in the study indicated they had completed post-secondary education. It could be argued that throughout their educational experience, a coach has observed numerous

teaching styles and participated in a variety of classroom atmospheres. As a result, they feel comfortable in a formal environment. When seeking new knowledge, coaches may revert to the methods they are most comfortable with and seek certification programs that provide more structure and an end result (e.g., certificate) (Cushion & Nelson, 2013). In the United States the coach may be driven to seek certification because it is a requirement to be employed as a coach in the state in which they reside (NFHS, 2013). Furthermore, interscholastic coaches employed as teachers may be required to find course work or certification programs to meet their continuing education requirements.

In training to become an coach in the United States, the individual is often left to find resources limited by Internet searches, technological capabilities, and proximity to training opportunities (Bodey, Brylinsky, & Kuhlman, 2008). Thus, the frequency of coaches seeking formal educational opportunities may be based on accessibility and what is most readily available. In 2008, NASPE released the National Coaching Report. The report contained guidance on the most current coaching education requirements for interscholastic athletics and youth sports (Bodey et al, 2008). In addition, the report established the National Standard for Sport Coaches (NSSC) commonly adopted by state high school associations and youth sport programs (Blom et al, 2010). The NSSC standards provide a framework for coaching certification in the United States. However, the challenge remains that until coaches are required to be certified before they are hired to coach, the emphasis on seeking formal educational methods in learning to coach may continue to be secondary to the informal approach.

Currently, the trend in coaching education research suggests an integrated approach between informal and formal learning environments (Nash & Sproule, 2011), finding a way to mix both methods to provide a more optimal learning environment (Cushion & Nelson, 2013). In the present study, coaches in the United States tended to prefer informal learning opportunities (e.g., informal discussion with coaches, trial and error, observation, and mentorship) more frequently than formal educational options (a college course, state certification, and workshops) as shown in Table 2 and Table 3. Nevertheless, they still spent time acquiring knowledge and developing their philosophy through formal educational methods.

Coaches in the study with over 30 years of experience continued to seek informal and formal educational opportunities with 65% reporting they frequently attended clinics throughout the year. Interestingly, 28.4% of coaches with over 30 years of experience enrolled in a college course at least once a year.

Côté and Gilbert (2009) defined coaching effectiveness and expertise based on three components of coaching knowledge: (a) professional, (b) interpersonal, and (c) intrapersonal. Professional knowledge is the approach many coaching education programs use to train coaches on how to teach sport specific skills and implement competitive strategies (NFHS, 2013). Interpersonal knowledge encompasses the relationship building and social interaction required by a coach to build a successful team and connect with their athletes (Martens, 2012). Intrapersonal knowledge is acquired when a coach implements reflection through a personal examination of their values and belief system (Van Mullem & Brunner, 2013). Similarly, professional knowledge in Côté and Gilbert's (2009) work could be linked to coaching knowledge (CK) in the current study. Whereas, development of a coaching philosophy (CP) is a combination of interpersonal and intrapersonal knowledge coaches need to effectively lead their teams (Côté & Gilbert, 2009).

In the current study, coaches appeared to seek methods for acquiring CK through informal methods more frequently then CP. For example, 71.4 % coaches in the study utilized informal discussion with other coaches multiple times throughout the year to acquire CK compared to 54.2% of coaches seeking to develop CP. Furthermore, 13.7% of coaches reported that they used a state certification program at least once a year as a formal educational method for developing their coaching philosophy, whereas 21.3% of coaches reported that they use state certification in acquiring coaching knowledge at least once a year. Based on this response, coaches may view formal coaching education as an opportunity to acquire the technical and strategic aspects of their sport, but may not consider this approach as effective in developing the interpersonal and intrapersonal knowledge needed to develop a successful coaching philosophy.

Informal Discussion with Other Coaches

Learning opportunities for coaches frequently occur outside the formal structures of education (Penney, 2006) as the coaching profession provides numerous opportunities for coaches to gather and have informal discussion on topics related to the field (Gilbert & Côté, 2013). Coaches are almost forced to interact with other coaches (i.e., scheduling, recruiting, game management, and athlete development) to be successful. In the current study, 71.4% of coaches took advantage of informal discussion multiple times a year with other coaches to improve CK and 54.2% employed informal discussion to develop CP. More importantly, in seeking to improve CK and develop CP, only 0.4% and 0.7% of coaches responded that they never used informal discussion as a method. However, Wright, Trudel, & Culver's (2007) work on youth ice hockey coaches found that coaches were only open to sharing ideas within their own association (club program) and not amongst

coaches outside the organization. While initially coaches may be guarded in their willingness to share information in lieu of losing a competitive advantage (Gilbert, Gallimore, & Trudel, 2009), eventually coaches realized the importance of these reciprocal interactions (Erickson & Côté, 2013) in advancing their knowledge and professional career. Subsequently, as a result of frequent informal discussions with other coaches, a network of colleagues may begin to grow providing the coach with an avenue of resources to improve CK and CP.

Trial and Error

Experiential learning is frequently mentioned in coaching education literature (Mallet et al, 2009; Nelson et al, 2006; Mallet et al, 2013; Gould, Carson, & Blanton, 2013) as a preferred method for learning to coach. Thus, supporting that the growth and development of a coach should not be limited to observation and formal instruction, but direct participatory experiences (Trudel & Gilbert, 2005). In the current study, coaches in the United States echoed the impact of experiential learning that has been addressed in coaching education literature (Mallet et al, 2009; Nelson et al, 2006; Mallet et al, 2013; Gould et al, 2013) indicating that at least once a year, 92.8% of the coaches engaged in the trial and error method to acquire CK and 90.1% to develop CP. Many respondents shared the impact of the trial and error method in the development of CK and CP, stating how it provided them with an avenue to test theories and ideas offered by other coaches. In learning CK, only 0.5% stated they never used the trial and error method. In addition, 1.8% of coaches indicated they never implemented the trial and error method in developing CP.

Success from the trial and error approach is more evident when a coach engages in reflection. During reflection, the coaches can evaluate an issue or scenario they encounter during or after the activity. Through the process of reflective conversation, the coach will most frequently seek the advice of coaches, consult coaching material, and observe the approach other coaches take in a similar scenario (Gilbert & Trudel, 2006). For example, a coach may encounter a discipline problem with a student-athlete involving an incident that occurred away from the playing field. Having never faced this particular scenario before, the coach will likely consult with colleagues and possibly seek advice from coaching resources before making a decision. The colleagues and/or coaching resources will base the information they provide through personal reflection of a similar experience, ideally eliminating or lessening the use of the trial and error approach.

Arguably, the trial and error method has merit in the learning process of a coach by allowing a coach to practice what was gleaned from a variety of other educational methods (e.g., observation, instructional courses, clinics, book, videos, etc.) and apply them in practice (Gilbert &

Trudel, 2005). Through personal interpretation of applying what was learned, the coach can build a knowledge base from the trial and error experience (Cushion et al, 2003). Nevertheless, there are two major risks in using the trial and error method in learning how to coach. First, the coach is expected to fulfill specific legal responsibilities to keep student-athletes safe while participating (Martens, 2012). Second, the coach is expected to meet a standard of performance as a leader in sport (Walsh, Peterson, & Billick, 1998), a standard obtained through success on the field of play (winning), or through the development of the student-athlete (personally, physically, and socially). If coaches are unsuccessful in meeting one or both standards on a consistent basis, they will struggle to remain in the profession. Therefore, limiting the use of the trial and error method may be in the best interest of the novice coach.

Reflecting on Playing Experience

The path to becoming a coach often begins as a student-athlete, with an individual's experience defined and shaped by the teaching and leadership style of one's own coach (Carter & Bloom, 2009). Student-athletes develop habits associated with their specific sport through repetition (e.g., practice, training, and mental preparation) and gains insight into the habits of their coach (e.g., practice organization, methods of communication, and coach-athlete interaction) (Cushion, 2011). Therefore, the playing experience becomes a powerful resource for the coach to draw from through personal reflection (Gilbert et al, 2006). It is natural to expect that when challenged to lead and make decisions, that one would reflect on past experiences to provide context and guidance (Nash & Sproule, 2011). During the course of a year, 87.1% of coaches in the current study acquired CK by reflecting on their playing experience at least once. In addition, 86.6% of the coaches responded that they utilized past playing experience to develop CP at least once during the year.

Harnessing playing experience as a tool for educating coaches is not an easy task for coaching educators. Although often mentioned in the coaching education literature as a method coaches use to guide their coaching behavior (Carter & Bloom, 2009; Cushion, 2011; Gilbert et al, 2006), there is limited research on how coaches actually learn through playing experience (Gilbert & Trudel, 2005; Gould et al, 1990). Furthermore, there seems to be no research on how to train aspiring coaches while they are still playing, to best capture the insight one gleans from playing experience.

Observation

Through the process of observing coaches, a coach is better able to distinguish between the different coaching styles, traits, and organizational methods frequently utilized in the coaching profession (Ronglan & Havlan, 2011). In the current study, at least once a year 90.3% of coaches responded that they observed other coaches to acquire CK, and 87.6% of coaches observed other coaches to develop CP. It is well known that coaches look for new ideas from established coaches (Schempp, McCullick, & Mason, 2006), and it is not uncommon for coaches or entire coaching staffs to visit and observe another team's practice. Alabama football coach Nick Saban stated, "Just about every year we have coaches come in and do what we call 'professional development-type things.' We exchange ideas" (Scarborough, 2013).

While coaches in this study indicated the importance of observation in their coaching development, the challenge for coaching educators is transferring the observational experience to new knowledge. In addition, recent work by Gilbert & Côté (2013) suggests that implementation of observed strategies and techniques (i.e., CK) directly into current practical situations can be effective in helping coaches develop new knowledge.

Asking a Mentor

In the current study, 64% of coaches sought guidance from a mentor multiple times a year to acquire CK and 50.8% obtained mentor guidance multiple times a year in developing CP. Interestingly, coaches in the current study with less experience (19 years or less) tended to seek mentorship opportunities more frequently (multiple times throughout year) in acquiring CK (69.9%) and CP (54.0%) than coaches with longevity (20 years or more) in the profession, CK (55.0%) and CP (46.2%). Thus, it is possible that many veteran coaches view themselves as a mentor and slowly cease to seek advice as a mentee.

Seeking advice and observing the actions of a respected coach (i.e., mentor) has consistently been a key component of coaching education (Mallet et al., 2009). However, the interaction between a veteran and novice coach is informal, lacking structure, and support (Jones, Harris, & Miles, 2009). Not all coaches will experience the mentor-mentee relationship, and if they do there are no guarantees that the relationship will be successful. The mentor-mentee relationships requires a little bit of luck, persistence, and being in the right place at the right time (Bloom, Durand-Bush, Schinke, & Salmela, 1998). The challenge for a novice coach is finding a positive mentor. While the role of mentorship in coaching education continues to be examined (Jones et al., 2009), the push to formalize a potential mentor-mentee relationship and create mentorship programs in coaching education has gained minimal support with governing bodies (Bloom, 2013).

Thus, coaching educators are challenged to implement the mentoring concept into formal education programs due to the number of elements that need to be considered for an effective mentor-mentee relationship to develop (Jones et al., 2009). In a study by Callary et al., (2011) on Canadian Ski Coaches, over 60 % of the respondents identified a notable person - a mentor - in the development of their coaching career.

Implications

Minimal discussion or research on the difference between the acquisition of coaching knowledge and the development of a coaching philosophy has been conducted. Further exploration of the differences between acquiring CK and developing CP should occur. Arguably, in order to educate and prepare a coach for all the scenarios they may encounter, it might be beneficial for coaching education programs to separate into two areas of focus: a) development of a CP and b) acquisition of CK.

The path to becoming a coach is unclear and fraught with a series of educational methods that may or may not meet the needs of coaches and those they lead. Additionally, the learning preferences of a coach do not always match the needs or preferences of the governing bodies conducting the coaching education program (Lauer & Dieffenbach, 2013). Even if an educational program exists, there is no guarantee it is effective in meeting the needs of the learner (Cushion & Nelson, 2013).

With a variety of methods available for coaches to seek in learning how to coach (Erickson et al., 2008), a novice coach may struggle to identify which method they should pursue. Additionally, novice coaches may be challenged to seek continued learning either in an informal environment that involves dynamic human interaction and social implications (Pontrac, Brewer, Jones, Armour, & Hoff, 2000) or a formal environment of limited interaction and minimal connection to actual coaching practice (Trudel et al., 2010).

Coaching educators and researchers must continue to explore methods to integrate formal education with the preferred informal approach. Attempts to implement a mixed methods approach to coaching education have been implemented in Canada (Trudel et al., 2013) and the United Kingdom (Morgan, Jones, Gilbourne, & Llewellyn, 2013). Future research could examine avenues to utilize a mixed methods approach in training coaches in the United States.

Furthermore, in developing a coaching education program that encompasses both informal and formal education methods, coaching educators would need to consider which informal

methods to include in the training program. Of the thirteen educational methods presented in the current study, one item - discussion with former players - is rarely deliberated in the research (Gilbert et al, 2009). Respondents in the current study specified they sought the input of former players in developing CP (77.6%) and acquiring CK (80.8%). Listening to former players appears to be a fairly common method employed by coaches, however additional research in this area could examine the impact of coaches engaging in more open discussion with their current and former athletes in regards to their development as a coach.

Limitations

In terms of research design, a limitation of the survey instrument could be the description and clarity of the difference between coaching knowledge (CK) and coaching philosophy (CP). Although the instrument provided a definition of each, it is possible that respondents were not able to distinguish the difference or viewed CP and CK as one in the same. This may account for the similarities of responses in the two questions. Also, the CK questions were presented first in the survey and due to the resemblances of the second question on CP, participants may have spent less time responding to the second question.

In regards to the methodology, a potential sampling bias obtained from a sample of convenience may limit the generalizability of the data to a larger population (Patten, 2012). Although, attempts were made to email all interscholastic and intercollegiate coaches in the United States, coaches in the U.S. did not necessarily have an equal chance of being selected due to limited technological capabilities of state organizations, universities, and governing bodies of sport. In addition, spam filters and firewalls prevented access to various universities, colleges, and high schools. Lastly, many coaches employed by school districts at the interscholastic level may not be certified teachers or staff members of their school and as a result, were unlisted on high school web sites.

<div align="center">CONCLUSION</div>

In summary, coaching education researchers have examined and explored multiple methods in how coaches learn (Bloom, 2013; Carter & Bloom, 2009; Côté, 2006; Cushion & Nelson, 2013; Gilbert & Côté, 2013; Gilbert & Trudel, 2006; Mallett et al, 2013). In addition, coaching education scholars continue to examine the implementation of sociological (Jones, 2011), psychological (Lorimer & Jowett, 2013), and philosophical theories (Standal & Hemmestad, 2011) to better explain the learning process of a coach. While scholars have indicated the need for further research on the areas listed above, arguably and as it has been previously suggested (Lauer &

Dieffenbach, 2013; Cushion & Nelson, 2013), researchers, coaching educators, and the practitioners (coaches) must come together to establish a system that best trains coaches in the knowledge and skills required to be successful in leading their athletes.

We believe the current study contributes to the literature by (a) examining the preferred sources of knowledge acquisition of intercollegiate and interscholastic coaches in the United States on their preferences between informal and formal educational methods and (b) examining the preferred methods coaches seek in acquiring coaching knowledge and developing a coaching philosophy.

The results of this study contribute to the ongoing discussion of the methods coaches most frequently seek in preparing for a successful career in the coaching profession (Cushion et al, 2003; Werthner & Trudel, 2006; Erickson et al, 2008; Gilbert et al, 2009). We recommend that coaching educators continue to consider the variety of educational methods available in training coaches. Based on the information gleaned from the current study, the development of an integrated coaching education program involving informal (e.g., discussion with former players) and formal (e.g., college course) educational methods could be implemented on a specific coaching population (e.g., junior college cross country coaches) in the United States. An additional focus of the program could be on specific knowledge acquisition to assist a coach in developing a coaching philosophy and acquiring coaching knowledge. A continued discussion on the best educational methods to develop a more integrated approach to coaching education in the United States, across all sports, is needed.

REFERENCES

Andrew, P. S., Pederson, P. M., and McEvoy, C. D. (2011). *Research methods and design in sport management.* Champaign, IL: Human Kinetics.

Bodey, K.J., Brylinsky, J., & Kuhlman,J. (2008). Advocating for coaching education with the new national coaching report. *Strategies, 22*(1), 34-36.

Blom, L., Wininger, S., Zakrajsek, R., & Kirkpatrick, K. (2010). Coaches' perceived knowledge of the national standards for sport coaches: Insights into coach development. *Journal of Coaching Education. 3*(3), 19-36.

Bloom, G. (2013). Mentoring for sport coaches. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (476-485). New York, New York: Routledge

Bloom, G.A., Durand-Bush, N., Schinke, R.J., & Salmela, J.H. (1998). The importance of mentoring in the development of coaches and athletes. *International Journal of Sport Psychology, 29*, 267-281.

Bureau of Labor Statistics (2013). *Occupational outlook handbook.* Retrieved from http://www.bls.gov/ooh/Entertainment-and-Sports/Coaches-and-scouts.htm

Carter, A. D., & Bloom, G.A. (2009). Coaching knowledge and success: Going beyond athletic experiences. *Journal of Sport Behavior, 32*(4), 419-437.

Callary, B., Werthner, P., & Trudel, P. (2011). A brief online survey to help a sport organization continue to develop its coach education program. *International Journal of Coaching Science. 5*(2), 31-48.

Côté, J. (2006). The development of coaching knowledge. *International Journal of Sports Science & Coaching, 1*(3), 217-222*.*

Côté, J., & Gilbert, W. D. (2009). An integrative definition of coaching effectiveness and expertise. *International Journal of Sports Science & Coaching, 4*, 307-323.

Cushion, C.J., Armour, K.M., & Jones, R.M. (2003). Coach education and continuing professional development: Experience and learning to coach. *Quest*, 55, 215-230.

Cushion, C. J. (2011). Coach and athlete learning: A social approach. In Jones, R. L., Potrac, P., Cushion, C. and Ronglan, L. T. (Eds.), *The sociology of sport coaching* (166-179). New York: Routledge.

Cushion, C. & Nelson, L. (2013). Coach education and learning: Developing the field. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (375-388). New York, New York: Routledge.

Dieffenbach, K. D., Murray, M., & Zakrajsek, R. (2011). The coach education internship experience: An exploratory study. *International Journal of Coaching Science* 5*(1)*.

Dieffenbach, K. D. & Wayda, V. (2010). A critical review of American academic coaching education programs. *Journal of Coaching Education. 3*(2), 21-39.

Erickson, K., Bruner, M. W., MacDonald, D. J., & Côté, J. (2008). Gaining insight into actual and preferred sources of coaching knowledge. *International Journal of Sport Science & Coaching. 3*(4), 527-538.

Erickson, K. & Côté, J. (2013). Observing the dynamics of coach-athlete interactions in real time: The state space grid method. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (96-107). New York, New York: Routledge.

Erickson, K., Côté, J., & Fraser-Thomas, J. (2007). Sport experiences, milestones, and education activities associated with high-performance coaches' development. *The Sport Psychologist, 21*, 302-316.

Freeland, E. M. (2000). *Perceptions of collegiate coaches on coach education and certification in the United States*. (Unpublished masters thesis). University of North Carolina, Chapel Hill, NC.

George, D., & Mallery, P. (2006). *SPSS for Windows step by step: A simple guide and reference. 11.0 update* (7th ed.). Boston: Allyn & Bacon.

Gilbert, W. & Côté, J. (2013). Defining coaching effectiveness. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (147-159). New York, New York: Routledge.

Gilbert, W., Côté, J., & Mallett, C. (2006). Developmental paths and activities of successful sport coaches. *International Journal of Sports Science & Coaching, 1*(1), 66-79.

Gilbert, W., Gallimore, R. & Trudel, P. (2009). A learning community approach to coach development in youth sport. *Journal of Coaching Education, 2*(2), 1-21.

Gilbert, W., Lichtenwaldt, L., Gilbert, J., Zelezny, L., & Côté', J. (2009). Developmental profiles of successful high school coaches. *International Journal of Sports Science and Coaching 4*(3), 415-431.

Gilbert, W. & Trudel, P. (2006). The coach as a reflective practitioner. In Jones, R. L. (Ed.). *The sports coach as educator: Re-conceptualizing sports coaching (25-36).* New York, NY: Routledge.

Gilbert, W. & Trudel, P. (2005). Learning to coach through experience: Conditions that influence reflection. *The Physical Educator*, *62*, 32-43.

Gilbert, W., & Trudel, P. (2001). Learning to coach through experience: Reflection in model youth sport coaches. *Journal of Teaching in Physical Education, 21*(1), 16-34.

Gould, D., Carson, S, & Blanton, J. (2013). Coaching life skills. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (451-462). New York, New York: Routledge.

Gould, D., Giannini, J., Krane, V., & Hodge, K. (1990). Educational needs of elite U.S. national team, Pan American, and Olympic coaches. *Journal of Teaching in Physical Education, 9*, 332-344.

Hardin, B. (2000). Coaching expertise in high school athletics: Characteristics of expert high school coaches. *Applied Research in Coaching and Athletics Annual, 15*, 24-38.

Hedstrom, R. & Gould, D. (2004). *Research in youth sports: Critical issues status.* Retrieved from http://hollistonsoccer.net/image/web/coaches/CriticalIssuesYouthSports%20 (2).pdf

Hoch, D. (2004). Coaching education and certification. *Coach and Athletic Director. 9*(1).

Irwin, G., Hanton, S., & Kerwin, D.G. (2004). Reflective practice and the origins of elite coaching knowledge. *Reflective Practice, 5*(3), 425-442.

Jenkins, S. (2010). Coaching philosophy. In Lyle, J. & Cushion, C. (Eds.). *Sport coaching* (233-243). Edinburgh: Churchill Livingstone.

Jones, R. L. (2011). Introduction. In Jones, R. L., Potrac, P., Cushion, C, & Ronglan, L. T. (Eds.), *The sociology of sport coaching,* (3-12). New York: Routledge.

Jones, R. L., Harris, R., & Miles, A. (2009). Mentoring in sports coaching: a review of literature. *Physical Education and Sport Pedagogy*, *14*(3), 267-284.

Lauer, L. & Dieffenbach, K. (2013). Psychosocial training interventions to prepare youth sport coaches. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (451-462). New York, New York: Routledge.

Lemyre, F., Trudel, P., & Durand-Bush, N. (2007). How youth sport coaches learn to coach. *The Sport Psychologist*, *(21)*, 191-209.

Lorimer R. & Jowett, S. (2013). Empathic understanding and accuracy in the coach-athlete relationship. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (321-332). New York, New York: Routledge.

Lynch, M., & Mallett, C. (2006). Becoming a successful high performance track and field coach. *Modern Athlete and Coach, 44*(2), 15-20.

Mallett, C., Rynne, S., & Dickens, S. (2013). Developing high performance coaching craft through work and study. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (463-475). New York, New York: Routledge.

Mallett, C.J., Trudel, P., Lyle, J., & Rynne, S.B. (2009). Formal vs. informal coach education. *International Journal of Sports Science & Coaching, 4*(3), 325-364.

Martens, R. (2012). *Successful coaching 6th Ed*. Champaign, IL: Human Kinetics.

McCullick, B.A., Schempp, P.G., & Clark, B. (2002). An analysis of an effective golf teacher education program: The LPGA national education program, in E. Thain (Ed.), *Science and golf IV: Proceedings of the World Scientific Congress of Golf* (pp. 218-230) London: Routledge.

Morgan, K., Jones, R. L., Gilbourne, D., & Llewellyn, D. (2013). Innovative approaches in coach education pedagogy. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (486-496). New York, New York: Routledge.

Nash, C. S., & Sproule, J. (2009). Career development of expert coaches. *International Journal of Sports Science & Coachin*g. *4*(1), 121-138.

Nash, C. S., & Sproule, J. (2011). Insights into experiences: Reflections of an expert and novice coach. *International Journal of Sports Science & Coachin*g. *6*(1), 149-161.

National Federation of State High School Associations (2013). Pricing and state requirements. *Retrieved from http://www.nfhslearn.com/StatePricingRegs.aspx*.

Nelson, L.J., Cushion, C.J., & Potrac, P. (2006). Formal, nonformal and informal coach learning: A holistic conceptualization. *International Journal of Sports Science and Coaching, 1*, 247-259.

Patten, M. L. (2012). *Understanding research methods*. Glendale, CA: Pyrczak Publishing (8th Ed.).

Penney, D. (2006). Coaching as teaching: New acknowledgements in practice. In Jones, R. L. (Ed.). *The sports coach as educator: Re-conceptualizing sports coaching (25-36).* New York, NY: Routledge.

Potrac, P., Brewer, C., Jones, R.L., Armour, K.M., & Hoff, J. (2000). Toward a holistic understanding of the coaching process. *Quest, 52*, 186-199.

Ronglan, L. T. & Havang, O., (2011). Nikalas Luhmann: Coaching as communication. In Jones, R. L., Potrac, P., Cushion, C, and Ronglan, L. T. (Eds.), *The sociology of sport coaching (*79-93). New York: Routledge.

Scarborough, A. (2013). Nick Saban: Visit an idea session. ESPN. http://espn.go.com/college-football/story/_/id/10154938/nick-saban-says-lane-kiffin-visit-professional-development

Schempp, P. G, McCullick, B., & Mason, I. S. (2006). The development of expert coaching. In Jones, R. L. (Ed.). *The sports coach as educator: Re-conceptualizing sports coaching (145-161).* New York, NY: Routledge.

Standal, O. F. & Hemmestad, L. B. (2011). In A. Hardman & C. Jones (Eds.), *The ethics of sports coaching*. (45-55). New York: Routledge.

Stewart, C. (2006). Coach education online: The Montana model. *JOPERD, 77*(4), 34-36.

Thomas, J.R., Nelson, J.K., and Silverman, S.J. (2011). *Research methods in physical activity (7th Edition)*. Champaign, IL: Human Kinetics.

Trudel, P., & Gilbert, W. (2005). Coaching and coach education. *Handbook of Physical Education* (pp. 516-539). London: Sage.

Trudel, P., Culver, D., & Werthner, P. (2013). Looking at coach development from the coach-learner's perspective: Considerations for coach development administrators. In Potrac, P., Gilbert, W., & Denison, J. (Eds.). *Routledge handbook of sports coaching* (375-387). New York, New York: Routledge.

Trudel, P., Gilbert, W., & Werthner, P. (2010). Coach education effectiveness. In Lyle, J. & Cushion, C. (Eds.). *Sport coaching* (135-152). Edinburgh: Churchill Livingstone.

Turner, D. & Nelson, L. J. (2009). Graduate perceptions of a UK university based coach education programme, and impacts on development and employability. *International Journal of Coaching Science*, *3*(2), 3-28.

Vargas-Tonsing, T.M. (2007). Coaches preferences for continuing coaching education. *International Journal of Sports Science and Coaching. (2)*1. 25-35.

Van Mullem, P. and Brunner, D. (2013). Developing a successful coaching philosophy: A step-by-step approach. *Strategies: A Journal for Physical and Sport Educators 26*(3), 25-29.

Walsh, B., Peterson, J., and Billick, B. (1998). *Bill Walsh: Finding the winning edge.* Champaign, IL: Sports Publishing LLC.

Wilson, L. M., Bloom, G. A., & Harvey, W. J. (2010). Sources of knowledge acquisition: perspectives of the high school teacher/coach. *Physical Education and Sport Pedagogy*, *15*(4), 383-399.

Werthner, P. & Trudel, P. (2006). A new theoretical perspective for understanding how coaches learn to coach. *The Sport Psychologist, 20*, 196-210.

Wooden, J. & Jamison, S. (2005). *Wooden on leadership.* New York, New York: McGraw-Hill.

Wright, T., Trudel, P., & Culver, D. (2007). *Learning how to coach: The different learning situations reported by youth ice hockey coaches.* Physical Education and Sport Pedagogy, 12, 127-144.