The Physical Educator Vol. 77 • pp. 15–28 • 2020
https://doi.org/10.18666/TPE-2020-V77-I1-9308

COACHING EDUCATION

Educational Preparation of College Coaches: "Are We Winning Yet?"

Craig Stewart and Alex Koch

Abstract

The education of all coaches is an important issue regardless of the level. However, it is assumed that coaches at the college level have significant advantages over coaches at other levels. This study investigated that assumption in determining the educational demographics of coaches in a college Division I conference in the western United States. The findings are discussed in reference to practices of college coaches, the barriers in coach education at all levels, and the effects of the growth of sport participation in the private sector.

This project investigated the educational levels of coaches from a western college athletic conference. In doing so, the authors hoped to determine the extent of their academic preparation for coaching and consider their status in relationship to current trends in coach education.

To enjoy sport and perform at their highest level, athletes need the best coaching possible. Individual and team performances depend on coaches who have prepared in many areas (Irwin, Hanton, & Kerwin, 2004). Sport in the United States is highly valued (U.S. Anti-Doping Agency, 2011) and the need for well-educated and experienced coaches has never been greater. According to the Bureau

Craig Stewart is a professor, Department of Health & Human Development, Montana State University-Bozeman, MT. Alex Koch, MS, ATC. Please send author correspondence to cstewart@montana.edu

of Labor Statistics (2016), in 2014 over 250,600 coaches were employed at high school, collegiate, and professional levels. However, there is little information concerning the number of coaches in private sports, in which 40 million to 50 million youth (under the age of 19) participate, in the United States (Cook, 2016). In contrast, approximately 9 million coaches in Europe are involved in youth sports (Rankin-Wright & Lara-Bercial, 2018). As the expansion and emphasis on sport participation increases, more athletes will need high-quality coaches who not only maintain participation and improve performance but also keep athletes safe.

Literature Review

The importance of well-educated coaches at all levels has been repeatedly emphasized (Becker, 2009; Bowes & Jones, 2006; Williams et al., 2003; Vaughan, 2018). In spite of its importance (Bureau of Labor Statistics, 2016), formal coach education has not been well received. It has been described as lacking conceptual framework (Bennett & Culpan, 2014), being undertheorized (Jones, 2006), and overemphasizing the technical aspects of coaching while neglecting the complex humanistic components of the coach–player relationship (Galvan, Fyall, & Culpan, 2012).

Similarly, researchers have made numerous attempts to determine the levels of formal education for coaches at various levels. Gould, Giannini, Krane, and Hodge (1990) determined the educational backgrounds of U.S. national team coaches and found mixed results. In 1992, Stewart and Sweet reported that the knowledge of high school coaches was barely average. They found educational deficits in diagnosing, prevention, and rehabilitation of injuries; creation of instructional and practice plans; motivation techniques; and human nutrition. Irwin et al. (2004) found that less than 40% of elite coaches considered formal coaching courses essential. However, all had participated in some coaching education courses during their careers.

Other researchers have determined that formal coach education courses and degrees had little effect on coaching expertise (Erickson, Côté, & Fraser-Thomas, 2007). Erickson et al. (2007) reported that formal coaching education classes and clinics had little effect on overall coaching knowledge. Coaches in their study felt their knowledge originated more by observing mentors and other coaches or

in informal learning settings such as sport-specific conferences. Similarly Nash, Sproule, and Horton (2011) concluded that coaches often learned from practical experiences such as playing the sport or interacting with an experienced mentor. Only a few gained any expertise through coach education programs. Many coaches from those studies reported that formal coach education courses offered little to their professional development. Coaches who had attended formal coach education programs felt these contributed little to their profession. Nash et al. (2011) established that coaches who felt that education was not important were neglecting continuing and formal education because of the low levels of perceived benefits. Because coaching education is not the preferred method for coaches to gain knowledge, specifying the top choices could further knowledge of the role of and best practices for coach education.

With the ever expanding role of sport in the private sector in the United States, another issue significantly affects the knowledge and practices of coaches. The concept of youth sport is no longer confined to activities such as Little League baseball, Pop Warner football, or AYSO soccer. Its popularity now includes highly competitive traveling, "elite" teams whose level of performance is surpassed only by an increasing cost. It is safe to state that there are as many "youth" under the age of 19 who are playing in these expensive private activities as in the public sector. This is important because according to the *Aspen Report: Project Play 2020*, 70% of coaches in the private sector are not trained in six core competencies required of a qualified coach: general safety and injury prevention, effective motivational techniques, CPR and basic first aid, physical conditioning, concussion management, and sport-specific skills and tactics (Solomon, 2017).

Coaching is a complex, multifaceted endeavor that requires a vast skill set and knowledge base. Though some coaches gain formal education through colleges or universities, content and methods vary greatly. Coaches frequently learn more from senior coaches and mentors than from clinics or educational programs. Apart from formal education, informal learning through other coaches is an integral method for coach development (Blackett, Evans, & Piggott, 2015; Erikson et al., 2007). Although understanding how coaches pursue formal education and methods of continuing education is an extensively studied topic, much is still unknown.

Martindale and Nash (2013) recognized that while sport science can have significant and positive effects on coaches and athletes, the general consensus is still that the transfer of sport science knowledge to coaches is poor. Through systematic analysis of the relationship between coaches and sport scientists, Martindale and Nash determined that a majority of information related to coaching was directed at the elite coach. In so doing, coaches below the elite level are often ignored. Coaches at those junior, yet vital, levels experience neither the relevance nor the application of a large amount of sport science knowledge. Martindale and Nash observed that perhaps the scientists failed to understand the needs of coaches at those levels. That failure significantly affects the duties of those coaches and the relationships between them and sport scientists. Coaches at entry and intermediate levels interact, teach, and train the majority of young athletes. When scientific information is directed only at elite coach and their athletes, the meaning is lost to coaches at entry and developmental levels. Even if those coaches have an interest, they must overcome barriers such as effective time management, access to the information, contact with sport scientists, and perhaps the greatest obstacle of technical and often pretentious language.

Therefore, this study investigated the level of education of Division I college coaches in an athletic conference in the western United States. The goals were not only to determine the current status of level of education but also to aid sport administrators and formal coach educators in promoting continuing education for coaches at all levels of sports.

Method

After the institutional review board process was followed and permission was granted, a questionnaire was constructed and pilot tested on coaches at a Midwestern university. After minor revisions, the survey was e-mailed to all universities that participate in any sport in that western conference. Of the 427 coaches contacted, 109 (25%) completed the survey. For a complete list of the sports of the coaches surveyed, see Table 1. The questionnaire included 13 questions based on the work of Stewart and Sweet (1992).

Table 1
Sports Currently Coaching

Sport (activity)	*n*
Women's Track and Field	25
Men's Track and Field	24
Football (Division I-FCS)	21
Volleyball	11
Women's Basketball	11
Women's Cross Country	11
Men's Cross Country	11
Men's Basketball	10
Women's Soccer	8
Men's Tennis	6
Women's Tennis	3
Women's Golf	3
Women's Softball	3
Dance	2
Swimming	2
Women's Gymnastics	2
Men's Golf	1
Men's and Women's Skiing	1
Rowing	1
Women's Hockey	1

Results

Table 2 shows the basic demographics for the respondents. Male coaches outnumbered female coaches about 2 to 1, with the majority having played the sport they currently coached. Of coaches, 79% (n = 86) were members of a professional coaching association. The length of their coaching careers ranged from 1 to 41+ years (Table 3).

Table 4 shows the coaches' report of formal education. About half had either a bachelor's or master's degree with less than half of the degrees related to physical education or sport. Of the relevant courses they had completed, the most commonly identified were sport psychology (n = 63) and strength and conditioning (n = 64). Approximately 50% listed introductory or advance coaching concepts as completed coursework. Notably, only 13% (n = 15) of the coaches had completed none of the individual courses listed.

Table 2
Basic Demographics of Responding Coaches (n = 109)

Demographic	*n*
Gender	
Female	38
Male	79
Current position	
Head coach	41
Assistant	68
Had played sport coaching	107
Played at college level	100

Table 3
Years Coaching of Respondents (n = 109)

Years of coaching experience	*n*	%
0–5 years	22	20.18
6–10 years	23	21. 1
11–15 years	15	13.76
16–20 years	16	14.67
21–25 years	10	9.17
Over 25 years	22	20.18

The final two questions of the survey pertained to the requirements and methods placed upon coaches for continuing education. Ninety percent of the coaches responded that none of their employers required continuing coach education. The remainder listed sport clinics, CPR classes, seminars, and NCAA rules and policies education. Table 5 shows a list of their primary sources of continuing information. Of the options, the most often selected were national or regional coaching conferences (45%). In the open-ended comment box, answers ranged from access to YouTube, independent Internet research, NCAA publications, Internet surfing, visitation to other universities, college classes, observing other coaches, mentoring programs, and other coaching associations. Unfortunately, but not surprisingly, few reported any degrees or other training in teaching.

Table 4
Level of Education of Responding Coaches (n = 109)

Level of education	*n*	%
Advanced degrees		
Master's	57	
Bachelor's	50	
Academic area(s): Degree in		
Health, physical education, exercise science, or sport related	45	
Major or minor in coach education	4	
Relevant courses taken during degree(s) (in order of frequency)		
Strength & conditioning		58
Sport psychology		57
Introduction to coaching		55
Advanced concepts		48
Had taken none of the courses listed		13

Table 5
Primary Sources for Continuing Coach Education

Source for continuing coach education	*n*	%
Formal coaching conferences	49	44.50
Informal interaction with peers	28	25.80
Professional publications	12	11.00
Senior coaches in my field	11	10.90
Web-based workshops	4	3.69
NONE	5	4.57

Discussion

The results of this study are similar to those in Nash, Sproule, and Horton (2017), in which few coaches had gained their expertise through formal coach education programs. According to this study, only four coaches had earned a major or minor in coach education. Gaining education through a coach education program or degree is not indicative of being a good or successful coach. However, it is striking that at a Division I level so few coaches have a degree related to coaching or teaching. Regardless of how few coaches received a

formal education in coaching, the answers to this survey offer an insight to their educational demographics.

Despite most of their degrees being in something unrelated to coaching, some courses were relevant to their profession. Over 50% of coaches identified sport psychology, human anatomy, coaching (introduction), and strength and conditioning, while several other courses were well into the 40% range (Table 4). However, few listed courses related to pedagogy.

Contrary to Erickson et al. (2007), who stated that coaching knowledge comes from observing mentors and other coaches, the coaches in this study identified more formal sources. Coaching conferences (45%) was the top choice for continuing education (Table 5). Despite continuing education not being required by their respective employer, some coaches sought to advance their knowledge in their profession. In this study, a majority of coaches (79%) belonged to more than one coaching association and had several certificates at many levels. That involvement allows coaches to at least be exposed to new information. Even though coaching has few requirements for certifications or memberships in associations, these coaches chose to interact with peer groups. Because continuing education was not required, it is encouraging to see so many coaches seeking organizations that can expose them to current information.

The many issues related to coach education are not new. In 1977, Bourdieu characterized coaching as organized inventiveness in which experience was more essential to the profession. A year later, Campbell (1978) observed that one of the major issues plaguing the sport sciences was the distribution of research to coaches. Only two years later, Only two years later, Burke (1980) concluded that to have real value, coach education requires better communication between sport scientists and coaches at every level of competition. Targeting research to enhance athletic performance is but one half of the investigative process. The other essential component is the dissemination of findings to those who will implement them in the preparation of their athletes. The need to bridge the communication gap between coaches and researchers is also not new (Sands, 1998; Thompson, 1982). More recently, Gilbert and Trudel (2004) investigated the proliferation of journals related to coaching and sport science. They determined that while the increase in sport science

journals had contributed to the knowledge base of those disciplines, it created even more problems for coaches. With the increased emphasis on the sport sciences has come an extreme specialization within the vocations. Numerous journals cover areas such as sport psychology, sport sociology, sport administration, and risk management in sport, at regional, national, and international levels. With this specialization has come a level of language that often creates its own barrier to even elite coaches.

The majority of coaches need access to current sport-specific information in a language they can read and understand. Unfortunately, most sport scientists exist in an academic world characterized by a *publish or perish* mentality (Williams & Kendall, 2007). Just as the elite coach must perform within certain stressful parameters, so must sport scientists. Most are professors who are often striving for tenure. That creates barriers of academic procedures, statistical analysis, and terminology/jargon that are not easily understood by, much less applicable to, the average coach. If those barriers could be recognized and overcome by national governing bodies, national organizations such as the National Collegiate Athletic Association, high school associations, and private national, state, and local associations, the process of coach education and the welfare of all athletes would improve. But to support that approach, university and college administrations need to recognize the importance of research that applies to the real world and reward sport scientists who produce in that area.

It is common agreement that one of the mutual goals between the sport scientist theorist and the practical coach is the heightening of athletic performance (Williams & Kendall, 2007). Yet still, current sport science information is not easily accessible by the majority of coaches. Too often, academic expectations force the sport scientists to choose between resources available to the sport coach and pathways to tenure. Scientists, whether a physiologist, psychologist, or nutritionist, normally pursue research problems in their own discipline and ultimately publish in journals read by other scientists. Those publications usually take months, if not years, to be available and are characterized by language not conducive to practical application. Conversely, coaches normally need to solve in a timely manner problems that are specific to an individual athlete or team and that call for solutions that are multidisciplinary in nature. Most coaches

do not have the time or inclination for the extensive work involved in researching, locating, reading, and understanding material characterized by scientific terminology (Williams & Kendall, 2007). This breeds the general perception that research in sport science does not meet the needs of most coaches. Williams and Kendall (2007) recommended that the two groups should attempt to compromise by the scientists communicating more in coaching clinics and practical journals while coaches get more accustomed to the complicated language used in some sport sciences. The existence of solid rapport between some elite coaches and sport scientists suggests the importance of relationships between them. It also recognizes the equal value and respect of both groups' expertise and the need for the practical application of current knowledge in sport. However, what is not being considered is the relationship between coaching at the two levels that form the foundations of the elite levels and the potential of athletes as they move toward the higher levels.

Reade, Rodgers, and Hall (2008) related several barriers in meeting the practical needs of coaches through ongoing education. Coaches at all levels have many responsibilities that must be prioritized. Unfortunately, continuing education, whether formal or informal, is often lower on that list. Next, the funding for resources in coaching is usually an issue and any educational experience that requires expenditures in time or money is, again, low on a priority list. The final barrier has three components. First, coaches must locate the specific information; second, in a timely fashion (when they need it); and most important, in a "user-friendly" format. To overcome those, the coaches, the administrators who provide the time and financial resources, and the sport scientists need to take a unified approach to produce formats that can be easily found, read, and understood. Regardless of their levels of advanced education, most coaches will not attempt to overcome even one of those barriers without ample support and encouragement. These are only a few of the issues in coach education that produce coaches who rely on more informal sources for the periodic updates in sport science. As noted, most coaches rely on interactions with other coaches in both applied and social settings such as coaching clinics (Cushion, Armour, & Jones, 2003). However, those practices have shortcomings. Cushion et al. (2003) observed that perhaps those informal coach-to-coach

interactions could result in information and practices being "lost in translation" or achieved at the expense of more current, innovative, and/or critical analysis of coaching tactics and techniques. Without sufficient background and understanding, coaches remain in danger of leaving their profession unaffected by new knowledge and insight.

Recommendations for Additional Research

This study was limited by the small number of subjects and by the one athletic conference examined. Certainly more research should be accomplished in the ongoing issues around coach education, especially with the continued growth of sport in the private sector. In addition, more attention needs to be paid to the limited exposure of coaches to the teaching element of their profession. Along with the poor communication between sport scientists and coaches is the lack of education on how to teach. Historically, there has been as much emphasis on how to teach in coaching as on what to teach. But now, with more coaches than ever being unprepared, how to teach continues to be somewhat ignored. That failure is as threatening to the players and the sport as the lack of dissemination of the sport sciences.

Conclusions

The mutual goal of sport scientist and the practical coach is the heightening of athletic performance (Williams & Kendall, 2007), yet today current sport science information is not reaching many coaches. As a group, the college coaches in this study exhibited an encouraging amount of formal education, yet their academic areas were often not related to sport science or physical education. Their primary sources were, understandably, sport-specific conferences, interaction with other coaches, or informal sources easily accessible via the Internet. More important, continuing education beyond basic rules and regulations upgrades was not required and education in teaching theory or application was limited.

In conclusion, the education of coaches at all levels is still weak and based upon the expansion of private sports in the United States, the number of undereducated coaches continues to increase. A unified approach to coach education by all shareholders in sports is required to meet the growing needs of athletes and coaches at all levels.

References

Becker, A. (2009). It's not what they do, It's how they do it: Athlete experience of great coaching. *International Journal of Sports Science & Coaching*, *4*(1), 93–119. https://doi.org/10.1260/1747-9541.4.1.93

Bennett, B., & Culpan, I. (2014). The coach as educator: Content and pedagogical framework. *Journal of Physical Education & Health*, *3*(5), 5–18.

Blackett, A. D., Evans, A., & Piggott, D. (2015). Why 'the best way of learning to coach the game is playing the game": Conceptualising 'fast-tracked' high-performance coaching pathways. *Sport, Education, and Society*, *22*(6), 1–15. https://doi.org/10.1080/13573322.2015.1075494

Bourdieu, P. (1977). *Outline of a theory of practice*. London, United Kingdom: Cambridge University Press.

Bowes, I., & Jones, R. (2006). Working on the edge of chaos: Understanding coaching as a complex, interpersonal system. *The Sport Psychologist*, *20*(2), 235–245. https://doi.org/10.1123/tsp.20.2.235

Bureau of Labor Statistics. (2016). Coaches and scouts. In *Occupational outlook handbook, 2016-2017 edition*. Retrieved from http://www.bls.gov/ooh/entertainment-and-sports/coaches-and-scouts.htm

Burke, E. R. (1980). Bridging the gap in sports science. *Athletic Purchasing and Facilities, 4*(11), 20, 22, 24–25.

Campbell, C. (1978). Bridging the gap or why the sport scientist and the coach must work hand-in-hand. *Coaching Review*, *1*, 134–139.

Cook, B. (2016). High school sports apoplectic as IMG academy, other elite programs poach talent. *Forbes*. Retrieved from https://www.forbes.com/sites/bobcook/2016/09/07/high-school-sports-apoplectic-as-img-academy-other-elite-programs-poach-talent/#2201121e20b2

Cushion, C., Armour, K., & Jones, R. (2003). Coach education and continuing professional development: Experience and learning to coach. *Quest, 55*(3), 215–230. https://doi.org/10.1080/00336297.2003.10491800

Erickson, K., Côté, J., & Fraser-Thomas, J. (2007). Sport experiences, milestones, and educational activities associated with high-performance coaches' development. *The Sport Psychologist*, *21*(3), 302–316. https://doi.org/10.1123/tsp.21.3.302

Galvan, H., Fyall, G., & Culpan, I. (2012). High-performance cricket coaches' perceptions of an educationally informed coach education program. *Asia-Pacific Journal of Health, Sport, and Physical Education, 3*(2), 123–140. https://doi.org/10.1080/18377122.2012.700692

Gilbert, W., &, Trudel, P. (2004). Analysis of coaching science research published from 1970–2001. *Research Quarterly for Exercise and Sport, 75*(4), 388–399. https://doi.org/10.1080/02701367.2004.10609172

Gould, D., Giannini, J., Krane, V., & Hodge, K. (1990). Educational needs of elite US national team, Pan American, and Olympic coaches. *Journal of Teaching in Physical Education*, *9*(4), 332–344. https://doi.org/10.1123/jtpe.9.4.332

Irwin, G., Hanton, S., & Kerwin, D. (2004). Reflective practice and the origins of elite coaching knowledge. *Reflective Practice*, *5*(3), 425–442. https://doi.org/10.1080/1462394042000270718

Jones, R. L. (2006). How can educational concepts inform sports coaching? In R. L. Jones (Ed.), *The sports coach as educator: Re-conceptualising sports coaching* (pp. 3–13). London, United Kingdom: Routledge. https://doi.org/10.4324/9780203020074

Martindale, R., & Nash, C. (2013). Sport science and application: Perceptions of UK coaches. *Journal of Sports Science*, *31*(8), 807–819. https://doi.org/10.1080/02640414.2012.754924

Nash, C. S., Sproule, J., & Horton, P. (2011). Excellence in coaching: The art and skill of elite practitioners. *Research Quarterly for Exercise and Sport*, *82*(2), 229–238. https://doi.org/10.1080/02701367.2011.10599750

Nash, C. S., Sproule, J., & Horton, P. (2017). Feedback for coaches: Who coaches the coaches? *Sports Science & Coaching, 12*(1), 92–102. https://doi.org/10.1177/1747954116684390

Rankin-Wright, A. J., & Lara-Bercial, S. (2018, February 26). Why so many children's sports coaches are unqualified and underpaid. Retrieved from http://theconversation.com/why-so-many-childrens-sports-coaches-are-unqualified-and-underpaid-91028

Reade, I., Rodgers, W., & Hall, N. (2007). How do high performance coaches access the knowledge of sport scientists? *International Journal of Sport Science & Coaching, 3*(3), 319–334. https://doi.org/10.1260/174795408786238470

Sands, W. A. (1998). How can coaches use sport science? *Modern Athlete and Coach*, *36*, 8–12.

Solomon, J. (2017, September 5). 7 charts that show why we need to fix youth sports. Retrieved from https://www.aspeninstitute.org/blog-posts/7-charts-show-fix-youth-sports/

Stewart, C., & Sweet, L. (1992). Professional preparation of high school coaches: The problem continues. *Journal of Physical Education, Recreation, & Dance*, *63*(6), 75–79. https://doi.org/10.1080/07303084.1992.10606625

Thompson, M. (1992). *Sport research in Australia*. Kingswood, Australia: Australian Council of Health, Physical Education, and Recreation.

U.S. Anti-Doping Agency. (2011). *What sport means in America: A study of sport's role in society*. Retrieved from http://www.truesport.org/library/documents/about/what_sport_means_in_america/what_sport_means_in_america.pdf

Vaughan, J. (2018). Coaching: Is it art or science? Retrieved from https://playerdevelopmentproject.com/coaching-is-it/

Williams, J., & Kendall, L., (2007). Perceptions of elite coaches and sports scientists of the research needs for elite coaching practice. *Journal of Sports Sciences*, *25*(14), 1577–1586. https://doi.org/10.1080/02640410701245550

Williams, J., Kenow, L., Jerome, G., Rogers, T., Sartain, T., & Darland, G. (2003). Factor structure of the coaching behavior questionnaire and its relationship to athlete variables. *The Sport Psychologist*, *17*(1), 16–34. https://doi.org/10.1123/tsp.17.1.16