

## *Role of the Elite Coach in the Development of Talent*

**Gordon Bloom**

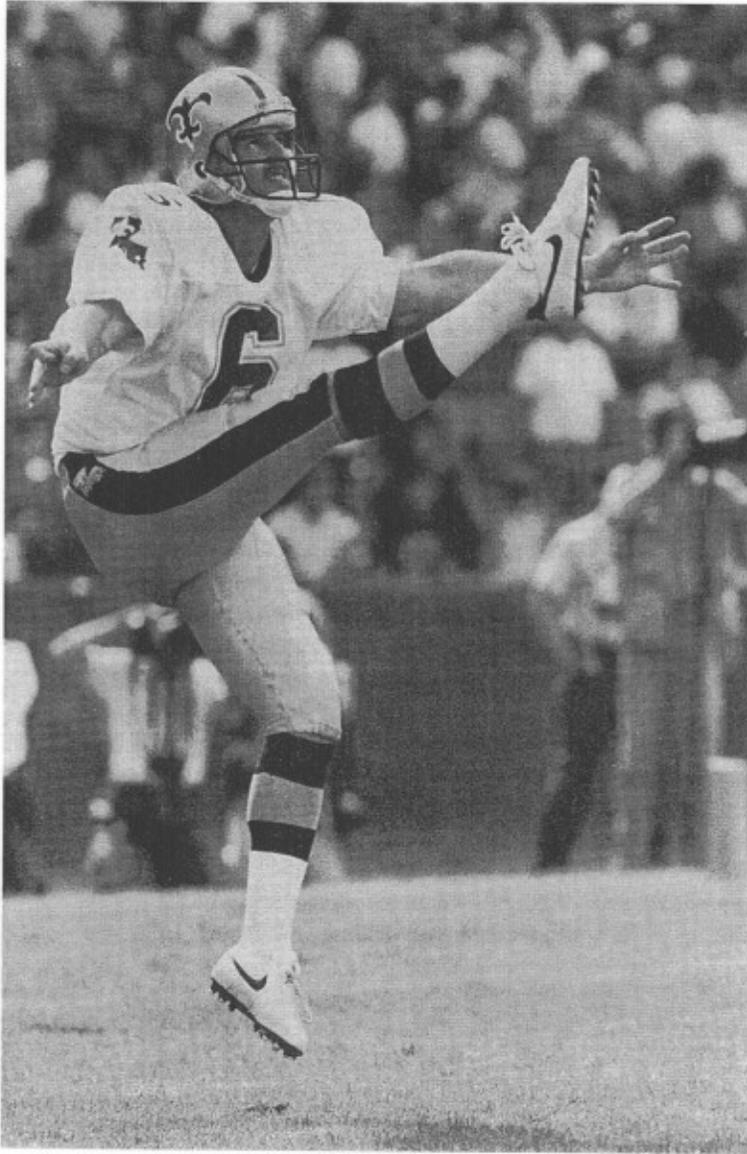
*McGill University*

- The stages of development of an individual require coaches to assume different roles. Whether introducing a child to a sport and fostering interest in that sport or developing a more rigorous practice routine, the elite coach will be encouraging, challenging, and understanding with the athletes.
- Talent development can occur only through deliberate practice. The elite coach understands how to stimulate athletes to participate in deliberate practice.
- In competition, the coach must maintain emotional control, develop a positive relationship with officials, and use time-outs and intermissions strategically.
- There is documented support by coaches for the use of sport psychologists either directly or indirectly; in actuality, however, the prevalence of sport psychologists involved in athletics remains uncertain.

Life to him [John Wooden] is a one-room schoolhouse. A pedagogue is all he ever wanted to be. (Tharp & Gallimore, 1976, p. 78)

Vince Lombardi's success, I am convinced, lay not only in his inspirational personality but also in his ability to teach. He was a teacher. He could communicate an idea to his players, explain it so they understood it—not only how to execute it but why! He taught, right to the heart of the matter, without frills or gimmicks. You had to be smart to play for Lombardi. In a split second a lineman had to read and react to the move of his opponent, and react correctly—so for all players, both offense and defense. Of course the physical talent was there, but all teams in professional football have that. The ability of his teams to do the right thing—cut the right way, block the right man, read the key correctly—these are the reasons for championships. (Flynn, 1973, foreword)

The philosophy of a coach should contain room for developing the abilities of all the participants, not only those few who have proven their talents. You do not have to sacrifice the rest of the team to develop the exceptional few. Don't let yourself get caught in the trap illustrated by the remark of one swimmer's parent, "In a race there is one winner; he's the champ, the rest are chumps." (Counselman, 1977, pp. 258-259)



*See you at the top! Highly specialized skills often require meticulous coaching over an extended period of time.*

After an Olympic athlete wins a gold medal or a football team wins the Super Bowl, the media and public are quick to praise the expert athletes. Most athletes deserve this recognition because they have sacrificed countless hours training for their event. Many individuals, however, fail to consider the role that the coach, teacher, or mentor plays in helping the athlete achieve a high level of success. This chapter will examine research on elite performers, including the importance and necessity of having a highly qualified coach or teacher. In particular, the work of Bloom (1985), Csikszentmihalyi, Rathunde, and Whalen (1993), Ericsson and colleagues (Ericsson & Charness, 1994; Ericsson, Krampe, & Tesch-Römer, 1993), and Partington (1995) will be discussed, with an emphasis on the coaches and teachers who helped performers excel in their fields. This chapter also will explore the role of the coach in competition as well as the coaches' thoughts and feelings about the role of sport psychology.

### ***Bloom's Research on Developing Talent in Young People***

Benjamin Bloom's (1985) work focused on the talent development of world-class performers in the art, science, and sport domains. Bloom, who spent 4 years directing this project with a group of researchers from the University of Chicago, was interested in the process of talent development in young people, beginning with their early years and ending with their rise to prominence. The data was gathered by interviewing 120 young men and women from different parts of the United States after they had completed their careers. Although Bloom felt that no two individuals would have identical developmental experiences, he believed that a number of similarities would emerge across individuals and different disciplines.

Bloom's (1985) research identified three phases of talent development of expert performers and provided important insights on how Olympic swimmers, world-class tennis players, concert pianists, sculptors, research mathematicians, and research neurologists reached the top level of expertise in their domains. The stages of talent development were labeled as the early years, the middle developmental years, and the final years of perfecting the skills. Central to the development of the expert performer at each stage was the teacher, coach, or mentor.

#### ***Bloom's Stages of Development***

**Early Years.** Bloom (1985) found the first phase began when individuals were introduced to activities in their sport. It involved instruction from a local coach/teacher who was caring, thoughtful, and well-respected in the community, and, most importantly, who was situated close to where the child lived. The coach/teacher provided the performer with considerable amounts of positive feedback and approval and allowed the children to play and explore all aspects of their sport. Rewards were garnered for effort rather than for achievement, and rarely was the coach critical of the children. The role of the coach also involved monitoring the children's practice activities by helping them set and achieve reasonable goals.

Bloom (1985, p. 143) also found that parents played a large role by providing their children with encouragement and motivation. (For a more detailed examination of the role of parents in talent development, please refer to Chapter 25 of this textbook.) Many parents at-

tended practices with their children and tried to instill habits of discipline and practice while still focusing on the playful activities and inherent enjoyment of the sport. The following quote typifies what many of these parents said to their children: "You can do anything you set your mind to, if you want to do it." In addition to this support, the children relied on the guidance of their coach or teacher to help them perform well. Whether or not it was related to their exceptional performance, sixteen of the twenty-one expert swimmers reported that the quality of their coach and the caliber of their team were most affected by the proximity to where the outstanding performer lived. About two-thirds of these swimmers lived close to coaches who trained or were training at least one nationally ranked swimmer. The young swimmers obviously improved through their exposure to a positive learning environment. Furthermore, many of their early coaches regarded the athletes as special learners, and gave them extra attention. This form of motivation may have encouraged the children to work and train harder. Also, "many of the teachers kept records of the child's progress (especially in piano and swimming), and this typically helped prove to the children that they were progressing and that if they kept at it, they would make even more progress" (Bloom, 1985, p. 516).

***Middle Developmental Years.*** In the second phase or middle years, typically between the ages of 10 and 13, individuals became fully committed to their performance goals. For the tennis players, the sport became more than a "game;" it became "real business." As one player described it: "I was now eating, sleeping and breathing tennis" (Bloom, 1985, p. 236). During this period, players began receiving acclaim and rewards in the form of articles and pictures in newspapers and recognition by important people in their sport. Bloom reported that most athletes and their parents began to feel that a new and more advanced type of coaching was needed, so they carefully sought out a talented coach, one with a proven record of training outstanding athletes.

In the early years of development, the coaches had been good at getting the athletes interested in and excited about their sport. In the middle years, however, the athletes and their parents felt they needed someone to teach them precision and technique as well as strategy. They also needed to tailor their skills to emphasize their own personal strengths and to compensate for any weaknesses they might have.

The coach during the middle years was more advanced and regarded as one of the best within a larger geographical area. These coaches usually worked with selected individuals who they felt had lots of potential; their athletes often viewed the coaches as perfectionists. The cultivation of talent now became a top priority for the performer. Coaches demanded more hard work, commitment, and discipline from their athletes. The athletes' training regimens became more intense and advanced as coaches introduced them to more strenuous and strategic areas of their sport. For example, the talented swimmers now were expected to devote more hours to their training schedules, usually between three to five hours a day. While the tennis players focused on ball placement, overcoming personal weaknesses, and improving their competitive skills, the swimmers worked on perfecting their strokes and learning how to maximize their stamina. The coaches also helped the athletes set short- and long-term goals.

***Later Years.*** Athletes who achieved high levels of success auditioned for the opportunity to work with yet another coach, an individual widely recognized as a master teacher or

expert in the domain. Bloom (1985) noted that there were only a small number of individuals in the whole country considered "expert coaches," perhaps only eight to ten. Those athletes who were fortunate enough to reach this stage were totally committed to their chosen activity and would do whatever was necessary to excel. The progression to the third stage involved a number of sacrifices for both performers and their families, such as greater expenses and often moving to a new city.

For many of the swimmers and tennis players, the later years involved relocating to a specially chosen college where their coach became an important influence. The relationship between athlete and expert coach evolved into one of mutual respect and collegiality with both parties focusing less on instructional methods and more on tactical refinement and the development of the individual's style. This reorientation in the coach-athlete relationship is noted in the following quote: "It was just a new philosophy. Rather than hitting every ball as hard as I could, to try and play the percentages a little bit more. I improved" (Bloom, 1985, p. 260). These coaches challenged their proteges to excel beyond their perceived human capabilities. "This was especially true of the Olympic swimmers, who were expected to exceed records beyond that ever previously accomplished by any human being. So, too, was it true of the mathematicians, who were expected to solve problems that had never been solved before" (Bloom, 1985, p. 525). These coaches expected a high level of mental and physical dedication from their athletes so they could help them reach the highest possible levels in their fields.

In sum, Bloom's (1985) study of top performers revealed important information relating to the development of expertise. Through the use of retrospective interviews with individuals from vastly different domains, a three-stage process of development for talented performers emerged, including the important roles of the coaches who influenced them.

### *Csikszentmihalyi's Work on Talented Adolescents*

Csikszentmihalyi, Rathunde, and Whalen (1993) conducted a longitudinal study that examined the development of talent in five areas—art, athletics, mathematics, music, and science. Over 200 talented high school students were studied over a period of approximately 4 years. The purpose of their research was to determine which factors contributed to the development of talent in some individuals and which contributed to the eventual lack of success in others. This section will review this research with particular emphasis on the role played by the coaches or teachers towards the development of talent.

#### *Data Gathering Techniques*

The method of gathering data employed by these researchers was unique and extensive. The first phase of their research used questionnaires to help focus on the adolescents' different biographical and demographic information. The subject's talent-related preferences and accomplishments, family functioning, stressful events, and physical motivation were assessed as well. The core of data, however, was gathered from interviews and the Experience Sampling Method (ESM). In the ESM or "beeper method," subjects carried with them an electronic pager for seven consecutive days, receiving seven to nine random signals per day. After receiving a signal, they filled out a sampling form designed to record

their current thoughts, activities, and feelings. The final phase of the study involved more objective measures such as grades and teacher ratings. These measures provided additional support to data gathered earlier in the study. An open-ended interview of each student took place at the end of the data gathering period as well.

### *The Importance of Motivation and "Flow"*

One of the key factors accountable for talent development was motivation. The students who had the highest levels of intrinsic motivation to learn, as well as external rewards like recognition and praise from significant others, had greater chances of succeeding.

Threats and blandishments may move an adolescent to study math or practice the piano up to a point. He or she may even become proficient and become a respectable professional. But to reach exceptional levels of performance requires a single-minded dedication that will not occur unless one enjoys what one is doing. All the talented students in our study perceived intrinsic rewards to be more important than extrinsic ones in keeping them involved in their domains. (Csikszentmihalyi, Rathunde, & Whalen, 1993, p. 148)

Additionally, Csikszentmihalyi and colleagues found that "flow experiences" contributed to talent development. A **flow experience** is "the state in which people are so involved in an activity that nothing else seems to matter" (Csikszentmihalyi, 1990, p. 4). Csikszentmihalyi (1991) noted that flow experiences take place when the challenges equal the skill level and when one knows what to do, has clear goals, deep concentration, a sense of being in control, and loses a sense of time. Teenagers were unable to develop their talent unless they enjoyed it. Part of this enjoyment was the atmosphere and environment created by the teacher or coach. These young adolescent subjects required constant stimulation and challenges to their skills to avoid boredom and losing interest in their activity. Csikszentmihalyi and colleagues found that two of the main reasons students did not fulfill their potential were that they either gave up from having to work alone or that they did not like the competition or heightened atmosphere.

A comparison of some of the methodological and practical similarities between the research of Csikszentmihalyi, Rathunde, and Whalen (1993) and Bloom (1985) provides a more in-depth understanding of the early stages of talent development, and, more importantly, of those who facilitate this process. All the subjects in Csikszentmihalyi's study had reached the first or second stage of development postulated by Bloom. From a methodological perspective, the use of vivid quotations from the subjects allowed the reader to get a true feeling for what the talented performers were feeling and doing. From a practical standpoint, those who enjoyed emotional and material support from their families tended to have an easier time developing and honing their skills. In fact, Csikszentmihalyi, Rathunde, and Whalen noted that most talented students came from households consisting of two parents. As in Bloom's study, the need for a qualified and experienced master teacher or coach also emerged. According to Csikszentmihalyi, Rathunde, & Whalen (1993, p. 38):

Whether a young person gifted with outstanding skills will grow into a talented performer depends on many unrelated factors.... There are also the personal qualities that contribute to the realization of talent. A person has no control over some of these: genetic contributions to intelligence, to special skills, and to temperament, for example. But there are also traits

where the individual can make some difference. We cannot increase the inborn gifts of our children, and as individuals we can do little to alter the cultural and societal parameters that affect the unfolding of talent. But if we understood better those elements of the equation over which we have some measure of control, we might be able to protect and nurture the unique human potentials that young people in our families, schools, and communities possess.

Some of the elements which individuals can control include the quality of the home experience, the quality of the school chosen, and more importantly, the teachers/coaches who are working with these children. The logical question thus becomes: What are the crucial characteristics of the coach or teacher?

### *Characteristics of Successful Coaches and Teachers*

Csikszentmihalyi, Rathunde, and Whalen (1993) found three common characteristics of coaches/teachers who helped cultivate the talent of their students. For one, coaches were effective because they enjoyed what they were doing and encouraged their athletes to excel beyond their current level of talent. They were remembered for their "genuine" love and devotion toward their field of study. Second, coaches created optimal learning conditions so that athletes were not bored or overly frustrated, enabling them to maximize their levels of concentration, self-esteem, potency, and involvement. Finally, a third characteristic of distinguished coaches was their ability to understand the needs of athletes. They were recalled for their "reassuring kindness" as well as their genuine concern for the overall development of the student both inside and outside of school.

### *Increasing Flow Experiences*

Although the three characteristics noted previously must firmly be in place, talent development is enhanced when the teachers are able to intensify optimal "flow" learning conditions for their students (Csikszentmihalyi, Rathunde, & Whalen, 1993). The chance of reaching a flow experience was increased in a number of ways. First, the teachers nurtured or bettered their own talent by partaking in activities within their domain outside of the work setting. As a result, "they seemed determined to help students experience the same rewards that they found in the continuing exploration of their domain" (Csikszentmihalyi, Rathunde, & Whalen 1993, p. 191). Second, teachers tried to eliminate external rewards such as grades, competition, and bureaucratic pressures, instead encouraging the inherent satisfaction of learning something new and challenging. The authors suggested that teachers developed crucial ways of providing feedback to students by avoiding the trap that many others fell into whereby they "divert attention away from the activity at hand and toward the new game of winning prizes, avoiding punishments, and ingratiating oneself with those who mete them out. In the process, students cease to cultivate sources of self-reward that yield only undivided concentration and sustained immersion in a challenging task" (Csikszentmihalyi, Rathunde, & Whalen, 1993, p. 192). Finally, teachers were concerned with the shifting needs of learners that allowed the flow experience to take effect. Thus, they praised and reprimanded performers at appropriate moments and allowed the students the freedom, whenever possible, to control the pace of the learning process. They also provided the students with emotional support as they strived for success.

In short, Csikszentmihalyi's research highlighted many important points of expert coaching and teaching. The authors concluded that athletes and students will learn only if they are placed in enjoyable learning environments with individuals who know how to provide information in a manner that is both challenging and gratifying.

### *Info Box*

Children often are motivated to participate in sport solely by enjoyment. Coaches can learn from children and provide developing athletes of all ages an enjoyable learning environment. If athletes enjoy learning, they attend directly to learning the skill and become more proficient at that skill.

### *Ericsson's View of Deliberate Practice*

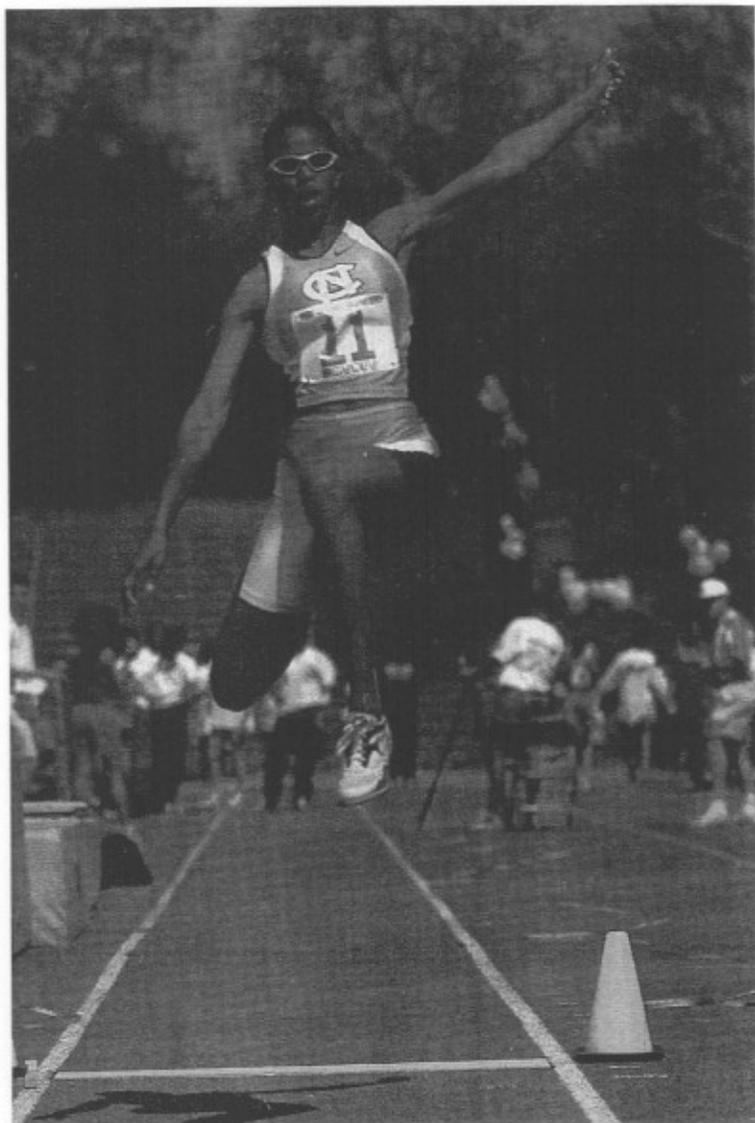
The issue of expertise development was advanced even further in the mid-1990s. Ericsson and associates (Ericsson & Charness, 1994; Ericsson, Krampe, & Tesch-Römer, 1993; Ericsson & Lehmann, 1996) have taken the understanding of expertise to new levels by discounting the popular notion that outstanding achievement is innate or genetically in-born. Ericsson and colleagues have shown how many human characteristics, such as size of the heart, number of capillaries supplying blood to muscles, and metabolic properties of fast and slow twitch muscles, are changeable with intense practice. Ericsson's research has ramifications for the role of expert coaches and, most notably, how expert athletes require a top coach to oversee their long hours of training. Without a competent coach, it would be difficult for most expert performers to maximize their potential.

#### *Highest Level—Eminence*

Ericsson, Krampe, and Tesch-Römer's (1993, p. 370) research extended Bloom's (1985) framework to include a fourth developmental phase entitled **eminence**: "The criteria for eminent performance goes beyond expert mastery of available knowledge and skills and requires an important and innovative contribution to the domain." Examples of eminent sport performers are Kareem Abdul Jabbar and his patented basketball "hook shot," Wayne Gretzky's incredible passing skills in ice hockey, and Martina Navratilova's aggressive net play in women's tennis. Examples of coaching eminence include Bill Walsh's "West Coast Offense" in football and Phil Jackson's use of the "Triangle Offense" in basketball. All of these individuals reached the pinnacle of their sport by making significant advances in skill and knowledge.

#### *Deliberate Practice*

Ericsson and colleagues argued that reaching a level of eminence involved more than innate abilities; it was a result of effortful, sustained activities designed to optimize improvement, a process that was labeled **deliberate practice**. Ericsson, Krampe, and Tesch-Römer's (1993,



*Talented athletes understand that each competition is a logical extension of practice.*

p. 368) fundamental view is best summarized as follows: "In contrast to play, deliberate practice is a highly structured activity, the explicit goal of which is to improve performance. Specific tasks are invented to overcome weaknesses, and performance is carefully monitored to provide cues for ways to improve it further...the amount of time an individual is engaged in deliberate practice is monotonically [linearly] related to that individual's acquired perfor-

mance.” Resources, including time, energy, access to competent teachers, training materials, and training facilities, as well as effort and motivation, were identified as possible constraints inhibiting the process of deliberate practice. In addition to resources, effort, and motivational constraints, Ericsson and colleagues also found that the age at which individuals began their deliberate practice affected their rise to prominence. In particular, individuals who started deliberate practice at a younger age had a better chance of reaching high levels of success. Durand-Bush and Salmela (1996, p. 90) further elaborated on this issue when they noted: “It has been shown that it is impossible for an individual with less accumulated practice at some age to catch up with the best individuals who started deliberate practice earlier and maintained optimal levels of practice that did not lead either to exhaustion or burnout.”

A time frame also was forwarded for the development of expertise that follows Simon and Chase’s (1973) “10 year rule.” In their research on international chess masters, Simon and Chase found that a minimum of 10 years or more of full-time dedication was required to achieve the highest performance level in chess from the first time an individual learned the rules. This time frame was extended to 16.5 years if the person began playing chess before the age of 11. The following quotations, although anecdotal, appear to offer support towards the importance of deliberate practice:

I’m gifted, but I’ve worked for everything I’ve gotten. Gordie Howe and Bobby Orr worked hard too. Like them, I didn’t say, “I’m gifted. I don’t have to work anymore.”

—Wayne Gretzky, former professional hockey player

The dictionary is the only place success comes before work. Hard work is the price we must all pay for success. I think we can accomplish almost anything if we are willing to pay the price. The price of success is hard work, dedication to the job at hand, and the determination that whether we win or lose, we have applied the best of ourselves to the task at hand.

—Vince Lombardi, Hall of Fame football coach

Genius is one percent inspiration and 99 percent perspiration. I never did anything worth doing by accident, nor did any of my inventions come by accident; they came by work.

—Thomas Edison, American inventor

I learned to fight. I worked and studied it. If I got beat up or did something sloppy in the gym, I’d go home and work on it until I got it right. Man, it was hard work but I didn’t want to just be good. I wanted to be the best.

—Thomas Hearns, former boxer

### *Coach and Deliberate Practice*

Although deliberate practice is an extremely important precursor to reaching levels of success, it is not sufficient in and of itself. Ericsson and colleagues (1993, 1994, 1996) alluded to the importance of the coach or teacher in facilitating the process of deliberate practice. For example, Ericsson and associates found that coaches and teachers played an important role in setting an appropriate environment for athletes to engage in the 10 years or 10,000 hours of deliberate practice required to reach high levels of expertise. The importance of this task should not go unnoticed. In fact, it was revealed that musicians who reached the highest levels of their profession deliberately practiced for 24.3 hours per week compared

to 9.3 hours per week for less accomplished musicians. One could hypothesize that athletes expecting to reach the same levels of success in their sports need to first put in the required hours of deliberate practice. The question then becomes: What effect does the coach have in motivating the athlete and perpetuating deliberate practice?

Another important role of the coach relates to the quality of practice time experienced by the athletes. In the absence of coaches or teachers, subjects usually played rather than practiced. In addition, feedback was crucial, and expert performers needed to be taught and corrected when errors occurred:

To assume effective learning, subjects ideally should be given explicit instructions about the best method and be supervised by a teacher to allow individualized diagnosis of errors, informative feedback, and remedial part training. The instructor has to organize the sequence of appropriate training tasks and monitor improvement to decide when transitions to more complex and challenging tasks are appropriate (Ericsson, Krampe, & Tesch-Römer 1993, p. 367).

The thoughts of many great athletes and coaches appear to support what Ericsson and colleagues (1993, 1994, 1996) are alluding to with respect to the quality of practice and the role of the coach in ensuring this takes place.

Practice does not make the athlete. It is the quality and intensity of practice that makes the athlete, not just repeated practicing. —Ray Meyer, college basketball coach

When fans watch me hit, they think the game must have been easy for me. But it wasn't. I worked very hard to get where I am. For four years, I came to the parks early and worked with our batting coach, Charley Lau. There were a lot of things I could've done, and probably would have rather done, but I knew that if I was going to become successful in baseball, I had to do it; I had to work on it. —George Brett, Hall of Fame baseball player

Our approach for getting ready for a football game is a seven-day process. All that fired-up emotion is good, but if a team lines up in a formation that we're not prepared for, then all that emotion doesn't do us much good. We believe a highly motivated team is a team that is basically very soundly prepared. —Tom Osborne, former college football coach

In summary, the groundbreaking research of Ericsson and colleagues (1993, 1994, 1996) offers some new insights into the field of expertise including the importance of quality coaching. It needs to be stated, however, that the research of Bloom, Csikszentmihalyi and colleagues, and Ericsson and associates was primarily carried out with middle- and upper-class subjects. One should exhibit caution when comparing these results to other populations.

### *Partington's Research on Elite Music Performers*

Partington (1995) examined the careers of 21 expert principal players in symphony orchestras through the use of semi-structured interviews. Like Bloom, Csikszentmihalyi, and Ericsson before him, Partington used subjects who had attained a high level of expertise in their domain. The subjects were asked to describe their background and career develop-

ment up to its present stage. Partington (1995, p. 4) specifically chose certain musicians whose roles affected the play of others.

I decided to target principal players because of the multiple roles each must play within the orchestra. These roles make enormous demands, especially on the player's attentional focus. For example, as part of the ensemble, principals need to be team players, intimately tuned in to what is going on around them in the orchestra; simultaneously, they have to provide leadership to guide others in their section; finally, principals must be ready to step forward as soloists when designated in the score.

### ***Importance of Deliberate Practice***

Partington presented his results in a manner analogous to Bloom (1985), identifying personal, pedagogical, and experiential factors conducive to a performer's rise to the top. Many similarities can be found in Partington's work compared to those listed earlier in this chapter. For example, he found that expert musicians possessed certain characteristics such as commitment, passion, creativity, and an ability to communicate and express their emotions in a certain way. Of particular interest was the finding that deliberate practice seemed more important than innate talent in the development of expert music performers. As Partington (1995, p. 61) stated:

The first highlight for me was that background experiences, interest, and effort were more often cited than innate talent as necessary for a career in music. Informal opportunities in the family home, such as hearing and singing a variety of music, being taken to concerts, and receiving encouragement for playing from at least one caring adult, usually a mother, appear to be necessary foundations for the development of most of the predisposing tendencies associated with a successful career performing music. Important music-related characteristics include interest in, curiosity about, openness to, and love for the sounds of music and how they are made. Coupled with these learnings is a prodigious readiness and capacity to work hard in order to achieve self-imposed high standards, based on a conscious decision and commitment to master the necessary skills in order to become the best performer possible.

### ***Physical and Emotional Development of Students***

Partington (1995) also examined the devoted teachers who helped performers reach such a high level of expertise. He noted that having a highly qualified teacher was sometimes the difference between very good and expert performers. Essentially, three separate areas of the teachers were discussed. First was the description of the performers' most effective and memorable teachers. Those teachers, at the early stages of learning, made it a positive experience for the young musicians by providing feedback in a constructive and upbeat manner and by teaching them how to practice intelligently. Second was the methods of teaching and how teachers inspired their students to excel beyond perceived capabilities. These teachers made studying music enjoyable so that the expert performers were encouraged to maintain effortful practice. Third, Partington explained how expert performers dealt with the problems and conflicts they experienced with their master teachers. The teachers acted as friends and confidants, and also as disciplinarians when required. It can

be concluded that the teachers in Partington's study were mentors, playing vital roles in the physical and emotional development of expertise.

### ***Mental Development of Students***

Partington found that in addition to nurturing their students' physical and emotional development, the teacher played a critical role in their mental development. For some teachers it was important for the musicians to adhere to a mental training program geared for playing their instrument. For other teachers, mentally training their pupils meant ensuring they acted independently and sought answers to their own questions. Problems arose when teachers emphasized skill perfection and winning at competitions at the expense of fun. According to Partington (1995, p. 40) deliberate practice could only be attained if musicians derived some enjoyment from their activity, a conclusion that differed from Ericsson and his colleagues:

A lot of teachers make their students work on one piece all year. That is my criticism of the festivals. Some teachers make you prepare a whole year for one piece so that you can be the winner at the festival. That approach doesn't create a love for music, but it takes its toll. Once the kids get beyond a certain age, when their parents can't make them, then they just pack it in.

### ***Summary on Talent Development***

An important finding from Bloom's (1985), Csikszentmihalyi and colleagues', Ericsson and associates', and Partington's research was that talent development requires tremendous amounts of practice and training, and central to this was the teacher or coach. Perhaps, Salmela (1994, p. 25) best summarized the issue of talent development when he stated: "For the moment, it is clear in our minds that talent development appears to have a much greater environmentally determined stimulus, specifically in terms of how expert coaches can facilitate the development of expert performance rather than the genetically based viewpoint of innate gifts or talent that we considered a decade ago."

### ***Info Box***

Athletes are not born with talent; they must develop it by engaging in deliberate practice. Effective coaches inspire athletes to practice and ensure that the quality of the practice is high.

### ***Role of the Coach in Competition***

Up to this point, the chapter has explored the role of the coach prior to competition. It seems logical to proceed with an exploration of the role of the elite coach during competition. Probably one of the greatest differences between coaches of individual and team sports occurs during competition. Although coaches of divers, weight lifters, ice skaters, and cyclists often nervously and passively watch their athletes compete, the same cannot be said of ice hockey, baseball, or football coaches. In fact, sometimes these team sport

coaches receive more television coverage than many of their athletes. This does not imply that team sport coaches are more important to the overall development and success of their athletes. What it does suggest, however, is that the role of the coach in competition is far more important in team sports than it is in individual sports. Up to this point, Bloom (1996) has provided one of the few accounts of team sport coaches' roles during competition. Four areas receiving considerable attention were emotional control, officials, time-outs, and intermissions. These areas all will be briefly discussed.

### ***Emotional Control***

Legendary head coaches like Earl Weaver and Billy Martin in baseball, Bobby Knight in college basketball, and John Madden in football were well-known for their emotional outbursts during athletic competitions, especially toward officials. Bloom (1996), however, noted that many of the past and present Olympic coaches interviewed in his research stated that although inwardly they felt emotionally unsettled during competitions, they were cognizant of outwardly projecting a demeanor that made them appear calm and in control. These coaches feared that losing their composure might cause their players to behave in a similar manner and also might cause the players to lose the coaches' respect. On the other hand, these coaches also noted that a preplanned emotional outburst often can fire up their team. These views are best summarized in the following quote:

I think every coach has to be prepared to show some true emotions. I think if you want to lose it a little bit, you lose it by design. I don't mean it in the wrong way. It's not phony. You really feel it but you say this is the right time to get emotional. But to me, if you lose it involuntarily, then you're not doing yourself any favors. You're taking yourself out of the rational thought process. (Bloom, 1996, p. 164)

### ***Officials***

Bloom (1996) noted that coaches believed interactions with referees and other sport officials also was an important dimension of the coaches' role during competition. It was, therefore, no surprise to find that coaches put a great deal of time and effort into their interactions with referees. They studied and learned just how far they could push a referee before their team would be penalized. Also, many of the expert coaches who were interviewed said that as they matured, they began to treat officials more as allies and learned to not embarrass or belittle them in front of spectators or athletes.

### ***Time-Outs***

Bloom (1996) stated that time-outs (as well as substitutions) were viewed as important strategies by team sport coaches. The coaches realized that their team could gain momentum and, thus, a possible edge over their opponent if they used these strategies properly. A few suggestions offered by these coaches during time-outs were as follows: (1) everybody needs to listen, not just those in the game at that time, (2) prepare what you are going to say to your athletes ahead of time, (3) don't overload your athletes with too much information—one or two points is enough, (4) use time-outs to regroup your athletes, stop the other team's momentum, and modify team strategies.

### *Intermissions*

The coaches interviewed in Bloom's (1996) research strongly endorsed the importance of the intermission. This was the only time when head coaches were able to speak with assistant coaches, analyze the effectiveness of the game plan, and personally regroup. According to these coaches, every minute of time was crucial. Intermissions often began with a short meeting with their assistant coaches because they wanted to give their players about five minutes to cool off. During this meeting time with their assistants, they tried to detect any errors or flaws in the game plan. If changes were needed, they were sure to only refine a few selected points of the game plan rather than attempt a complete overhaul. After this, they met with their athletes for 5 to 7 minutes to relay two or three of the important points. Players then had a few minutes to themselves before heading back to the contest.

### *Coaches' Perceptions on the Role of Sport Psychology*

The last section of this chapter on the role of expert coaches in developing talent will assess their perceptions on the importance of sport psychology. Coaches, like athletes, have different views about the benefits and uses of sport psychology techniques. An example of this can be seen in the two different types of approaches used in team building studies; either an indirect (e.g., Prapavessis, Carron, & Spink, 1996) or a direct (e.g., Cogan & Petrie, 1995) approach. According to the **indirect approach**, the sport psychologist facilitates team effectiveness through coach education. In the **direct approach**, the sport psychologist assumes an active role in the intervention process by working closely with athletes and coaches. Thus, some coaches will request the services of a sport psychologist and let that individual work directly with their team. Other coaches will use a sport psychologist, but prefer to personally administer all mental training techniques. Finally, there are some coaches who do not use a sport psychologist in any capacity.

Silva (1984) conducted a study that examined general and specific areas of sport psychology deemed important by coaches including how coaches would like to integrate sport psychology practices into their programs. The sample consisted of over 200 high school and college coaches across various regions of the United States. An important finding was that over 90 percent of the coaches who responded to the survey indicated that sport psychology could be of assistance in their sport and in the development of their athletes' potential. Despite these positive responses, it is interesting to note that 80 percent of the coaches responded that they never had a sport psychologist work with their team.

Why don't more coaches utilize sport psychologists? Hardy, Jones, and Gould (1996, p. 294) offer one reason when they note that many people are initially skeptical of sport psychologists, especially elite athletes.

Elite athletes and coaches are often skeptical of new people because they are so often approached by individuals who want to know them for their celebrity status or because they want something from them. Hence, even when proven consulting techniques for establishing rapport are used it takes time to develop trust, so effective sport psychology consultants must be patient.

Despite the initial skepticism forwarded by many coaches and athletes, it is becoming increasingly more common to hear coaches embrace the use of sport psychology techniques. One example comes from college football coach Gary Barnett (Barnett & Gregorian, 1996, p. 27), who offered the following words to describe his team's sport psychologist:

Beginning in my second season, 1993, I enlisted Steve Musseau, who was 71 at the time, to come to Camp Kenosha every year. He has the peaceful, inspiring presence of Gandhi, and he immediately became a significant part of our program. What Steve does is teach how the mind works. How we think, how we learn, how we store things. His greatest lesson is that vividly imagined events and activities actually can be more productive than physically practiced ones, because anything vividly imagined becomes the truth to your mind.

Another example of a head coach who espouses the virtues of mental training is Phil Jackson, the former head basketball coach of the NBA's Chicago Bulls. In his book, Jackson discusses the importance of mental preparation as a coach by alluding to experiences from his playing career.

I had been a center in college and, by instinct, focused on following the ball and protecting the basket. But Bradley was such a great player off the ball, I had to learn how to attach myself to him without being distracted and losing track of what was happening on the rest of the floor. To train myself to be relaxed and fully alert, I began practicing visualization. I would sit quietly for fifteen or twenty minutes before the game in a secluded part of the stadium—my favorite place was the New York Rangers' locker room—and create a moving picture in my mind of what was about to happen. (Jackson & Delahanty, 1995, p. 38)

Yet another example comes from the Washington State Cougars football team (Walters, 1997). After losing a teammate in a car crash, it was reported that the team relied heavily on Jim Bauman, its sport psychologist, to help sort out their thoughts and feelings. The unfortunate part of this story is that it took a tragic event to highlight the beneficial work of a trained sport psychology consultant. Still, this demonstrates that some sport psychologists play many roles, including that of counselor.

Durand-Bush (1996) provides a comprehensive summary of coaches' perceptions of sport psychology. The data was acquired by interviewing 22 past and present Canadian Olympic team coaches. Durand-Bush concluded that all the coaches supported sport psychology training with their team, but some preferred to do it themselves while others recruited a trained sport psychologist. Durand-Bush aptly summarized the state of sport psychology in the following way: "Coaches and sport psychologists must develop a symbiotic relationship and work together to develop suitable programs for the team" (Durand-Bush, 1996, p. 124).

In summary, it has been shown that many coaches believe in the positive benefits of sport psychology techniques. Still, the prevalence or absence of sport psychologists is not really known because we don't often hear about the behind-the-scenes work of a sport psychologist unless a tragedy or some other exceptional situation has occurred. The bottom line is that the field of sport psychology must continue to move forward and educate everyone, especially coaches, about its benefits.

**Info Box**

Sport psychologists contribute to the development of effective coaching by suggesting applications that are supported by sport psychology research. However, given that coaches believe strongly in practical experience over academia, many have not yet fully accepted the role of sport psychology in athletics. In addition, sport psychologists may threaten coaches. As coach education evolves, coaches should learn the beneficial role that sport psychologists can assume in developing athletes and producing successful performances.

**Conclusion**

This chapter began by reviewing some of the leading bodies of research in the field of talent development. It can be seen that for athletes to reach the top of their sport, they need a qualified coach instructing, guiding, and pushing them to excel. We also examined the role of the coach in competition as well as coaches' perceptions about the role of sport psychology. During competition, team sport coaches have a number of important roles that can help their team gain an advantage over their opponent. These include dealing with officials, calling time-outs, and maximizing time during intermissions. While it appears that most coaches support and understand the positive aspects of sport psychology training, not all of them are allowing sport psychologists to work with their teams. Hopefully, with time, this will begin to change. Listed below are a number of key recommendations highlighted from this chapter:

1. Coaches should treat elite athletes with mutual respect and collegiality.
2. Coaches should stimulate and motivate athletes to excel beyond their perceived capabilities.
3. Coaches should create innovative, enjoyable, and informative training sessions.
4. Coaches must understand and respect their athletes' goals and aspirations, both inside and outside of sport.
5. Coaches must understand that athletes need to enjoy their sport if they are to perform well.
6. Effective coaches know how to set learning conditions that enhance the chances of their athletes achieving "flow" experiences.
7. Top coaches should have a genuine love and devotion for what they are doing.
8. Research on talent development discounts the popular notion that outstanding achievement is innate or genetically inborn.
9. Coaches of team sports play an important role during competition.
10. Elite coaches know how to maintain emotional control during sporting contests.
11. Elite coaches understand the importance of incorporating mental training techniques into their athletes regimens.

**Key Terms (in order of appearance)**

Bloom's Stages of Development  
flow experience

eminence  
deliberate practice

indirect approach  
direct approach

## References

- Barnett, G., & Gregorian, V. (1996). *High hopes: Taking the purple to Pasadena*. New York: Warner.
- Bloom, B. S., (Ed.). (1985). *Developing talent in young people*. New York: Ballantine.
- Bloom, G. A. (1996). Competition: Preparing for and operating in competition. In J. H. Salmela (Ed.), *Great job coach! Getting the edge from proven winners* (pp. 138–178). Ottawa, ON: Potentium.
- Cogan, K. D., & Petrie, T. A. (1995). Sport consultation: An evaluation of a season-long intervention with female collegiate gymnasts. *The Sport Psychologist*, 9, 282–296.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.
- Csikszentmihalyi, M. "Talent and enjoyment: Findings from a longitudinal study." Keynote address at the annual meeting of the Association for the Advancement of Applied Sport Psychology (AAASP), Savannah, GA, 1991.
- Csikszentmihalyi, M., Rathunde, K., & Whalen, S. (1993). *Talented teenagers: The roots of success and failure*. New York: Cambridge.
- Councilman, J. E. (1977). *Competitive swimming manual for coaches and swimmers*. Bloomington, IN: Councilman.
- Durand-Bush, N. (1996). Training: Blood, sweat, and tears. In J. H. Salmela (Ed.), *Great job coach! Getting the edge from proven winners* (pp. 102–137). Ottawa, ON: Potentium.
- Durand-Bush, N., & Salmela, J. H. (1996). Nature over nurture: A new twist to the development of expertise. *Avante*, 2, 87–109.
- Ericsson, K. A., & Charness, N. (1994). Expert performers. *American Psychologist*, 49, 725–747.
- Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100, 363–406.
- Ericsson, K. A., & Lehmann, A. C. (1996). Expert and exceptional performance: Evidence of maximal adaptation to test constraints. *Annual Review of Psychology*, 47, 273–305.
- Flynn, G., (Ed.). (1973). *Vince Lombardi on football*. New York: New York Graphics Society.
- Hardy, L., Jones, G., & Gould, D. (1996). *Understanding psychological preparation for sport*. Chichester: Wiley.
- Jackson, P., & Delahanty, H. (1995). *Sacred hoops: Spiritual lessons of a hardwood warrior*. New York: Hyperion.
- Partington, J. T. (1995). *Making music*. Ottawa, ON: Carleton Univ. Press.
- Prapavessis, H., Carron, A. V., & Spink, K. S. (1996). Team building in sport. *International Journal of Sport Psychology*, 27, 269–285.
- Salmela, J. H. "How expert coaches develop sport talent through deliberate practice." Keynote address to the Goodwill Games Scientific Congress, St. Petersburg, Russia, 1994.
- Simon, H., & Chase, W. (1973). Skill in chess. *American Scientist*, 61, 394–403.
- Silva, J. M. (1984). The status of sport psychology. *Journal of Physical Education, Recreation, and Dance*, 55, 46–49.
- Tharp, R. G., & Gallimore, R. (1976). What a coach can teach a teacher. *Psychology Today*, 9, 75–78.
- Walters, J. (1997, October 6). "The long way back." *Sports Illustrated*, 87(14), 50, 52, 57.