

### THE PRACTICE AND TEACHING OF CRITICAL THINKING IN SPORT MANAGEMENT

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#### INTRODUCTION

Not new to education, critical thinking is a valuable teaching and learning tool and has been in circulation at least since the time of Socrates (McKendree, Small, Stenning & Conlon, 2002). As stated by de Bono (n.d.), the purpose of thinking is to end with some action. Critical thinking, according to Halpern (1999), refers to “the use of cognitive skills or strategies that increase the probability of a desirable outcome” (p. 70). Thinking was defined by de Bono as “The operating skill with which intelligence acts upon experience” (para. 6). Almost everyone agrees that one of the main goals of education, at any level, is to help develop general thinking skills, particularly, critical thinking (van Gelder, 2005). Further emphasizing the value of critical thinking was Halpern (1998), who recognized thinking citizenry as the most valuable asset and investment of any society in the future.

Given the problems that confront sport managers on a day-to-day basis, the need to be able to think critically, arrive at decisions, and take appropriate and timely action is fundamental to the job of managing sport organizations (Stier, 2004). Although critical thinking is an essential aspect to the education of sport management students, the difficulty of teaching, practicing, and eventually mastering critical thinking can be daunting. According to van Gelder (2005), mastering critical thinking is about as difficult as becoming fluent in a second language, in part, because humans are not naturally critical. Elder and Paul (2002) pointed out that thinking and analyzing the many parts of a subject at an advanced level without disciplined practice is unnatural to the human mind. Elder and Paul also adhered to the notion that few students think well within domains.

#### THE NEED TO ADDRESS CRITICAL THINKING IN SPORT MANAGEMENT

All sport managers routinely deal with problems that require decision making in the performance of their everyday duties and responsibilities (Stier, 2004). Those who have the ability to critically think will be more adept at effectively resolving the many problems they will face throughout their professional careers. Managing sport is a real life endeavor. In real life, according to Halpern (1998), critical-thinking skills are needed whenever people grapple with complex issues, and ill-defined problems. There are numerous complex problems in sport that often require sport managers to use critical thinking when arriving at solutions to problems.

Having the ability to critically think through problems and arrive at defensible solutions and positions is a skill that should be expected, if not required, of all sport managers. To reiterate, as stated by de Bono (n.d.), the purpose of thinking is to end with some action. When sport managers arrive at a solution, and prepare to take action, they must be capable of defending their position. As indicated by Yanchar and Slife (2004), the person arriving at the decision should be able to anticipate criticism that could be directed at his position and be able to suggest how one might respond to the criticism. The process of critical thinking will not only provide sport managers with a logical basis from which to base actions, but also from which to defend actions.

Sport management instructors must master the craft of teaching critical thinking and, in turn, sport management students must grasp instructors' teachings and ultimately master the skill of critical thinking. This article includes: (a) various approaches to critical thinking, (b) common components of the skill of critical thinking, (c) domain knowledge of critical thinking, (d) importance of practicing critical thinking, and (e) insights to teaching sport management students how to think critically. The foundation of and general content of this article is based on recurring themes in the literature related to critical thinking.

### **VARIOUS APPROACHES TO CRITICAL THINKING**

Identifying and understanding skills that are common to the various approaches of critical thinking can be helpful to those practicing and teaching sport management. As sport managers understand how to incorporate the components of critical thinking into the overall process of critical thinking, they will be better able to effectively arrive at solutions to problems. After reviewing the literature related to critical thinking, common critical thinking components were identified, summarized, and presented in this section.

In describing critical thinking, Willingham (2007) held the view that the following are components of critical thinking: "seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, and solving problems" (p. 8). Designed by Edward de Bono, who has studied critical thinking since 1974, the Cognitive Research Trust of Cambridge (CoRT) Thinking Programme is widely used in educational settings throughout the world and, in part, includes consideration of other people's priorities, views, and objectives (de Bono, n.d.). Cognitive scientists have studied many phenomena that are particular aspects or dimensions of critical thinking, which van Gelder (2005) summarized into the following succinct "lessons": critical thinking is hard, practice makes perfect, practice for transfer, practical theory, and belief preservation. Paul and Elder (2002) indicated that it is to learn to think within the subject's logic to: question, gather, assess, and interpret information insightfully; reason through to conclusions; assess the point of view of the discipline; use the language of the discipline to communicate effectively with others; and to relate the discipline to other subjects and to life.

Several sources indicated that asking questions is a component of critical thinking for which various purposes are served. The use of questions to simply elicit information was emphasized by de Bono (n.d.). Elder and Paul (2003) pointed out that when questions are asked, individuals are allowed to generate alternative meanings and are forced to deal with complexities. Asking questions facilitates critical thinking and allows for development as thinkers (Elder & Paul; Yanchar & Slife, 2004). The use of thoughtful questions is beneficial to the learner (the person asking questions) in that questions help the learner make connections and the greater the number of connections that can be made, the greater chance the student will be able to recall, at a later date, the concept (Halpern, 1998). Ivie (2001) introduced a six level critical thinking model centered on the claim that critical thinking must begin with a central question and be grounded in factual knowledge. The central question calls for propositions with reasoning, the analysis of underlying assumptions, and written evidence to support at least three different positions concerning the question.

If sport managers can digest and implement the various approaches to critical thinking they will enhance their ability to arrive at good solutions to problems. Sport management instructors will also improve their teaching skills if they gain a full understanding of skills common to the various approaches to critical thinking for the purpose of solving problems.

### **COMPONENTS COMMON TO CRITICAL THINKING**

Before the skill of critical thinking can be mastered by sport managers its basic components must be understood. As sport managers learn and understand the basic components necessary to think critically, they will be able to arrive at solutions to problems in the athletics workplace. Instructors of sport management who master the components of critical thinking will be better prepared to demonstrate and teach the skill of critical thinking to their students.

In the following section, components of critical thinking are identified within the various approaches to the skill of critical thinking and serve as a basic guideline for sport managers who engage in the skill of critical thinking. After each component is described, a sport problem is presented that calls for a solution through critical thinking. Discussion ensues as to how the particular component of critical thinking can be achieved within the overall process of critical thinking. Following the discussion, a sport management teaching activity/strategy is included for the purpose of providing strategies for teaching the components of critical thinking.

### **THE EIGHT COMPONENTS**

#### **1) ARRIVE AT CONCLUSIONS AND MAKE INFERENCES THROUGH A LOGICAL REASONING PROCESS BASED ON FACTS**

One must first identify the elements within a problem that make it a problem. Some elements within a problem may be more relevant than others. Part of learning, according to Halpern (1998), is to decide which information is relevant to the problem. Facts that are related to relevant elements within the problem must not only be identified, but also reviewed and assessed. Scientific research studies and experts in the field related to the problem are examples of sources of fact-based information. After identifying the fact-based information, it is necessary to examine the data logically. The critical thinker should logically and systematically make inferences and arrive at conclusions that are based on facts/data related to the relevant elements making up the problem. As indicated by Ivie (2001), thinkers base opinions on substantive information, facts, and sound logic.

Identifying relevant elements in a problem can be better understood with the following example. The public perception of a commissioner's professional sports league might be one that has become increasingly negative due to the feeling or perception that players in the league are routinely using steroids to enhance their athletic performances. The commissioner, through a logical process of reasoning based on facts, must arrive at conclusions to the issue of steroid use in this professional sports league. The fact based reasoning component of critical thinking can be met if the commissioner utilizes facts to arrive at a solution to the problem of negative public perception. The commissioner must identify facts and review credible evidence related to steroid use by athletes that not only include enhanced athletic performances, but also the short- and long-term physical and psychological side effects. Scientific data must be sought concerning the effects of steroids on the health of adults as well as youth. Facts concerning the fairness of using steroids to gain an advantage must be analyzed. The research studies reviewed must employ appropriate research procedures. The commissioner cannot base inferences, assertions, and conclusions on hearsay, anecdotal sources, or gossip.

#### ***SPORT MANAGEMENT TEACHING ACTIVITY/STRATEGY***

Teachers of sport management should provide their students with a problem and first ask them to identify the elements within the problem that actually make it a problem. Next, students should be asked to identify facts that are related to the relevant elements within the problem. Then, the students should make inferences, assertions and draw conclusions through a logical process based on the facts relevant to the problem

### **2) GATHERING INFORMATION THROUGH QUESTIONS**

One way to acquire information related to the problem is by asking problem related questions, first to oneself and then to others such as experts and coworkers who have an interest in and/or understanding of the problem. Persons who have, in the past, dealt with similar problems often have helpful information that can be obtained through questioning. In addition to asking questions, information related to the problem should be obtained through additional means such as literature, and personal experiences. Even with an adequate depth and breadth of domain knowledge (knowledge related to the problem), sport managers should still seek out information to acquire current knowledge related to and necessary to resolve a problem through critical thinking.

Asking problem related questions can be used when attempting to solve most any problem. When trying to decide whether or not to eliminate football from a Division I athletics program to save money, the athletics director should gather as much information as possible through questions and other means. The gathering of information component of critical thinking can be met by asking questions of experts and those who have a vested interest in the elimination or retention of football from the athletics department, as well as persons who have dealt with similar types of problems in the past. The athletics director should first ask oneself questions that are directly and indirectly related to the problem. Views of athletics department personnel within the department might add to the base of information necessary to arrive at a good decision. Athletics directors from outside universities who have dealt with the elimination of Division I football or similar financial issues might also be questioned for their insights related to the problem. Moreover, the athletics director should read as much literature as possible regarding the topic of dropping football from college athletics departments and in particular Division I programs. Literature need not be directly related to Division I football but might also include information that is indirectly related to the problem. For instance, the downsizing of organizations outside of sport might offer some insights that can be helpful in understanding downsizing of athletics and more specifically the elimination of Division I football from an athletics department.

### ***SPORT MANAGEMENT TEACHING ACTIVITY/STRATEGY***

To begin the activity, instructors can first provide students with a problem. Next, students should be required to gather information related to the problem by asking questions to experts, coworkers, and persons who have dealt with a similar problem in the past. Information should also be acquired by means other than questioning, such as personal experiences and searching the literature. After having acquired as much information as possible through questions and other means, the students will have satisfied the information gathering component of critical thinking.

### **3) BEING OPEN TO NEW EVIDENCE THAT DISCONFIRMS PREVIOUSLY HELD IDEAS AND BELIEFS**

It can be difficult to change a preconceived notion or opinion that is not supported by theory or fact. But, as a critical thinker, when empirical evidence disconfirms an idea, one must be receptive to a change in previous thought. Prior to accepting a claim, however, sport managers must demand that new claims be supported by real evidence, rather than anecdotal information. The critical thinker must be receptive to new, fact-based evidence even if it results in a change in one's position on the matter. Past positions should not simply be presumed as correct for the present and future unless current empirical evidence and knowledge confirms and supports positions.

The component of critical thinking that calls for being open to new evidence that disconfirms previously formed ideas can be met by the athletics director when attempting to solve problems. For example, names of the athletic department mascot can be problematic despite

longstanding traditions that support the name. In this case athletics directors can simply listen to and gather new evidence concerning the appropriateness of mascot traditions and nicknames that focus on a particular ethnic group. In the past, evidence may have indicated that the mascot related traditions were entertaining, allowed for the expression of school spirit, and unified the student body. If, however, current evidence indicates that the mascot traditions are insensitive to an ethnic group, the athletics director, as a critical thinker, must be receptive to this new evidence. The athletics director should be receptive to fact-based evidence related to the mascot/nickname issue and be open to new ideas that disconfirm ideas and prior beliefs regarding the school mascot and nickname. If the new fact-based evidence supports a change in an athletics department's nickname and/or mascot traditions, the athletics director should include this evidence based component of critical thinking into the overall process of critical thinking.

### ***SPORT MANAGEMENT TEACHING ACTIVITY/STRATEGY***

Instructors can provide students with a scenario that, on present fact-based evidence, is perceived to be a problem. The scenario should be one that has existed for years, but based on past evidence has not been perceived as a problem. Students should be asked to be open to new evidence even if it may disconfirm their previously held and longstanding beliefs and ideas related to the scenario. If the students deem the evidence to be valid and fact-based, they should incorporate it into their overall process of critical thinking. The students should also be asked how they might incorporate the new evidence into the overall process of critical thinking.

### **4) UNDERSTANDING THE POLITICS OF AN ISSUE/PROBLEM**

Critical thinking goes beyond the gathering of facts and being able to reason logically; a conscious effort must be made by the critical thinker to integrate facts and logical reasoning with the political motives of persons surrounding the problem. After having gained a grasp on the political issues surrounding a problem, one must incorporate that knowledge into the process of critical thinking and reasoning when arriving at a solution to the problem. Other people's aspirations, objectives, agendas, and overall motives in the sport organization should be considered. In order to think critically, persons must be willing to take the time and effort to gain an understanding of how persons close to the problem might be affected by it. The critical thinker must have an astute understanding of the political atmosphere including the motives of persons surrounding the problem. One should have a keen awareness of the dynamics of various persons' interests in the outcome of the problem and how they might attempt to influence its outcome. The political interests and agendas of persons close to the problem complicate the problem in ways that make it challenging to quantify and integrate such political interests and agendas into a process of logical thinking.

Meeting the component of critical thinking that addresses understanding the politics of an issue/problem can be illustrated by examining the controversy of fighting in professional hockey. If a group of season ticket holders are pressuring the commissioner of the league to establish and enforce rules against fighting in the league, the commissioner must know who supports fighting in hockey and who does not. Beyond the small portion of season ticket holders, the commissioner should know or learn the aspirations, objectives, agendas, and overall positions as well as political motives of players, coaches, fans, and the general public. Critical thinking can take place after gaining such knowledge and integrating it with facts relevant to the question of whether or not to legislate against fighting in hockey. In order to resolve the problem at hand, the commissioner must have an astute awareness of political forces and the influences those forces may have on the problem.

### ***SPORT MANAGEMENT TEACHING ACTIVITY/STRATEGY***

Instructors can provide students with a problem/scenario and ask them to identify and address the political elements of the problem. More specifically, instructors should ask



students to identify the aspirations, objectives, agendas, positions, and political motives of those close to the problem. An emphasis should be placed on identifying persons and constituencies who may have an interest in manipulating aspects within the scenario to bring about an outcome that they believe will be favorable to their personal or professional cause, goal, or agenda. Personality and character traits of the persons who are involved in the scenario should be developed and provided to the students prior to asking them to identify, discuss, and determine the role that political elements associated with the scenario will play in the process of critical thinking.

### **5) USING ANALOGIES**

The identification of similarities between a current problem facing a sport manager and a previous problem can be helpful in solving the sport manager's current dilemma. In attempting to resolve a current problem through analogies, sport managers can draw parallels from a similar type of problem from the same or maybe even a different field. Identifying similarities between past and present problems will stimulate thinking through questions and discussion that will provide insights as to how similar actions used to solve the past problem might also be effective (or ineffective) in solving the present problem. When comparing the past problem to the present one, the sport manager has the advantage of knowing the outcome and side effects of the actions used to deal with the past problem and can use this information to help solve the present problem.

An interscholastic athletics director may find the use of analogies helpful when confronted with the challenge of continuing the full operation of the athletics department even after a significant budget reduction. When using the analogy component of critical thinking to help arrive at a solution, the athletics director will identify situations, both from the field of athletics and from other aspects of life, from which analogies can be drawn that are useful in solving the current budget problem.

In making an analogy, the athletics director might identify similarities between a professional baseball franchise that is suffering from a shortage of operating funds and one's own athletics department's reduced budget situation. The athletics director then might identify strategies that the general manager of the professional baseball team is using to continue the effective operation of the professional franchise. Similar strategies or offshoots of the operating strategies of the baseball franchise might be used by the athletics director to manage the current budget problem.

Analogies from a field outside of athletics might also be used by the athletics director to solve the budget problem. The athletics director might identify similarities for the purpose of making analogies between a business that is experiencing a financial down cycle and the athletics department's reduced budget. Discovering measures that are being taken by the CEO of the business in order to continue its effective operation in a recessed financial climate might well be helpful in solving the athletics director's budget problem. In the event that similarities can be identified between the business' financial down cycle and the athletics department's reduced budget situation, some of the budget strategies being used by the business CEO might be able to be applied to the athletics director's reduced budget problem.

### ***SPORT MANAGEMENT TEACHING ACTIVITY/STRATEGY***

Instructors can give students a current sport management problem and ask them to resolve it by identifying similar problems that have taken place in the past. Students may draw from past problems that are directly related to the problem at hand or may draw from problems that were not necessarily related to sport.

Next, the students can be asked to identify similarities between the current and past problems. Connections between the actions taken to resolve the past problems and the resultant outcomes of those actions should be analyzed. Then, as part of the attempt to arrive at an acceptable and appropriate solution to the present problem, the actions and resultant outcomes of the past problem should be studied. A determination can then be made—based on studying similarities between the past and present problem—as to what actions might be effective in arriving at an acceptable solution to the present problem.

### **6) SEEING MORE THAN ONE SIDE OF AN ISSUE**

In seeing multiple sides of an issue, one is able to identify and analyze the different arguments, positions, and proposals that support the differing positions regarding the issue. When viewing more than one side of an issue, one must consider not only the theory supporting proposals but also the practicality of each proposal. If sport managers base decisions on theory, assumptions, and practical implications, they will have a sound basis from which to present a defense to their critics. All theories, despite variance, at many levels are founded upon assumptions regarding what actually exists (Yanchar & Slife, 2004).

It is necessary to keep in mind that domain knowledge is necessary to see more than one side of an issue. In seeing more than one side of an issue the critical thinker must consider other persons' views. Various sources for different ideas/views, according to Elder and Paul (2002), include personal experience, socialization, and the studying of different academic subjects.

Seeing more than one side of a problem can be of use to a sports information director who is faced with the problem of a powerful coach trying to gain additional press coverage for his program. Meeting the component of critical thinking that calls for seeing more than one side of the issue, requires the sports information director to seek out and understand the various perspectives of the problem beyond one's own view. In seeking out various perspectives to the problem, the sports information director might include drawing on personal experiences, which will likely be influenced by the sports information director's background; socializing with other sport information directors, administrators, co-workers, students, and fans; and, reading and studying both professional and general literature related to the problem. The sports information director should incorporate the various perspectives of the problem into the process of critical thinking when attempting to arrive at a solution to the problem of the powerful coach exerting pressure to gain additional press coverage for his team.

### ***SPORT MANAGEMENT TEACHING ACTIVITY/STRATEGY***

Instructors may provide a realistic problem situation to the sport management students while asking the students to see more than one side of the issue by outlining and explaining their own perspective based on personal experiences. The students should also seek out other sides of the problem through interacting and socializing with others who are knowledgeable with the type of problem being faced, and by obtaining and reading appropriate and timely literature pertaining to the problem. Moreover, the students should be asked to describe how, and to what extent, they will incorporate all sides of the problem into the process of critical thinking.

### **7) ASSESS AND INTERPRET INFORMATION WITH DISPASSIONATE (WITHOUT PASSION) INSIGHT**

One cannot allow passions, emotions, or feelings to enter into or influence the critical thinking process. Although having passion for such things as personal and professional goals can serve one well in terms of being energized to the point of expending the necessary effort to achieve success, when engaged in the process of critical thinking, passion cannot be allowed to influence one's insights when assessing and interpreting information for the purpose of arriving at a solution to the problem. Substantive knowledge directly and indirectly related to the problem is required if one is to reason without passion; for, if one is to reason dispassionately

there must be substance behind and supporting one's reasoning. Yelling, screaming, and fist pounding might be effective techniques to influence and persuade others through intimidation, but these passion-based actions are not forms of reasoning and are not based on logic or facts. Speaking with a passion and energy can certainly move an audience, but if the message is not supported by a strong foundation of facts and data, it runs the risk of faltering under fact-based counter claims. With regard to critical thinking, individuals must base insights and perspectives to problems void of their passions, emotions, and feelings.

Consider a college athletics director who must arrive at a solution concerning a proposal to eliminate football from the athletics department. As a former football coach, the athletics director has a strong emotional tie to football and is passionately against the proposal to eliminate football. The component of critical thinking that calls for interpreting and assessing information with dispassionate insight requires the athletics director to disregard passion, emotions, and feelings when analyzing information. In order to properly engage in the process of critical thinking, the athletics director must put aside passionate feelings and the strong personal desire to retain football and analyze the problem/proposal to eliminate football void of passion, emotion, and feelings.

### ***SPORT MANAGEMENT TEACHING ACTIVITY/STRATEGY***

Instructors can require students to select a sport related problem for which they have strong passionate feelings. Next, the students should be asked to begin to interpret information related to the problem without allowing their passion, emotions, and personal feelings to influence their process of critical thinking.

### **8) HAVING OR OBTAINING DOMAIN KNOWLEDGE**

Domain knowledge is generally perceived to be a necessary component in order to effectively arrive at solutions to problems through critical thinking. Simply stated, domain knowledge can be described as knowledge of the subject matter related to the problem at hand. For example, if an athletics director expects to be able to use critical thinking to arrive at a good solution to a problem in the athletics department, at the very least the athletics director's domain knowledge should include an understanding of athletics.

More preferably the athletics director's domain knowledge should combine general athletics knowledge with knowledge more directly related to basic operational aspects that are universal to most athletics departments. Even more beneficial to the athletics director's critical thinking would be in-depth domain knowledge of the objectives of the department, inner-workings of the athletics department including departmental politics, goals of individual employees, and special circumstances specific to the department. As the domain knowledge of the individual athletics director increases in depth and breadth, the likelihood of making well informed and good decisions through critical thinking becomes more probable.

Critical thinking, according to Willingham (2007), is domain based thinking. In other words, the better one's level of understanding of a problem's domain, the more capable one will be at arriving at good solutions to problems. Willingham underscored the importance of domain knowledge through the explanation that there is not a set of critical thinking skills that can be acquired and deployed regardless of context. Having domain knowledge or an understanding of the context of the problem provides one with the ability to analyze problems from various perspectives. "You cannot think critically about topics you know little about or solve problems that you do not know well enough to recognize and execute the type of solutions they call for" (Willingham, p. 12).

Domain knowledge can be acquired through experiences while employed in a particular domain. In the case of the sport manager, general domain knowledge in athletics/sports can be



acquired while employed in the field of athletics. If however, the sport manager is required to arrive at a solution to a more specific problem within athletics, the sport manager may have to think critically beyond the general sphere of athletics. To that end, the sport manager may have to seek out domain knowledge beyond what is naturally acquired as an athletics department employee. Domain knowledge specific to a problem can often be acquired through reading professional literature, examining prior actions in similar situations, and questioning those knowledgeable of and close to the problem.

For example, if the president of an amateur sports association is expected to arrive at a solution to a controversy associated with establishing a minimum age requirement for female gymnastics, the administrator must have domain knowledge. In other words, there is a perception in some circles that many very young female gymnasts may not be mature enough to endure the physical, mental, and emotional stresses and rigors required of them to train and compete at elite levels. Before being able to make the best minimum age policy decision, the president should have a well-documented understanding of the problem, which will be the case after having or having obtained domain knowledge related to the field of gymnastics.

Recall, that even though a general level of domain knowledge is necessary to critically think, it is preferable to go beyond a general level and have or obtain an in-depth and thorough knowledge of the subject related to the problem. The commissioner must learn the physical, psychological, and emotional effects on females who train and compete at elite levels in the sport of gymnastics. In order to satisfy the component of critical thinking that calls for having or obtaining domain knowledge, the president can seek out knowledge related to the effects of elite training and competition on various ages of female gymnasts. Some ways to achieve domain knowledge in the area of appropriate participation ages of female gymnasts include reading related literature, consulting experts and/or medical doctors, and interviewing youth and adult female gymnasts.

### **SPORT MANAGEMENT TEACHING ACTIVITY/STRATEGY**

Instructors can provide sport management students with a realistic problem that requires domain knowledge. Next, the instructor should ask the students to outline the steps and the ways they will gain domain knowledge related to the problem.

### **THE CHALLENGE OF TRANSFERRING CRITICAL THINKING ACROSS DOMAINS**

It seems that, to some extent, a level of domain knowledge is necessary to be able to critically think and arrive at solutions to problems; however, that is not to say that the skills of critical thinking cannot be transferred across domains. Though the importance of mastering a body of knowledge was recognized by van Gelder (2005), he also went on to say that beyond a certain point, improvement depends upon acquiring some theory.

The idea that skill in thinking is developed as a byproduct of subjects (domain knowledge) was dismissed by de Bono (n.d.). In other words, domain knowledge aside, in order to be able to think critically, the ability to apply skills associated with critical thinking is necessary. Halpern (1998) claimed that critical thinking can be learned and, in fact, does transfer to novel domains of knowledge. According to Paul and Elder (2002), thinking occurs across and within disciplines, as well as across and within domains of knowledge and experiences. The challenge, of course, lies in being able to apply the skills generally associated with critical thinking to a wide range of problems across various domains and to arrive at solutions to those problems. Halpern (1999) pointed out that the use of different examples is helpful when attempting to teach the transfer of critical thinking skills across domains. Improving the ability to critically think across domains might be better met if the application of the skills of critical thinking is applied not to just one domain, but rather to a variety of domains.

### **REPEATED USE OF CRITICAL THINKING, REGARDLESS OF DOMAIN**

Assuming that domain knowledge between persons is similar, it will be the person who uses critical thinking on a day-to-day basis who will be more apt to effectively, accurately, and consistently transfer critical thinking across domains. For example, if there are two real estate attorneys and neither has domain knowledge of athletics, yet one of them frequently engages in critical thinking in the domain of real estate, it is that individual, through the transfer of critical thinking skills across domains, who will be more apt to arrive at suitable solutions to problems that may confront the sport manager. If however, a third real estate attorney repeatedly uses critical thinking skills in that person's real estate job *and* has a strong level of domain knowledge in athletics, it will be the third real estate attorney who will be the most effective critical thinker of the three.

Similarly, those persons whose jobs require meaningful thinking of some sort might be more likely to transfer such thinking skills across domains. Domain knowledge alone, according to de Bono (n.d.), does not make for an effective critical thinker since critical thinking skills are necessary as well. Occupations that require the use of meaningful thinking skills for the purpose of solving problems might transfer across domains more effectively than occupations that do not require extensive thinking. In layman's terms, if a person's job requires an individual to continually critically think, those practiced thinking skills will transfer to other jobs that require critical thinking as well. In short, a person who repeatedly uses critical thinking at one's job, and is masterful at the process of critical thinking, may not have to have a full mastery of domain knowledge to effectively transfer critical thinking across domains.

An athletics department example might further illustrate the difficulty of transferring within a general domain from a non-critical thinking position to a position that requires critical thinking. Consider the career of an athletics department equipment room employee whose job it is to fill equipment orders. Even with domain knowledge of athletics and an overall understanding of the inner-workings of the athletics department, over the years the equipment room employee, in reality, may not have used any critical thinking skills. If, one day, the equipment room employee was asked to move into the sport management position of athletics director, the transition would be difficult and maybe even impossible to make.

Given that sport management positions require critical thinking, the equipment room employee who has no general domain knowledge and no use of critical thinking skills, may experience severe difficulties solving problems that are a part of managing a sophisticated and complicated sport operation. Making it difficult for the equipment room employee to transfer critical thinking skills across domains to that of athletics director is the lack of job related critical thinking experience coupled with domain knowledge relating to the overall operation of the total athletics program.

### **TRANSFERRING OF CRITICAL THINKING SKILLS BETWEEN SIMILAR AND DISSIMILAR DOMAINS**

Does critical thinking experience in particular domain areas lend itself to more effective transfer of critical thinking skills to other domain areas? It may be that there is a more effective transition of critical thinking skills among persons who share broad based knowledge areas. For example, even though the real estate attorney, in the previous example, may frequently practice critical thinking skills throughout a typical day, that attorney may struggle, when compared to a sports coach, when attempting to transfer thinking skills to problems confronting an athletics director.

The difference may lie in the fact that sports coaches and athletics directors are from a similar domain area, one that is related to athletics/sports, whereas the real estate attorney's domain area, in which one routinely applies critical thinking skills, is generally unrelated to

athletics/sports. Of course, it is assumed that the coach also utilizes critical thinking skills as frequently as the attorney. In this case, the difference in transfer effectiveness might not be in the process of critical thinking but in the similarity or dissimilarity of domain knowledge. The sport coach would typically have an advantage over the real estate attorney during the transfer of critical thinking skills to the new profession of athletics director because the domain knowledge of a coach, when compared to a real estate attorney, is more similar to that of an athletics director.

### **THE NATURAL TRANSITION OF COACHES TO THE POSITION OF ATHLETICS DIRECTOR**

If the transfer of critical thinking skills, in fact, does transition with little difficulty to and from similar domain areas, this might explain, in part, why coaches, historically, seem to have transitioned well to the position of athletics director. Through coaching, domain knowledge related to athletics is acquired and critical thinking skills are practiced in the area of athletics on a daily basis. When required to think critically as an athletics director, coaches and former coaches may have an advantage since, through their coaching, they may have already gained a broad based knowledge of athletics.

### **COMBINING CRITICAL THINKING SKILLS WITH DOMAIN KNOWLEDGE**

Even though there may be some transfer of critical thinking skills from domain to domain, sport managers would be best served to gain a mastery of domain knowledge and combine it with superior critical thinking skills. Willingham (2007) recognized the need for critical thinking to be intertwined with the content of thought/domain knowledge. Effective thinking, according to de Bono (n.d.), does require an information base (domain knowledge), and when the information base is inadequate, it must be supplemented by the use of thinking skills.

In a teaching situation, it might be emphasized that students are able to think critically in one situation, but not another, because the process of thinking and knowledge of the subject matter may have a synergistic relationship. Merely receiving lectures on the content of a subject will in itself not teach one to think (Elder & Paul, 2002). Experts in teaching science recommend that scientific reasoning be taught in the context of rich subject matter knowledge (Willingham, 2007). "Teaching content alone is not likely to lead to proficiency in science, nor is engaging in inquiry experiences devoid of meaningful science content" (Committee on Science Learning..., 2007, p. 335). Similarly, it might be argued that proficiency in managing and solving problems in a sport organization/setting is not reached exclusively through either domain knowledge or knowing the process of critical thinking but, rather, through a combination of the two.

### **IMPORTANCE OF PRACTICING CRITICAL THINKING**

To become an effective critical thinker, the skills of critical thinking must be consistently practiced (de Bono, n.d.; van Gelder, 2005). Knowing that one should think critically is not enough, and not the same, as actually practicing and improving the skill of critical thinking. Observing others who are engaged in the process of critical thinking might help one understand how to think critically, but ultimately in order to consistently arrive at good decisions through critical thinking, one must practice the process of critical thinking on a consistent basis.

From a teaching perspective, as van Gelder (2005) indicated, students must have opportunities to practice the skills of critical thinking; simply being exposed to good critical thinking is not enough (van Gelder). Halpern (1999) pointed out that through the use of multiple examples, students can learn how to think. Students can also practice and refine their critical thinking skills through the use of case studies (Stier, 1998). McDade (1995) discussed in further detail how case studies contribute to critical thinking.

### **INSIGHTS TO TEACHING SPORT MANAGEMENT STUDENTS HOW TO THINK CRITICALLY**

As the field of sport management continues to entrench itself as an academic discipline in higher education, an emphasis on sound pedagogical methods is paramount and must be ongoing. Understanding how to teach critical thinking is necessary to teach it effectively and efficiently. It must also be noted that the success of teaching critical thinking is highly dependent on the instructional skills and experience(s) of the individual teacher. Regardless of the academic background of the instructor or the language used to describe critical thinking, Halpern (1999) maintained that critical thinking shares a set of common assumptions, that there are identifiable critical thinking skills that can be taught and learned, and when students learn these skills and apply them appropriately, they become better thinkers. Yanchar and Slife (2004) contended that students need to be taught the difference between the theoretical and practical and combine the two in a way that allows them to arrive at a solution which they can logically defend.

The process of teaching critical thinking, according to Halpern (1999), should be overt, conscious, and open to scrutiny during instruction, as instructors model their own thinking process. Thinking skills need to be explicitly and consciously taught and then used with many types of examples so that the skill aspect and its appropriate use are clarified and emphasized (Halpern, 1998).

It is essential that sport management instructors are able to teach students how to incorporate the components of critical thinking into their own thinking process. Students can be provided with fill-in-the-blank templates or a sequence of steps to follow when thinking, but ultimately, in order to reach higher levels of critical thinking, students, as well as sport managers, must be able to include, in a holistic manner, critical thinking components. Often problems do not take on a form that allows for a clean step-by-step analysis; thus, true critical thinkers must be able to apply critical thinking components in a way that works.

In terms of critical thinking and arriving at appropriate and timely solutions to problems, Bonnette, McBride, and Tolson (2001) preferred teacher facilitated, student-centered teaching methods and the creation of situations where students actively pursue solutions over the traditional teacher-centered method of drill and repetition. Instructors who are teaching students to think critically should focus on teaching students how to draw upon and exercise component-related critical thinking skills. Students can be asked to apply such skills to in-class case studies and practicum experiences that include hypothetical as well as actual decision making (Stier, 1999).

As recommended previously, sport management instructors should place students in situations that consistently require critical thinking. Keep in mind, however, that these same students must also acquire, through teaching or other means, a strong foundation of domain knowledge in order for their critical thinking skills to be fully effective/efficient in arriving at solutions to problems. The acquisition of domain knowledge is often acquired exclusive from the other components of critical thinking. And as students obtain more and more domain knowledge they will be able to more effectively apply the other components of critical thinking to problems.

### **FINAL THOUGHTS**

Central to the effectiveness of sport managers is the ability to arrive at good solutions to problems through critical thinking. Although anyone can arrive at solutions to problems, the sport manager who arrives at the best solutions to problems must master the eight components of critical thinking that were listed and discussed in this article. The first seven critical thinking components are process oriented and are as follows: (a) arrive at conclusions and make inferences through a logical reasoning process based on facts; (b) gathering

information through questions; (c) being open to new evidence that disconfirms previously held ideas and beliefs; (d) understanding the politics of an issue/problem; (e) using analogies; (f) seeing more than one side of an issue; and (g) assessing and interpreting information with dispassionate insight. The eighth and final component of critical thinking calls for sport managers to have or obtain domain knowledge—knowledge related to the content of the problem with which they are faced.

There is little doubt that applying the seven process oriented components of critical thinking in combination with a mastery of domain knowledge is the most effective means of using critical thinking to arrive at solutions to problems. It is inconclusive, however, as to what extent, if any, the seven process oriented components of critical thinking and the mastery of domain knowledge component of critical thinking can be used mutually exclusive of one another to arrive at good solutions to problems.

In terms of teaching, sport management instructors should focus on the following two general student learning outcomes related to teaching critical thinking: ensuring that students (a) reach a full understanding of the eight components of critical thinking, and (b) are able to effectively apply the seven process oriented components to problems and also master domain knowledge related to sport related problems. Finally, teachers must also provide sport management students with opportunities to practice the application of the process components. In doing so, sport management students will be able to arrive at good solutions to sport management related problems through critical thinking, which is integral to the success of the sport manager.

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