Many challenges are presented to athletic training educators, including finding the time and energy to create innovative ideas to facilitate students’ learning. This challenge is coupled with the diversity of the generational characteristics of today’s students. Concerns have been expressed about the critical thinking skills of Generation Y, also known as millennial students.1-3 These students challenge us to use different types of pedagogic skills than we used for previous generations. Instructional methods need to require students to think critically by making connections between the content of different courses and the respective bodies of knowledge associated with different disciplines. These connections may seem obvious to educators who have had practical experiences supplementing their knowledge base; however, the role of the educator should include placing students in situations that challenge them to integrate information. Strategic questioning facilitates development of a process for problem solving in the clinical setting.4-8

Essential questions (EQs) provide a mechanism to help students develop critical thinking skills in the classroom. An EQ is defined as “a question that lies at the heart of a subject or a curriculum (as opposed to being either trivial or leading), and promotes inquiry and uncovery of a subject.”9 EQs can be used to facilitate discussion that helps students view the big picture, or it can be limited to a specific topic. EQs were introduced in the 1980s by Grant Wiggins during the development of the Coalition of Essential Schools.10 EQs were apparently conceptualized as a means for development of critical thinking.11 Questions have always been important in education, but most questions relate to relatively low-order thinking. In higher education, students need to be challenged to engage in high-order thinking, i.e., including comprehension, application, analysis, synthesis, and evaluation. Students need to be motivated to do more than memorize and recite facts. Questions should develop, encourage, engage, and assess students’ thinking.13 Traditional teacher and student roles have been changing in higher education. Students are assuming greater responsibility for their learning, which influences motivation and provides a sense of accomplishment. Furthermore, it develops a pattern for them to become lifelong learners. The faculty members provide resources, serve as tutors and evaluators, and guide the students in problem-solving efforts.14 What characterizes an EQ and how can athletic training educators develop this type of question?
Developing Essential Questions

The first step in developing an EQ is consideration of the type of question that is deemed essential to an understanding of the specific topic. Because an EQ is a question that promotes deep thinking, it is most likely to be open-ended. There may not be one specific correct answer, which leads to more questions that promote a deeper understanding of the topic. EQs do not necessarily need to be global in nature; they can be content specific for the various components of the curriculum. Brown provided four guidelines for development of an EQ: (a) it should encourage multiple perspectives, (b) it should connect learning with personal experience, (c) it should address overarching themes, and (d) it should foster life-long learning. Wiggins and McTighe presented four different meanings of the word essential, which can also guide educators in creating EQs (Table 1). They stated that “essentialness of the question depends upon why we pose it, how we intend students to tackle it, and what we expect for learning activities and assessments as a result.” Examples of EQs that have been developed to promote discussion and critical thinking are presented in Table 2. Achievement of learning outcomes is evidenced by student demonstration that he or she can make connections between information derived from different educational experiences. Responses to EQs associated with a given scenario can provide a mechanism for assessment of learning (Table 3).

Table 1. A Question Is Essential if It Is Design To...⁹

| • Motivate genuine and relevant inquiry into the big ideas and core content.  
| • Provide deep thought, lively discussion, sustained inquiry, and new understanding, as well as generation of more questions.  
| • Require students to consider alternatives, weigh evidence, support their ideas, and justify their answers.  
| • Stimulate vital, ongoing rethinking of big ideas, assumptions, and prior lessons.  
| • Spark meaningful connections with prior learning and personal experiences.  
| • Naturally recur, creating opportunities for transfer to other situations and subjects. |

Table 2. Examples of Essential Questions

| • What would a facility plan include if an athletic training facility was required to “go green”?  
| • In what ways should government regulate allied health care professions, specifically athletic training?  
| • When is it wise in athletic training to deviate from the “evidence,” i.e., evidence based practice?  
| • In addition to ultrasound, what other modality can we utilize during the chronic phase of tendinopathy therapy?  
| • How do we assess the whole athlete during an injury evaluation?  
| • How can athletes refuel if they are playing in a tournament that requires back-to-back volleyball games with little to no rest? |

Table 3. Full Essential Question Situation

Scenario: A 20-year-old female soccer player returns to Iowa from her home in California where she had been during winter break. She had an appointment with her home physician while in California, who diagnosed a femoral fracture. She was given crutches. She complains that snow and ice have caused her to fall three times today. She is no longer using her crutches, even though she was instructed to remain non-weight bearing for 3 weeks. This athlete has been seen multiple times throughout the soccer season for various injuries.

| • How do we assess the whole athlete during an injury evaluation?  
| • What are the insurance and medical implications of this scenario?  
| • What are the psychosocial implications in this case?  
| • What are the nutritional implications of this scenario?  
| • Does the athlete need any type of instruction or education about her case? If so, what?