The concept of Learning Over Time (LOT) has been in the lexicon of athletic training education for several years. To date, there is considerable confusion over the definition of the term and the manner in which the concept should be incorporated into an Athletic Training Education Program (ATEP). The purpose of this report is to (a) review the current peer-reviewed literature and definitions supported by the National Athletic Trainers’ Association Education Council and the Commission on Accreditation of Athletic Training Education (CAATE) for a definition of LOT, and (b) present a case study of an approach to documentation of LOT, including an explanation of the manner in which the concept has been incorporated into an ATEP.

LOT must be documented to comply with CAATE standards. Many ATEP directors have misinterpreted this requirement to mean that every competency must be repeatedly evaluated throughout a student’s progression through the program. Often, the same evaluation form used to initially assess a skill is the same form is used to evaluate LOT. In our opinion, this is not the intent of the LOT requirement. We have developed a systematic plan for documenting LOT that avoids repetitive evaluations of the same competencies. Our intent is to allow the student to demonstrate acquisition of general skills that incorporate many competencies, which establishes an overall holistic proficiency. A competency is a discrete cognitive or psychomotor skill, whereas proficiency represents a combination of those discrete skills. An example of a competency in knee evaluation might be the use of a goniometer to measure flexion angle, whereas proficiency combines the goniometer measurement with a more complete evaluation.

**Literature Review**

A key word literature review of “learning over time” and “allied health education” that was limited to peer-reviewed English language articles from four databases (CINAHL, MEDLINE, ERIC, and Health Source: Nursing/Academic Edition) yielded 49 references. Many of these addressed...
related topics, such as teaching evaluation, student teaching, literacy programs, and illness/disease education programs. From the original list of references, we selected 12 sources that were directly related to Athletic Training. Only four of these articles made direct reference to LOT. An additional three sources that were not peer-reviewed articles made direct reference to LOT.

Feinman-Nesmer addressed LOT in the context of professional teacher preparation, integration, and professional development. The perspective of teacher preparation is an interesting point of view to consider for athletic training educators. The education of an athletic training student involves the learning of knowledge and skills, integration into the profession, and professional development through continuing education. Feinman-Nesmer presents the idea of learning to teach over time, which suggests that athletic training education not only occurs while students are enrolled in an education program, but extends into their professional practice experiences. Thus, an important concept related to LOT is the integration of learning experiences.

Letus, Moessner, and Dooley discussed LOT in the context of portfolio development to document learning that can not be documented through grades and exams. The authors did not define what was meant by LOT, but discussed how portfolios allow students to reflect upon their education over time and to determine what it means to them personally and professionally. For our definition of LOT, we incorporate the idea of reflection presented by these authors.

Kell and van Deursen used the term LOT in the context of learning preferences and self-directed learning of adult students. The authors discussed the idea of using an evidence-based curriculum to promote the development of problem-solving and critical thinking skills. Competent clinical practice requires the use of problem-solving skills and critical thinking, which gets to the core of what is meant by LOT in athletic training education.

Konin, Amato, and Brader addressed LOT as an extension of a previously proposed concept of mastery over time, a term used by co-author, Amato. The authors discussed the LOT concept as one in which a number of components work in unison to develop a critical pathway from the classroom to clinical application in the decision-making process. It was stated that the challenge to LOT is making a smooth transition from the classroom to actual clinical practice. It is the sequential and progressive nature of LOT that helps form a definition.

The NATA-EC web site defines LOT as the documented continuous process of skill acquisition, progression, and student reflection. It refers to a systematic progression that is based upon multiple indicators of student success. This definition incorporates the concepts of progression and reflection, which we will consider further.

The term LOT did not appear in the 2001 JRCAT Standards for Accreditation. It did appear in the Interpretations Manual, but was not defined. The more recent 2005 publication from the CAATE Standards for Accreditation makes three explicit references to LOT. The first reference within the Student Records section (G1.4) states that the program must document exams. The second reference within the Clinical Education section (J2) offers the following guideline: “Clinical experience must provide students with the opportunity to integrate cognitive, psychomotor skills/clinical proficiency, and affective competence.” It continues by describing how these clinical experiences must allow for the development, synthesis, and demonstration of cognitive competency. The terms integration and synthesis help to define the LOT concept. The final reference to the term is within the Standards Glossary, which defines LOT as “Mastery of Skill.” The glossary describes a logical pattern behind the process of LOT as “Initial formal instruction and evaluation of the skill, followed by sufficient time to practice the skill, followed by re-evaluation of the skill.” This re-evaluation is the area of LOT that causes the most confusion for educators. Many attempt to use the same evaluation method for documentation of LOT as that used for the initial evaluation of a skill.

**Case Study**

Re-evaluation should not mean having the student complete the same evaluation that followed the initial instruction. A new approach to re-evaluation is needed to incorporate the LOT-related concepts identified in the literature: progression, synthesis, integration, reflection, and critical thinking. When a student is asked to evaluate an injury/illness and propose a treatment program, the student is being asked to integrate and synthesize information. To do this, the student must reflect upon previous experiences and employ critical