ATHLETIC TRAINING EDUCATION JOURNAL

www.natajournals.org
ISSN: 1947-380X
DOI: 10.4085/090259

ORIGINAL RESEARCH

Building Professional Competence by Design or Just Marking Time: Suggestions for Educational Reform in Athletic Therapy Education in Canada

Mark R. Lafave, PhD, CAT(C)*; Glen Bergeron, PhD, CAT(C)†
*Mount Royal University, Calgary, AB, Canada; †University of Winnipeg, AB, Canada

Context and Background: Athletic therapy postsecondary education and certification requirements in Canada have reached considerable milestones throughout their history. The most important of these accomplishments was administration of the first Canadian Athletic Therapists' Association (CATA) certification examination in 1975. At that time, there were three basic exam eligibility requirements: (1) core curricular courses; (2) 1800 practical hours; and (3) a valid first aid certificate. The only significant change to these certification requirements occurred in 1976, when the 1800-hour internship requirement was reduced to 1200 hours. However, a documented rationale for this change could not be determined. The noteworthy milestone occurred when the CATA approved a policy stating that, as of September 1999, all future athletic therapy candidates would have to be enrolled in a Canadian accredited program at a postsecondary institution. Although this policy significantly advanced the CATA's postsecondary academic/curricular requirements, the 1200-hour internship requirement has remained unchanged for almost four decades.

Objective: The purpose of this commentary is to stimulate discussion about the linkage between the practical-hour requirements and teaching, evaluating, and achieving clinical competence.

Recommendations: Recommendations for change are based on lessons learned by other organizations for medical educators and allied health care professions, such as the National Athletic Trainers' Association. One suggestion for change is to hold students accountable for achieving a predetermined level of clinical competence before they move through or graduate from a program. In order to accomplish this goal, students must be assessed with valid and reliable evaluation tools.

Conclusion: Therefore, it is important to establish a group of stakeholders who can identify issues and articulate a plan to guide the future of postsecondary athletic therapy education in Canada.

Key Words: Clinical competence, practical hours, clinical education, curriculum, evaluation

Dr Lafave is currently a professor and the Athletic Therapy Program Coordinator in Physical Education and Recreation Studies, Mount Royal University. Please address all correspondence to Mark R. Lafave, PhD, Physical Education and Recreation Studies, Mount Royal University, 4825 Mount Royal Gate SW, Calgary, AB T3E 6K6, Canada. mlafave@mtroyal.ca.

Full Citation:
Lafave MR, Bergeron G. Building professional competence by design or just marking time: suggestions for educational reform in athletic therapy education in Canada. *Athl Train Educ J*. 2014;9(2):59–63.

Building Professional Competence by Design or Just Marking Time: Suggestions for Educational Reform in Athletic Therapy Education in Canada

Mark R. Lafave, PhD, CAT(C); Glen Bergeron, PhD, CAT(C)

INTRODUCTION AND PURPOSE

Little has been written about the current state of athletic therapy education in Canada, so it is difficult to know whether reform is in order. However, from our perspectives, there are important issues that warrant consideration. Not surprising, many were revealed through peer-to-peer discussions between the two authors of this commentary, who have been in athletic therapy education in Canada for 20 years (M.L.) and 38 years (G.B.), respectively. Therefore, the main purpose of this paper is to discuss the linkage between the practical-hour requirement and the teaching, evaluation, and achievement of clinical competence. Our American colleagues have been through curricular design, professional standards, and educational discussions in the past similar to the goals set forth in this commentary.[1] Although the two systems are different, both organizations experience similar issues. Our hope is that our American colleagues (the Commission on Accreditation of Athletic Training Education) can use their experience to add to the discussion. Another important goal for this commentary is to provide a historical perspective on critical educational issues in an attempt to decipher from where the Canadian Athletic Therapists' Association (CATA) has evolved and thus have a better sense of its future direction.

Background

The CATA certification process and examination began in 1975. The policy[2] that governed the certification requirements remained relatively unchanged from 1975 to 1999. In the beginning, the policy required a candidate to complete a formal education at a university, with a specific list of core courses. Most students graduated with 3-year or 4-year degrees in physical education or exercise science. Sheridan College in Ontario was the only college that offered a 2-year diploma in athletic therapy approved by the CATA. Candidates also had to complete 1800 practical hours as part of their internship (900 field-related hours and 900 clinical-related hours). In 1976, the number of practical hours was reduced from 1800 to 1200 hours (P. Clayton, written communication, 2012). It is unclear as to how or why the total number of hours required for certification were originally established, but it is likely the CATA modeled these hours after the NATA.[3] Furthermore, it is unclear why the hours were reduced after only 1 year in place. Although significant changes in CATA policy often paralleled NATA policies, this was not the case with this change, given that the practical-hour requirement for the Board of Certification (BOC) was unchanged between 1969 and 1988 (1800 hours).[4]

In 2009, the CATA commissioned an ad hoc committee to evaluate the validity of the 1200-hour requirement.[5] They were unable to establish the historical rationale for setting the practical hours originally at 1800 or reducing the hours to 1200 in 1976. In contrast, our American colleagues have a well-documented history of practical-hour requirements for the various routes of eligibility to sit the BOC examination, and the ultimate elimination of practical hours in clinical education in 2004.[4,6,7]

At the same time that the practical-hour requirement was reduced from 1800 to 1200 hours, the CATA membership residency requirement was reduced. Originally a new candidate was required to be a member of the CATA for a minimum of 2 years before he or she could attempt the certification exam. The motive for the ruling was that the candidate should take at least 2 years to assimilate all the information and skills sets necessary to be an athletic therapist. As noted, when the hourly requirements were reduced, the annual requirement was reduced to just 1 year of membership. It could be argued that reduced residency requirements meant that candidates could potentially lack an appropriate quantity of clinical experiences, significant mentorship (supervisory athletic therapist), or breadth of knowledge in the area. However, the argument in favor of reducing the residency length stressed the quality rather than the quantity of the experience. In short, they determined that hours collected by candidates working nearly full time in a 1-year period could be just as beneficial as those collected part time over 2 or more years. The introduction of a national certification examination, along with 2 qualifying policies (ie, practical-hour requirements and a residency or time requirement), is a significant milestone for clinical education in Canada. Another significant milestone was the introduction of a policy that would require all future athletic therapists to have graduated from a CATA-accredited program after 1999.

The CATA Program Accreditation Committee, which reports to the CATA Board of Directors, regulates the accreditation of postsecondary athletic therapy programs. Program accreditation is still a relatively new process in Canadian athletic therapy education, but it requires every institution to account for educational competencies similar to those required by the NATA in a formal self-study.[8] An accreditation team evaluates each institution and either recommends full or conditional accreditation or denies the application. The first programs were accredited in 1998. One year later, all new candidates applying to the CATA had to be registered with one of the accredited programs. In 2005, the CATA and NATA BOC signed a joint Mutual Recognition Agreement that recognized the certification process for each organization. This meant that athletic therapists in Canada could challenge the NATA BOC certification exam and athletic trainers in the United States could challenge the CATA certification exam.

Change is never easy, and introducing a new policy requiring all future athletic therapists in Canada to attend an accredited program fits that axiom. There was considerable angst among the membership when this policy was proposed and implemented. Sexton et al[6] referred to this type of challenge as cultural in nature, with members who clung to the past demonstrating a type of "professional socialization." At the time, the CATA leadership knew that this and the addition of a national certification examination were critical steps in the

evolution of the profession. In the eyes of the membership, however, the academic programs were an unproven entity. Consequently, the membership elected to retain the 1200-hour internship requirement to be supervised by CATA-appointed "supervisory athletic therapists" (SAT). To this day, it remains the exam candidate's responsibility, and not that of the postsecondary institution, to ratify their practical hours before they are eligible to attempt the certification exam. In summary, the current CATA certification process has the following criteria in place: (1) a candidate must have graduated from 1 of the 7 accredited programs (4-year degrees); (2) hold a valid first responder certificate (or equivalent); and (3) completed a minimum of 1200 practical hours (600 field, 600 clinic).[9]

Although accreditation of postsecondary programs was a significant milestone in CATA history, the number of required practical hours (1200 hours) has remained unchanged for almost 4 decades. In other words, based on our perspective, the decision to retain practical hours reflects the organization's reluctance to change rather than theory or evidence.

A significant component of the accreditation policy was the integration of practical hours into the formal curriculum, which was considered separately from the policy that governed CATA certification examination eligibility. When the program accreditation guidelines were first established, accredited programs were not required to offer all 1200 internship hours within their curricula. In fact, the policy for the practical-hour requirement embedded in the accreditation process was purposefully set low (a minimum of 150 clinical and 150 field hours) after consultation with program administrators. It was determined that attempting to embed the full 1200 hours into a 4-year degree in addition to the other course requirements would be too difficult. As an example, Mount Royal University (MRU) offers a semester that is 14 weeks long. A 3-credit-hour course meets for 3 hours per week for 42 total contact hours. Those hourly requirements are typical for theory courses. But what about practical, internship-type courses where students are required to learn in a clinical or field setting? Are the rules different for these types of courses? Mount Royal University has an internal policy where practical, internship-type courses fall under a different set of rules. At that institution, a 3-credit-hour practical course requires between 130 and 150 contact hours in a clinic or field setting.[10] Based on this policy, the MRU program would have to offer 8 or 9 practical courses as part of the 40 total courses required to earn a 4-year degree. This amounts to almost one quarter of the entire university program. Other university-based programs in other disciplines that have a practical component to this extent are "co-op" programs in Canadian postsecondary education. The co-op year, however, is in addition to the regular 4-year curriculum (ie, 5 years total).

Another curricular consideration may be the overall course mix among major courses, electives, and general education. If you were to add those nine 3-credit-hour courses to the remaining courses in the major, athletic therapy courses could make up more than 60% of the entire course mix of the undergraduate degree. Again, if we use MRU as an example of policy, it typically has a course mix where 60% of the degree is related to the major (including foundational courses such as anatomy, physiology, and biomechanics), 30% general education, and 10% open electives. There is not enough room in a traditional degree program to house 9 additional core practical, internship-type courses. So, where does that leave the athletic therapy programs in Canada? In the case of the CATA accreditation policy, it left the leadership with the tough decision to leave the 1200 practical hour requirement out of the accreditation standards and keep the practical hours as part of the individual candidate's national certification examination eligibility requirement. Where does that leave students in their learning process? Perhaps more pragmatically, where will students find the remaining practical hours not embedded in the formal curriculum of their degree program in order to qualify for the CATA certification examination?

In fact, the issue of practical hours sparks a number of pedagogical questions:

- Why have an internship hour requirement outside of postsecondary institutions that already include a variety of embedded practical experiences (labs, tutorial, experiential learning courses)?
- Why set the internship requirement at 1200 hours? Is 1200 hours a valid number to prepare competent practitioners?
- What are the pedagogical objectives of the SAT-supervised internship hours? How are these hours facilitated and evaluated? What expertise does an SAT have to evaluate student athletic therapists?
- What constitutes an excellent SAT/certification-candidate learning experience? Where is there need for improvement in the SAT/certification-candidate experience?
- Is it possible for a new system of education to adopt the best of the SAT/certification-candidate system while improving on its shortcomings?
- Can the CATA internship and SAT programs be replaced by postsecondary embedded learning experience with clearly identified objectives and competencies?

Many of these pedagogical questions were also posed by the CATA Ad Hoc Committee on Internship Hours,[5] by Hodges[11] in reference to medical education, and Potteiger[12] in reference to athletic training education. Can the CATA learn from athletic training in America and medical education globally when reviewing our model for athletic therapy education in Canada?

Synthesis

Medical education has hit a number of eras and milestones beginning in 1910 with an influential paper by Abraham Flexner,[13] who recommended moving medical education into universities to focus on the science of medicine. He also recommended a curricular structure that consisted of 2 years of preclinical study followed by 2 years of clinical study.[11] For the most part, the changes proposed in 1910 still exist today. This model proposes that these 4 years would produce a competent practitioner capable of providing for the medical needs of their patients. Hodges[11] referred to this time-based model of building competence as the "tea steeping model," comparing it to a good cup of tea: You merely pour the hot water into a cup with a tea bag, wait a specified period of time, and voilà, you have a good cup of tea. There is no graduation requirement beyond the length of time in the program and passing the courses. The competency-based model, although

not the same, is comparable to the time-based or tea-steeping model,[11] with alteration based on how *competence* is defined. Medicine once defined *competence* as "knowledge."[14] This definition has evolved to a point where competence is now measured as the practitioner's ability to perform in a real-life environment.[15–17] A competency-based model should be tested with psychometrically sound evaluation tools to ensure that a predetermined standard has been attained.[11] Hodges[11] compared and contrasted the tea steeping model with a competency-based model, but in the end concluded that a hybrid between the two models may be necessary. In this hybrid, Hodges[11] suggested that students be required to stay in a course (or module) until such time as they have accomplished the requisite outcomes or competencies. Some students may accomplish the outcomes faster and others slower, but in this model, you could only leave or graduate from the program if you have demonstrated competency. Schellhase[18] proposed an educational model of "mastery learning" for athletic trainers that is very similar to the medical model posed by Hodges.[11] Potteiger[12] proposed a similar athletic training–specific model called the adaptive athletic training model. The commonality between these models is the concept of a standard in learning that is achieved prior to moving onto a new learning objective. These methods are rooted in a constructivist learning approach whereby students move through the curriculum at an individualized pace. Students would only move forward if they have accomplished the objectives in a manner that is commensurate with being competent. By contrast, the current education system typically has an arbitrary notion of passing or failing based on grades that may be as low as 50% in any given course. Implementing a program that is flexible and adaptive to the individual learner, while at the same time achieving an established standard, may prove challenging. In fact, it may be necessary to completely rethink the current academic policies and structures of universities that define and restrict the current system.

Recommendations

Considering concepts proposed by Hodges,[11] Schellhase,[18] and Potteiger et al,[12] it could be suggested that students enrolled in Canadian athletic therapy programs may be just "marking time" and not really becoming competent practitioners.[11] Does attending traditional university programs, passing written, oral, or practical and other performance-based examinations mean they are competent? Does collecting 1200 practical hours relate to competency? Arguably, they may be completing important steps on a novice-to-expert continuum of competence.[19] However, are they truly competent when they graduate from the program?

In Canada, there are two components to the certification examination. Whereas the written examination has been psychometrically established, the practical examination has not. Do we really know if our practical exams are capable of determining whether the candidate demonstrates at least a baseline (safe and effective) level of competency? Other professions or specialties have well-established systems to constantly review, monitor, and improve testing standards to ensure competent practitioners.[20–24] In fact, some of the medical examinations in Canada are considered good predictors of public complaints for incompetent physicians.[25] Practical, performance-based examinations are a critical piece to creating competent health care workers. The model for athletic therapy certification should consider a similar philosophy.

The CATA Program Accreditation Committee should consider implementing a policy for accredited programs to track and measure the candidates' clinical competence in real-life, workplace environments as part of their undergraduate training.[16,17] Lessons can be learned from our American colleagues regarding the implementation of their Clinical Integration Proficiencies (CIP). The CIPs essentially measure clinical competence in a workplace environment, whereby individual competencies are measured in an integrated fashion such as measuring assessment and rehabilitation of a patient.[26] Measurement of clinical competence in the workplace or practicum opportunities should be part of a comprehensive, programwide assessment plan. Clinical competence should be defined using a list of skills, attitudes, and behaviors critical to the profession (ie, CATA competencies). Quality of performance should be the mainstay of assessing clinical competence.

A comprehensive assessment plan should be a blend of formative and summative student evaluations, culminating in psychometrically established examinations demonstrating that a graduate is a competent practitioner before leaving the program. We propose that students should not graduate from the program until they have achieved a predetermined national competency or standard. This may not eliminate the need for licensure examinations because the purpose of those examinations is to protect the public and to promote portability of certification across geographical jurisdictions.[27,28] It may, however, ensure that the highest-quality graduate and competent practitioner moves into the public forum.

In closing, we return to the original question of whether educational reform is necessary in Canada. Based on some of the issues raised in this commentary, we would recommend that a committee be struck, similar to what was done with the NATA,[1] to identify issues and plan a strategy to address them. The future of Canadian athletic therapy education will depend on good planning and thorough discussion, so the profession continues to progress. Perhaps we will generate new milestones in the perpetual evolution of athletic therapy as a profession.

REFERENCES

1. Starkey C. Reforming athletic training education. *J Athl Trai*n. 1997;32(2):113.
2. Canadian Athletic Therapists Association (CATA). CATA certification requirements. CATA Web site. http://www.athletictherapy.org/en/certification.aspx. Accessed September 15, 2012.
3. DeConde C. The C.A.T.A.—a historical perspective 1965–1990. *Can Athl Ther Assoc J*. 1990;1:6.
4. Sammarone Turocy P, Comfort R, Perrin D, Gieck J. Clinical experiences are not predictive of outcomes on the NATABOC examination. *J Athl Train*. 2000;35(1):70–75.
5. Rotella J. Canadian Athletic Therapists' Association ad hoc committee evaluating the effectiveness of 1200 practical hours for

certification candidates. Calgary, AB: Report to CATA. January 26, 2010.
6. Sexton P, Levy L, Willeford S, et al. Supervised autonomy. *Athl Train Educ J*. 2009;4(1):14–18.
7. McMullan D. NATA board takes first step in reform. *NATA News*. 1997;4(2):4–6, 25.
8. Canadian Athletic Therapists Association (CATA). CATA competencies. https://www.athletictherapy.org/en/Members/pdf/White_binder_docs/Section%206%20-%20Competencies_2008_EO.pdf . Updated 1998. Accessed April 2012.
9. Canadian Athletic Therapists Association (CATA). CATA Web site. http://www.athletictherapy.org/en/index.aspx. Accessed December 20, 2012.
10. London C. Faculty of health and community studies clinical and practicum credits and hours. Mount Royal University policy. November 17, 2008. Accessed April 2012.
11. Hodges B. A tea-steeping or i-doc model for medical education. *Acad Med*. 2010;85(9 suppl):S34–S44.
12. Potteiger K, Brown CD, Kahanov L. Altering the athletic training curriculum: a unique perspective on learning over time. *Athl Train Educ J*. 2012;7(2):60–69.
13. Flexner A. *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching*. Boston, MA: Merrymount Press; 1910;4:1–346.
14. Miller G. The assessment of clinical skills/competence/performance. *Acad Med* 1990;65(9 suppl):S63–S67.
15. Norcini J, Blank L, Arnold G, Kimball H. The mini-CEX (clinical evaluation exercise): a preliminary investigation. *Ann Intern Med*. 1995;123(10):795–799.
16. Norcini J, Blank L, Duffy D, Forna G. The mini-CEX: a method for assessing clinical skills. *Ann Intern Med*. 2003;138(6):476–481.
17. Schuwirth L, van der Vleuten C. Programmatic assessment: from assessment of learning to assessment for learning. *Med Teach*. 2011;33(6):478–485.
18. Schellhase KC. Applying mastery learning to athletic training education. *Athl Train Educ J*. 2008;3(4):130–134.
19. Knight KL. Progressive skill development and progressive clinical experience responsibility. *Athl Train Educ J*. 2008;1(1):2–4.
20. Mohtadi N, Harasym P, Pipe A, Strother R. Using an objective structured clinical exam to evaluate competency in sport medicine. *Clin J Sport Med*. 1995;5(2):82–85.
21. Langenau EE, Dyer C, Roberts WL, Wilson C, Gimpel J. Five-year summary of COMLEX-USA level 2-PE examinee performance and survey data. *J Am Osteopath Assoc*. 2010;110(3):114–125.
22. Boulet JR, Smee S, Dillon G, Gimpel J. The use of standardized patient assessment for certification and licensure decisions. *Simul Healthc*. 2009;4(1):35–42.
23. Mandin H, Dauphinee W. Conceptual guidelines for developing and maintaining curriculum and examination objectives: the experience of the Medical Council of Canada. *Acad Med*. 2000;75(10):1031–1037.
24. Medical Council of Canada. MCC qualifying examination, part II. http://www.mcc.ca/en/exams/qe2/. Updated 2012. Accessed September 3, 2012.
25. Tamblyn R, Abrahamowicz M, Dauphinee D, et al. Physician score on a national clinical skills examination as predictors of complaints to medical regulatory authorities. *JAMA*. 2007;298(9):993–1001.
26. National Athletic Trainers' Association. Athletic Training Education Competencies. 5th ed. http://www.nata.org/sites/default/files/5th-Edition-Competencies-2011-PDF-Version.pdf. Accessed April 23, 2013.
27. Haladyna T. A research agenda for licensing and certification testing validation studies. *Eval Health Prof*. 1994;17(2):242–256.
28. LaDuca A. Validation of professional licensure examinations. *Eval Health Prof*. 1994;17(2):178–197.