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EDITORIAL COMPILATION

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Looking Backward, Looking Forward, Looking Around . . . The Time Is Now

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O how they cling and wrangle, some who claim
For preacher and monk the honored name!
For, quarreling, each to his view they cling.
Such folk see only one side of a thing.

Buddhist Parable of the Blind Men and an Elephant[1]

In the oft-used parable, the *Blind Men and an Elephant*, 6 blind monks are asked to touch an elephant in order to provide their interpretations of the object being experienced, in this case through tactile sensation only.[1] Each monk is allowed to touch only one segment of the elephant before giving their version of the *truth*, the truth equating to the essential "what" of each monk's solitary tactile experience. As one might expect, each account provides a uniquely different and fractal version of an independently experienced subjectivity—the monk who grasped the tail describes it simply as a "rope," the monk who panned the torso describes it rather mundanely as a "wall," the monk who handled the thick and gently swaying trunk identified it as a "tree branch," and so forth. Given the fragmentary experiences and reports, the blind monks fail to agree on what it is that they all experienced, bickering and even coming to blows over the epistemological and ontological quagmire. At the same time, they provided a perverse delight to the observing king, who queried them about their fractional sensory experiences and subsequent attempts to interpret what they perceive as "reality." In the Buddhist version of this commonly used parable, the Buddha compares the blind men to able-sighted scholars and preachers who, because of their insular and myopic views, are deemed to be blind also in how they view and interpret reality: "Just so are these preachers and scholars holding various views blind and unseeing . . . in their ignorance they are by nature quarrelsome, wrangling, and disputatious, each maintain reality is thus and thus."[1]

This special section of the *Athletic Training Education Journal* (*ATEJ*) is an attempt to do just that—to create a platform to hear more voices, to see more perspectives, and to weigh more evidence. In other words, it is an attempt to create conversations generating more questions, and at times, maybe even a few answers. Within the 400-plus accredited athletic training education programs in the United States are hundreds of bright, energetic, and deeply committed educator-practitioners with an array of diverse experiences and insights, but who individually are just as blind and solitary as the monks, with their individual experiences. Collectively, however, these educator-scholar-practitioners are capable of seeing more, knowing more, and experiencing more. Together they are fully capable of painting a bigger and more inclusive picture of educational reform by combining their individual insights, experiences, and interpretations. This cooperation can chart a richer and more lucid projection of the future, of a different path, or better yet, of multiple pathways. Together, the evidentiary experiences of a body of committed and talented athletic training educators and practitioners can represent more, and by extension, can be viewed with less scrutiny, greater objectivity, and farther-reaching application. Together, a greater body of blind monks can more aptly discover, deliver, and assess the evidence needed to inform our next steps, our immediate and far-flung future. Perhaps more so now than at any time in the profession's history, the exposition and arrangement of athletic training education and practice should not be left to a handful of blind monks to interpret, argue, and articulate. At this juncture in the profession's history, it is critical that a larger, more inclusive and experienced group of monks be brought into the fold, consulted, and relied upon to help chart the course we all seek.

Transitions often foster anxiety, fear, and isolation as each person or program focuses on change from a limited scope and perspective. At times like these, it is important to consider the works of Walter Benjamin.[2] Benjamin, a renowned scholar, discussed growth through the illustration of the cameraman and the painter. From the perspective of the cameraman, focus is on the fine details by using lenses that capture every detail; however, the painter paints for a while and steps back to see the bigger picture. We are at a point in education reform in which the fine details are being crafted; yet how this all fits together in a broad, effective educational program presents an opportunity for creativity and innovation. These are complex and challenging times for athletic training on at least 3

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interrelated planes. First, and most obvious, is our impending educational transformation to the entry-level master's degree. Not only are there the obvious challenges associated with the degree transition for existing undergraduate athletic training programs, but we must also address the myriad questions and issues surrounding the future and role of postprofessional residencies and clinical doctorates in athletic training. Second, numerous state athletic training associations are still working to secure, strengthen, or clarify their state practice acts, and in so doing, they are battling other professional health care associations for their rightful place at the regulation table, including securing the federal recognition that athletic training deserves as a legitimate, "nontechnician" health care profession. Relatedly, we must consider how the master's degree will affect existing regulatory language and statutes in the 48 states that currently have regulation. Third, it can be argued that athletic trainers are still working feverishly to gain true professional legitimacy, to carve out their authentic and core domain of practice, including their role in various emerging settings and technologies, to definitively articulate their rightful knowledge base and to generate and distribute evidence supporting their effectiveness and viability as a health care option for patients and providers. In short, the profession has many serious "balls in the air" now, and how we design and operationalize the master's degree transition will certainly affect both the physics and the optics affecting the many interconnected balls we are juggling.

Given these interconnected challenges, athletic training education and practice are not immune from the Buddha's warning to the blind monks concerning the pitfalls of insularity and subjectiveness—all who are committed to the profession have the responsibility to be not only cynical of the interpretation of a few blind monks but also to be proactive and constructive. For clarity, the blind monks and elephant story shows us that individually we are all "blind," and, thus, there are multiple partial interpretations of the reality we seek—in this case, the details, events, and objectives surrounding the transition process, standards, and intended outcomes of our transition to the master's degree. The parable also reminds us of the power and usefulness of multiplicity and wholeness—the idea that all scholars and practitioners need to engage in the ongoing dialogue about our future. We must guide our leadership through substantive, rigorous input so when we step back years after implementation, we can honestly say we all played a part in and own the direction of this profession because we all contributed our expertise to the organization seeking our input. Focusing exclusively on how this transition will affect our individual programs is myopic and dangerous for the profession. Sharing our insights, experiences, expertise, and failures as well as participating in the larger, critical conversations provide a broader canvas for us to paint the future.

In this issue of the *ATEJ*, we are excited to bring you several concise mini-editorials from well-established and respected athletic training scholar-educator-practitioners such as Craig Denegar, Paula Turocy, Malissa Martin, Jay Hertel, Chad Starkey, Stacy Walker, and Tina Claiborne. Collectively, this team represents considerable breadth and depth in teaching, doing, and thinking athletic training; all have spent considerable time toiling in the trenches with students, colleagues, and other academicians, and each is duly recognized for his or her considerable contributions to the profession. Most importantly, each of these contributors have long been dedicated to the advancement and proliferation of the athletic training profession. They have given considerable portions of their lives to the production and dissemination of knowledge and practice, likely at the expense of other elements of their personal lives. Their mini-editorials, which we have called "chip shots," address key issues in athletic training for all to ponder. These issues include:

1. The need for the profession to create more clinician-scientists (Dr Denegar);
2. A call for more athletic training educators to become authentic teaching-scientists in order to help move forward the art and science of athletic training education (Drs Turocy and Martin);
3. A demand for the profession to address the looming and inevitable drop in the production of knowledge that will likely occur when our postprofessional programs become dispositioned (Dr Hertel);
4. A challenge for us to seek new and effective ways to educate and prepare future athletic training professionals, including how we mentor and supervise our older, more mature students (Dr Starkey);
5. A call for a different conversation about what we hope to produce and how we hope to advance the profession from a clinical development perspective (Dr Walker); and
6. A few insightful ideas and cautions as to what has worked in practice from one of our earliest professional master's degree implementers (Dr Claiborne).

As we transition into the era of the professional master's degree, we hope the many poignant and well-reasoned points presented in these chip shots will inspire you to ask more questions, seek multiple perspectives, and perhaps generate answers, solutions, or insights to enhance our profession at this critical juncture.

We have also solicited and present a series of critical and timely articles on some rather substantial and relevant issues related to athletic training education in the master's degree era: a combination of theoretical, critical review, position, and experimental scholarship conducted by an equally established and reputed group of authors. First up, Editor-in-Chief of this journal and esteemed educator-scholar Dr Kimberly Peer kicks things off by outlining what she believes we need in athletic training education using the Perspective Transformation Model. Dr Peer takes up the baton handed to her by Drs Turocy and Martin in their chip shots and proceeds to directly challenge the readership and larger professional body of athletic training educator-scholars-practitioners to "do something," to become more active, be open-minded, and challenge each other to become more inclusive and transformative in our perspectives about the future of athletic training education. In short, Dr Peer asks us to close the gap on our colleagues in medicine and other health care fields by conducting more poignant and direct inquiry in athletic training educational reform.

In that vein, Drs Jennifer and Patrick McKeon and Dr Paul R. Geisler take Dr Peer's appeal a step further by taking advantage of the current evidence-based medicine movement in athletic training and proposing a multicomponent model for evidence-based athletic training that calls for more of our professional practices to be based on relevant and productive

evidence, including our interrelated regulatory and educational apparatuses. In part, the challenges levied by Drs Starkey, Martin, Walker, Claiborne, and Turocy in their chip shots harmonize with many of the primary threads presented in this ambitious and far-reaching article, as it calls for athletic training educators and policymakers to be more proactive, responsible, and critical with their personal work as educator-scholar-practitioners in the profession.

In support of these first 2 articles, Dr Geisler and colleagues follow with a largely theoretical-philosophical discourse that addresses a myriad of epistemological challenges for the profession, posing many rhetorical questions about professional knowledge and legitimacy intended to disposition the ontological status and place of athletic training as we move into this new professional epoch. As it deals with the production, ownership, dissemination, and validation of knowledge in athletic training, the primary theoretical thread of this bold philosophical narrative mirrors the "knowledge production" challenge put forth in Dr Hertel's chip shot, albeit on a slightly different plane.

The 2016 *Emerging Athletic Training Educator* award winner, Dr Stephanie Mazerolle, and frequent writing partner Dr Thomas Dodge, tackle the oft-contentious issue of student supervision, its effectiveness, and evidence relevant to various supervisory policies in health care education. In this short but critical review and proactive article, Drs Mazerolle and Hodge effectually expand upon Dr Starkey's chip shot by directly challenging the profession to better address the available and incorporated evidence, policies, and practices that guide current and future supervisory models for professional education. Inherently, the Mazerolle and Hodge article also interconnects with the evidence-based education article penned by Geisler, McKeon, and McKeon in that it challenges a critical and longstanding policy of clinical education.

Across any domain, it is well accepted or at least expected that policymakers and regulators have a duty to weigh all fractal evidence with suspicion and to seek out alternative answers and versions of reality that offer other interpretations and avenues forward. If a collective good were to be envisioned, implemented, and subsequently achieved, athletic training would do well to create an earnest mechanism and a medium for more monks to share their experiences and interpretations toward the collective and pressing needs of the profession, from the ground up. Given the challenges drawn for athletic training at this moment, now is just such an occasion for our profession to heed the Buddha's warning—the moment calls for the perspectives of many, for as many blind monks as are willing to put their thoughts, insights, and interpretations toward the common good, to listen, to look, to speak, and mostly, to think. In this light, athletic training policymakers, practitioners, administrators, and educators would do well to come together in order to gather a more complete picture of things as they are and, most importantly, as they *may be* in the near and far futures if we hope to avoid the bickering and counterproductive fate of the blind monks. Both the American Medical Association (AMA) and the Canadian Athletic Therapists Association (CATA) have recently shown us different ways of doing just this, and perhaps we can as a profession find inspiration from either of these developments.

In response to various perceived shortcomings over their educational processes and outcomes and a few interconnected revolutions in the socioeconomic and cultural aspects of medical practice, the AMA has been actively trying to reconceptualize medical education from the ground up by awarding $12.5 million to a cooperative consortium of over 20 American medical schools to reexamine what they do and how they do it—everything from improvements in the humanistic demands and aspects of clinical practice and patient centeredness, to the effective use of technologies, to enhancements of student-centered accelerated competency-based education, to expedited programs and curricular models that integrate science, clinical experiences, and clinical reasoning.[3] This aggressive and obligated program intends to reimagine medical education in the 21st century, or more directly, "to create the medical school of the future" by funding and finding evidence demonstrating what will work and then making that evidence available to other programs.

Although certainly not equivalent in scope, funding, or timing, the National Athletic Trainers' Association (NATA) Foundation's recently announced education-centric grants for best practice research in athletic training education are a welcome and long-overdue opportunity for progressive and creative educators in our field to seek funding for their projects. Furthermore, the NATA has created the Education Advancement Committee spearheaded by Dr Michael Miller to promote and advance educational research and practice in the profession. With the support of the NATA Board of Directors, the *ATEJ* has also expanded to double its size for the 2016 publication year. This generous action reflects confidence in our scholars to grow educational research in the profession and provide an avenue for prompt, professional dissemination of new knowledge. These and other initiatives provide opportunities for the advancement of educational research; however, it is up to each of us to jump into the fold and use our knowledge, skills, talents, and expertise to promote athletic training education. If we look exclusively at educational reform as a transition to the master's degree without consideration from the experts in regulation, clinical practice, postprofessional education, and even continuing education, we are practicing as cameramen with a narrow focus and close-up perspective. Now is the time to step back and practice like a painter, to add a stroke or two and then look at how it has or might impact the overall picture. Our future is a work in progress. It relies on each of us to use our expertise to create a masterpiece that will withstand the test of time.

Inspired by 2 published commentaries concerning the state of their educational practices and profession, the CATA recently completed a comprehensive, ground-up assessment of their educational operations in order to chart a more constructive course for their profession and educational practices.[4] Conducted over the course of a full year, a multiperspective task force consisting of all accredited program directors ($n = 7$) and 4 administrators from their accrediting, certifying, and governing associations developed 10 consensus statements and associated caveats for athletic therapy education, which were presented to the CATA Board of Directors for analysis and potential implementation. Recently published in the *ATEJ*, this cooperative work was intended to "share the results of an evidence-based, consensus-driven planning

process addressing key educational issues in the profession of athletic therapy in Canada"[4(p6)] and to highlight the importance of gaining input from stakeholders to identify critical issues in education practice before the future was chartered. Interestingly, the key words for this article included *clinical competence* (after all, the end game for our educational practice), *clinical education, curriculum*, and *evaluation*—all important constructs of the educational apparatus and all linked to a plethora of evidence in the various health care pedagogy fields. The relevance of such a systematic, ground-up, and evidence-based process for educational reform and policy to athletic training in the United States is clearly evident and inspiring; it is also displayed in myriad places within this special section of the *ATEJ*.

The opportunity to engineer better results for our profession is there for the taking—we just need to pursue an active and productive role with this engineering and put our money where our mouths are in terms of getting the work done. The CATA and the AMA have done just this by patiently putting into action collaborative and evidence-driven mechanisms intended to generate the results they want for their systems. Athletic training has too much to lose, and far too much to gain, as it transitions into the master's degree era. We hope in this special section of the *ATEJ* that you find inspiration, arguments, and an opening for something new, something better.

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Critical Issues in Athletic Training Education in the Master's Degree Era

Craig R. Denegar, PhD, PT, ATC, FNATA

Athletic training, and the educational requirements to enter the profession, have evolved. Less than 40 years ago, students interested in athletic training could achieve certification through completion of an internship. Instruction was typically provided by practicing athletic trainers steeped in the art of caring for athletes. Athletic training educators with a terminal academic degree were counted on one hand.

Students pursuing athletic training were a significant source of free labor, and the growth of athletic training education was supported. Athletic training became an academic major with hundreds of institutions transitioning programming to meet new accreditation standards while maintaining tuition-paying, free labor. With recognition as a health care profession and the development of an academic major, there came substantially greater expectations for athletic training research to advance learning and practice. The pendulum has swung, and rather than education being led by athletic trainers well-versed in the art of clinical practice, it is now led by athletic trainers who are well prepared to pursue research versus providing health care.

Concurrently, the scope of athletic training has expanded. The practice of athletic training is no longer limited to collegiate and professional settings, and high school athletics has advanced beyond that of an emerging practice setting. The athletic trainer's scope of responsibilities has also expanded. For example, recognition of the complexity of mild traumatic brain injuries and the long-term consequences of traumatic joint injuries continues to force change in educational standards and practice.

As athletic training education continues into the master's degree era, expectations of greater depth—from practice of the art to generation of new knowledge—will grow. Expectations will also persist for greater breadth in knowledge to address the growing complexities in patient care and the unique needs of athletes and physically active people across the life span.

The challenges of greater depth and breadth in teaching and learning are not unique to athletic training. Nursing, pharmacy, and physical therapy offer 3 comparisons in which transition in degree and academic standards has occurred. Educators in these professions are similarly faced with balancing the art and science of practice, the translation of knowledge to practice, and the

preparation of graduates for greater scopes of practice in their careers.

There is, however, a critical difference between entry-level education programs in these professions and those in athletic training. The smallest academic programs in these professions exceed the largest entry-level programs in athletic training in terms of the number of students and faculty. The faculty of top programs consist of experts in practice and highly talented researchers who collectively assure breadth and depth across the curriculum.

The success of advancing the practice of athletic training through elevation of academic standards will depend on the ability to develop deeper and broader programs with faculty whose research and clinical expertise blend to optimize learning. This is a challenge that can be met only through larger entry-level athletic training education programs more similar to those found across the spectrum of health professions. This reality will force change, a change that is necessary in the evolution of athletic training education and the advancement of the practice of athletic training.

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Solid Foundations . . . Clearer Paths

Paula Sammarone Turocy, EdD, ATC

Many changes have occurred in athletic training (AT) education over the years, with some of the most significant changes occurring in just the last 10 years. Change is not only inevitable, but also necessary as a profession evolves and diversifies. Today, it appears we again are on the precipice of a new wave of AT practice and, therefore, possibly a new wave of AT education to support that practice. In my humble opinion, before we begin contemplating what content we might need to add to support that practice, I firmly believe we must first determine what constitutes entry-level practice and what constitutes advanced practice. If we can determine these boundaries first, then the decisions as to how to build the educational infrastructure to support that practice will become apparent.

Curricular decisions generally are made after a needs analysis, and any changes to professional education should come from thoughtful and purposeful analysis based upon patient care and practice-setting needs. If we consider the needs of entry-level practice with advanced AT practice, we can better determine the basic skills, content, and underlying knowledge required of entry-level AT professionals. In addition, we can better determine the advanced skills, content, and educational preparation advanced AT practitioners need when caring for more frail, vulnerable, and/or complex patients—a typical hallmark of advanced professional practice. Practice setting alone should not dictate additions to entry-level practice or advanced practice requirements, nor should the need to advance skills and content dictate the need for specialty certifications. Advancing skill and content to take care of the same types of patients who may present with more complex problems is by definition "advanced practice," which is different from creating a specialty certification to develop new or different skills and content to address a different population of patients or patient needs. We need to plan for our next practice evolution when making adjustments in current practice needs. Since what is considered advanced practice today may in the future become entry-level practice, it is essential to analyze on a more regular basis and identify when advanced practice becomes an expectation of entry-level practice. To add new advanced educational content to what is now considered entry-level practice without doing our due diligence to determine the need is self-serving and may result in less support as we move forward to change laws and regulations that govern AT practice.

Another important consideration essential to our educational and practice evolution, as well as to the support we need to implement these changes into law and health care regulation, will be the involvement and support of our long-time advocates and supervisors, our physician partners. National certification and most state AT practice legislation are built upon collaborative practice with, and oversight by, physicians. Making any changes in AT education and practice should be done in partnership with our supporting physician groups. Physician direction, oversight, and endorsement has not only helped lift our AT practice standards and expectations to where they are today but has also proven to be successful in our legislative and lobbying efforts. In addition, this supportive relationship has prevented our profession from experiencing the same negative lobbying efforts and costly appeals other professions have experienced when attempting to move to autonomous practice.

Finally, when the time comes for us to progress both entry-level and advanced educational requirements, it will be important for the changes made to educational content to be supported by appropriate basic and applied science coursework, as well as by the previous learning needed to set a sound foundation for

understanding the new requirements. Unlike technicians, professionals need to be more than accurate or safe with a skill; they must understand and consider individual differences among patients, analyze and diagnose conditions, and interpret information to make complex decisions based on a broad base of knowledge and experience. As we move ahead, we must continue to assure all changes in professional practice expectations are accompanied with the same thoughtful changes in the foundational knowledge, skills, and expectations that have been the hallmark of AT education. It will be this same attention to detail that will ensure future athletic trainers are as prepared as possible for entry-level and advanced practice.

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Scholars of Teaching and Learning: Where Are We?

Malissa Martin, EdD, ATC

Often being a content expert becomes synonymous with being a good teacher. A deep understanding of content does not make one a good teacher but is needed to advance frontiers of knowledge. In his renowned book *What the Best College Teachers Do*,[1] Ken Bain notes that the first characteristic of a quality instructor is to know the content. However, knowing content and being able to transfer the content in a meaningful way to meet a variety of learning styles so students can understand and apply the content, as well as transfer their understanding to new situations, involve very different skills sets. These skill sets can be quite challenging, especially without the appropriate education and training.

Designing learning experiences based upon current evidence that engages the learner, creating instructional delivery requiring interaction embedded in authenticity, and assessing student learning through a variety of means are not skills one develops by being a content expert, certified athletic trainer, or through an internship-like process. Rather, this knowledge and the accompanying skill sets are developed and nurtured over time through purposeful and significant learning experiences.

Just as we must nurture and support the development of athletic training educators, we must also support the educators' development into "teaching scholars." The *Scholarship of Teaching and Learning* is related to 3 basic activities: (1) engagement with existing knowledge on teaching, (2) self-refection on teaching, and (3) learning in one's discipline.[2] According to Boyer[3] the scholarship of teaching remains elusive within many professions and institutions of higher education.

Scholarship in education focusing on teaching and learning activities can be quite beneficial to the body of knowledge, but it is often unsupported by institutional award systems, in particular when it comes to the rigors of promotion and tenure. Much time is spent on conceptualizing and designing courses/curriculum, learning experiences, instructional technologies, and assessment activities and measures followed by the reflection and evaluation of these tasks to determine efficacy in student learning and achievement. This is scholarship. I refer to this as *hidden scholarship*. This hidden scholarship is performed on a daily basis with few, if any, individuals knowing its worth. Creative teaching that is effective needs to be shared with or without regard to an institution's reward system. These activities need to extend beyond the privacy of the classroom and into the professional and public domain.

We have over 300 athletic training program directors in this county, with a similar number of clinical education coordinators along with athletic training education faculty. I would consider most of these individuals to be "teaching scholars." Yet what percentage of these individuals are actually publishing, presenting platform or poster presentations, or merely speaking about educational topics in athletic training or health care education in general? How many of our education professionals are regular consumers of the growing body of literature produced in our own education journal, the *Athletic Training Education Journal*? Furthermore, how many explore, assess, and implement the many evidence-based education strategies from our cousin professions of medicine, physical therapy, and nursing by regularly consulting useful journals like *Medical Education, Academic Medicine,* and *Advances in Health Sciences Education*? How many of our athletic training educators are engaged in the process of thought, reflection, discovery, and application, as noted by Boyer.[3] The classroom is an athletic training educator's world of discovery and application. Here is where creativity is carried out and reflection begins. The classroom is where experiments are conducted within a learning community. Faculty are scholars in their own classrooms, be it face-to-face, online, in the labs, and/or in clinical fieldwork settings. The scholarship born from these experiences is enormous and waiting to be shared. It is in our hands to nurture our own athletic training education scholars and support the scholarship of teaching and learning. This scholarship will propel the profession forward. The very

essence of our profession starts in the classroom. Educators are the root of what makes or breaks the sprouting of a profession. Let's ensure our roots are well prepared and have appropriate nurturing.

All athletic trainers in clinical practice today started with a teacher—a teacher who designed and delivered lessons, courses, and curriculums and assessed learning to best meet the needs of each and every student to prepare her for the profession. These teachers have been practicing scholarship for years—the hidden scholarship of our profession!

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Where Will Future Generations of Athletic Training Researchers Come From?

Jay Hertel, PhD, ATC, FNATA, FACSM

The advent of professional athletic training (AT) education being required at the master's degree brings great opportunities, but it also raises serious questions that must be addressed. One question is where will future generations of AT researchers come from? Postprofessional master's degree programs have been critical historically to the production of new knowledge in AT. Additionally, many of the most prolific and impactful AT researchers' first exposures to a compelling original research experience occurred in postprofessional master's degree programs with robust research requirements. Having positive and inspiring experiences when completing these requirements led these athletic trainers to pursue PhD programs at universities where established AT faculty could serve as dissertation advisors. Over the past few decades, this system has produced a cadre of AT faculty with excellent research training and skills. Within the wider umbrella of sports medicine, many of the premier, internationally recognized researchers of clinical topics such as concussion; exertional heat illness; therapeutic modalities; and spine, shoulder, knee, and ankle injuries are AT faculty who began as researchers in postprofessional master's degree programs. Their production of new knowledge, oftentimes coupled with the research of their postprofessional master's degree and PhD students, has fundamentally changed the practice of AT and sports medicine. This new knowledge has improved our understanding of the prevention, diagnosis, and treatment of sports injuries as well as led to the construction and dissemination of many policy and position statements, both within and external to AT.

With the likely extinction of postprofessional master's degree programs, I challenge AT educators to think about how meaningful original research experiences can be embedded in professional master's degree programs and postprofessional residency and doctorate of athletic training programs in an effort to germinate future PhD students who can become independent investigators. As the profession advances with education reform, we must ensure all athletic trainers are able to interpret research findings and evolve their clinical practice as new knowledge becomes available. However, being able to interpret research is not enough. Some new athletic trainers will have to perform original research to produce new knowledge. Will educational guidelines be enacted that require professional and postprofessional students to have robust original research experiences? Which students will ultimately be inspired to become AT researchers? Will they be your students?

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(Not the) Same as It Ever Was

Chad Starkey, PhD, AT, FNATA

The transition to an entry-level master's degree must involve more than just changing the level of the degree being awarded. The degree transition must be viewed as an opportunity to completely restructure our educational construct. Although there has been growth in the way professional education has been delivered, remnants of our historical academic programming remain. Selective amnesia is an asset when designing master's degree level curricula; forget everything you know about undergraduate curricular structure and start with a clean slate.

CURRICULAR STRUCTURE AND DELIVERY

In general, undergraduate curricula have been confounded by requiring students to juggle general education requirements and foundational courses while also being engaged in professional coursework (eg, preparing for examinations in the history of medieval Europe and upper extremity clinical diagnosis in the same evening). Furthermore, the complexities of undergraduate course scheduling often interfere with scheduling clinical education experiences.

Undergraduate education tends to be compartmentalized, with content delivered modularly with few connections between courses. For example, our therapeutic interventions—therapeutic modalities, therapeutic exercise, and manual therapy—are clinically intertwined, yet in many programs are offered as individual courses.

The transition to the entry-level master's degree is an opportunity to develop a patient-based approach to education by clustering course topics based on how they are applied clinically rather than by content alone, thereby creating integrative coursework.[1] This new structure will allow for "immersive clinical education experiences" that further enhance the practice-based approach to education.

A wise man once said, "The canvas that you splatter is the picture you never paint." This perfectly describes the transitional period. We really have one shot to paint the picture of the profession we envision. We can look to our professional organizations for the vision, but the ultimate impetus falls on the programs and their administrators. Failure to appropriately change our educational structure—splattering the canvas—makes it more difficult to adjust in the future and places our professional viability in jeopardy.

CURRICULAR CONTENT

A higher knowledge level should reflect the transition to an entry-level master's degree. This knowledge, aka "the competencies," must reflect the consensus of what we as a profession see the role of the athletic trainer being in the future and must reflect the changes in our patient population and partnerships with physicians. This vision must be cohesive between each of the strategic partners and reinforce the partnership between physicians and athletic trainers.

Historically, the competencies have been primarily developed by athletic trainers and then delivered to physicians with the message, "Here is how we can help you." Operationally, seeking input from our physician group sponsors on what knowledge, skills, and abilities would make athletic trainers more useful to them seems like a more strategic approach to enhancing this relationship.

CLINICAL EDUCATION

When the internship was eliminated as a route to certification, we seemed to have lost the "mentoring bond" between the student and clinician. Supervision and autonomy are not dichotomous terms. Students can make autonomous decisions while supervised, with the preceptor only intervening when the health and safety of the patient comes into question. Master preceptors give the student enough leeway to allow the student to make the wrong decision but then intervene to protect the patient and review the decision-making process with the student. The book, *Complications: A Surgeon's Notes on an Imperfect Science,* by Atul Gawande, should be a must-read for all preceptors. Suddenly, we will realize we are not the only profession that struggles with this balance.

The immersive clinical experience provides an opportunity to retool how we approach clinical education. Entrustable professional activities, which are different levels of skills requiring varying levels of supervision, are taking hold in medical and other health care professions. In this model, once students demonstrate proficiency in specific skills, those skill can be performed with a lower level of supervision (Table).[2] In addition to modifying the definition of *supervision* used by the Commission on Accreditation of Athletic Training Education and the Board of Certification, implementing entrustable professional activities would require modification to many state practice acts.

Table. Five Levels of Supervision for Entrustable Professional Activities[a]

Level	Description
1	Observation only; no direct patient interaction
2	Skills can be performed on a patient with immediate, direct supervision
3	Skills can be performed on a patient with the preceptor quickly available
4	Skills can be performed on a patient with post hoc review by the preceptor
5	Student can be provided by the trainee to less well-trained students

[a] Adapted from Ten Cate O. Nuts and bolts of entrustable professional activities. *J Grad Med Educ*. 2013;5(1):157–158.

THE EDUCATIONAL CONTINUUM

Finally, the transition to an entry-level master's degree also creates opportunities to retool post-professional education. There will be a move away from the "superb generalist" in both the clinical and academic settings. To meet this level of education beyond entry level, the development of individuals who have specialized clinical, research, administration, and/or teaching expertise will still be needed. Current postprofessional programs may transition to clinical doctorate, residency, and/or PhD programs.

In short, if our educational construct looks and feels the same 10 years from now as it does today, then we have failed to capitalize on this opportunity and our profession will suffer.

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Discussions We Should Be Having

Stacy E. Walker, PhD, ATC, FNATA

Over the past few years, I've delved into the transition-to-practice health care literature. It's been an interesting journey discovering how other professions have reacted to and planned for their transition to practice. As I talk with athletic trainers and see various educators present their research and best practices, one major question or concept often emerges: "What can the educational programs do better?" In the transition-to-practice health care literature, there seems to be a lack of discussion regarding what educational programs could do to better to address the challenges they face. I have 3 reactions to this question.

First, our transition-to-practice issues, such as low confidence and autonomy and less-than-ideal abilities to problem solve, aren't going to be "fixed" simply by requiring a more intentional clinical immersion requirement in our clinical education component. True, the transition may be less stressful for some, but in my opinion, the challenges newly credentialed athletic trainers face will not disappear that easily. The initial transition occurs only postgraduation, during the first 10 to 12 months or so of employment, when new clinicians are no longer students. This is the critical period when new professionals redefine themselves as clinicians and no longer as students because they are forced into developing self-agency and are expected to assume the responsibility of performing the duties of an athletic trainer on an independent basis. To help with this transitional period, more employers of entry-level athletic trainers need to create programs for orientation and onboarding of young and inexperienced clinicians. Employers obviously want their employees to succeed and grow into their organizational culture and operations, and at the same time they want to protect their patient populations, so our discussions need to shift from "What can the educational programs do better?" to "How can the employers help transition these newly credentialed athletic trainers efficiently and effectively into their organizational values and procedures?" Formative research shows that some employers are attempting to help their employees with the transition, so we must now ask, "How can we, the athletic training community, provide insight to help them do an even better job?"

Second, research from my lab and others has shown that preceptors are crucial to learning, specifically with regard to the development of confidence, clinical decision making, and other professional behaviors, all of which are significant challenges during the transition to practice for many young professionals. Newly credentialed athletic trainers who reported having preceptors encourage them to make decisions and to perform the many duties of an athletic trainer perceived less stressful transitions than did their peers. Thus, discussions in the athletic training community need to shift from "What can the educational programs do better?" to "How can we better develop preceptors to develop the nuanced professional behaviors that we desire?" We need more research and information regarding best practices and progressive educational techniques that promote and highlight advanced clinical education and that provide effective techniques for the many preceptors empowered to help develop our future clinicians.

Third, there seems to be a large focus in the athletic training community on what programs are teaching in their curricula, with very little specific focus on the development of "slightly seasoned" athletic trainers, the thousands with more than 2 years of experience. Let me be clear in that I am not referring

to traditional continuing education requirements associated with the Board of Certification; an individual attending a conference chooses from the educational offerings that happen to be on the program. I'm referring to deliberately focused energies, committees, and programming to develop the various personal skills and clinical expertise athletic trainers need. Everyone seems to be focused on having the newly credentialed athletic trainer graduate with all of the knowledge and skills needed to practice. Some even want all entry-level professionals to be equipped to practice in all types of settings with all types of patients as well. Some would argue they already do at the entry level. So instead of what can the educational programs do better, we should consider a larger professional question, "What knowledge and skills need to be developed in credentialed athletic trainers with 2 years of experience and beyond so that they can transition more quickly to expert status?"

Professional education programs prepare future athletic trainers for entry-level practice, which inherently includes the ability to make tough decisions, problem solve, and work autonomously but also requires some kind of formal mentorship and seasoning. All experts require significant and deliberate practice in order to make their experiences more meaningful and to advance their expertise—it doesn't just happen with time. Skills such as leadership, communication, conflict resolution, and business practices are indeed necessary to prepare athletic trainers for mature or advanced practice, as compared with the essential knowledge and skills required for entry-level practice. Particularly at this point in time, I know there may be more questions than answers for our profession, but we must better demarcate the line between the knowledge and skills required for entry-level practice from those required for advanced practice to better develop practice leaders and clinical experts for our future.

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What Is the Best Method of Developing Clinical Scholars?

Tina Claiborne, PhD, AT, ATC, CSCS

There were many supporting arguments for the degree change outlined in the *Examination of the Professional Degree Level* white paper.[1] Most arguments spoke to creating educational opportunities, aligning athletic trainers better with other health care professions and enhancing the presence of athletic trainers in the larger health care arena. The evolution of our profession is necessary, and in many cases championed. Nevertheless, we must ask, "What is the best method of developing clinical scholars?"

Without considerable evidence or experience specific to graduate athletic training education, the answer to this important question will be revealed only over time and in an atmosphere in which institutional autonomy and creativity is encouraged. Too much prescription regarding curricular design or a lack of vision may stifle unique, high-quality programming.

Perhaps an inductive approach with a deliberate and methodical outcomes analysis is necessary to discover the best method of developing clinical scholars. Studying a variety of programs over the long term will offer the best opportunity for critical appraisal and the creation of best practices in athletic training education.

I have been fortunate to be a part of an institution that values ingenuity. Well before the mandate from the Commission on Accreditation of Athletic Training Education, Adrian College decided to supplant the baccalaureate degree in athletic training with a 5-year professional program culminating with a master's degree. During their 5-year tenure, students earn a Bachelor of Science in Exercise Science and a Master of Science in Athletic Training. The current athletic training knowledge, skills and abilities, advanced coursework, an immersion clinical experience, and a master's thesis may offer more opportunity than a customary professional master's degree. Because content spans 5 years rather than 2 years, this curricular model grants wonderful opportunity for foundational coursework as well as depth of study and clinical practice. While all of our content is not delivered at the graduate level, we do not compromise academic rigor, clinical experience and expertise, or scholarly research. Educators must protect against degree inflation and recognize that simply designating a new course number does not inherently create a true graduate program.

The national movement toward a master's degree in athletic training may create new and unplanned opportunities for institutions. In our case, athletic training was the first graduate degree on campus. This was an important yet challenging step for the entire institution. The fact that athletic training was the flagship program at a small liberal arts institution is significant, and the larger effect must not be underestimated; 5 graduate programs have been added since. We created an important opportunity for our students and the profession, which also placed great responsibility on our program to excel. However, if a 2-year, postbaccalaureate degree was required, the transition would not have been

allowed, nor do I believe the students' outcomes would have been so encouraging. With the economic burden facing small private institutions today, there is a need for fiscal creativity. Mostly, though, we have a responsibility to our students' professional and personal success. As admitted in the strategic alliance white paper,[1] the effect on athletic trainers' salaries by changing the professional degree level is unknown. From both a business and an ethical standpoint, it is important to empower institutions to provide a financially responsible education. If a minimum of 2 years of graduate work is required, this could have serious enrollment implications for institutions and, perhaps, could result in an exodus of students from athletic training.

Any curricular model must lead to the goal of developing clinical scholars in athletic training. What is the disadvantage of promoting a variety of means to this end? In other words, is there a proven advantage to imposed constraints in curricular design? Empiricism emphasizes the role of both experience and evidence. As educators, we hold countless years of experience. However, the profession is lacking evidence regarding the best method of developing clinical scholars; the problem most certainly has more than one solution. While creating and delivering one of the first combined degree programs in the country, my experience leads me to believe there are various approaches to quality education, many of which have likely not yet been discovered.

In the end, educators must advocate for academic rigor, depth rather than excessive breadth of knowledge, and the development of clinical experts and scholars. We are the leaders, the authorities in education and the best advocates for our students. Just as we would apply evidence-based practice clinically, we must use the best available data to construct quality curricula. When it comes to the best method of developing clinical scholars in athletic training, the absence of evidence is immeasurable. With emerging graduate programs across the country, we are faced with an incredible opportunity to unearth innovative and exceptional programming. Only in time, and with deliberate and systematic analysis, will the evidence exist to guide the most effective method of developing clinical scholars in athletic training.

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