

# Institutional Profiles of CAATE Accredited Entry-Level Athletic Training Education Programs in the United States

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**Context:** Educational reform has recently become common thread in athletic training education. The National Athletic Trainers' Association (NATA) Education Task force suggests that Athletic Training Education Programs (ATEPs) align within colleges of health-related professions and offer academic majors.

**Objective:** To provide a current profile of ATEP programs including departmental nomenclature, school/college affiliation, institutional classification, degree attainment, and identify ATEPs offering an athletic training major.

**Design:** Descriptive study

**Setting:** Internet search of ATEP websites

**Subjects:** 357 CAATE accredited ATEPs (341 entry-level undergraduate; 16 entry-level graduate)

**Measurements:** Frequencies and percentages were calculated for all ATEPs based on Carnegie Institutional Classification, school/college affiliation, departmental nomenclature, degree granted and whether ATEPs offered an athletic training major.

**Results:** Twenty-nine percent of Carnegie classified ATEPs were offered at 'Master's Large' institutions. Twenty-four percent of ATEPs were located in Colleges of Education and 25% in Colleges of Health Sciences. Twenty-two percent of ATEPs were located in Departments of Physical Education, followed by 18% in Athletic Training/Sports Medicine, and 16% in Kinesiology. Almost 80% of ATEPs currently offer an athletic training major, with most degrees granted as a Bachelor's of Science.

**Conclusions:** ATEPs are adapting to new accreditation standards and suggested educational reform. Although some ATEPs are aligning with colleges of health-related professions or have evolved into their own departmental entities, the majority remains within departments of physical education or affiliated disciplines. At this point in time, it is unclear if these realignments are a direct result of the NATA's recommendations.

**Key Words:** Athletic Training Education, Accreditation, Carnegie Classification

The athletic training profession has evolved significantly over the past century, with the most notable changes including the means by which athletic trainers are educated, certified, licensed, and prepared for entry-level employment. In the past several decades, educational reform has strongly influenced the development of athletic training education, transforming it from a general physical education degree to a highly specialized professional degree.<sup>1</sup> Today, contemporary athletic training education continues to evolve and adapt to produce competent allied health care professionals.

Tremendous growth and expansion of accredited entry-level athletic training education programs (ATEPs) across the country is

evident. In less than a decade, the number of accredited ATEPs increased from 82 in 1991 to 357 programs in 2007.<sup>2</sup> During this time, the Joint Review Committee on Athletic Training Education (JRC-AT), under the Commission on Accreditation of Allied Health Education Programs (CAAHEP), initiated a comprehensive reform effort to advance athletic training educational preparation<sup>3</sup> to accommodate the ever-changing professional demands. In 2004, the internship route to certification was eliminated. Students desiring eligibility to sit for the Board of Certification (BOC) examination were required to graduate from an accredited ATEP that provides a comprehensive curriculum leading to a bachelor's or master's degree.<sup>4</sup> Subsequently, the rapid emergence of accredited ATEPs in academic institutions was heavily influenced by the elimination of the internship route.

Prior to the elimination of the internship route, the National Athletic Trainers' Association (NATA) Education Task Force published eighteen recommendations for athletic training education reform.<sup>5</sup> Among these recommendations, Provision 12 suggested that since ATEPs were typically housed in departments of physical education, they should realign themselves with other health profession programs in their respective institutions.<sup>6-9</sup> The rationale provided by the Education Task Force suggests that traditional physical education programs are becoming less financially viable, making it difficult for them to provide adequate resources for



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ATEPs to comply with rigorous accreditation standards. Furthermore, contemporary athletic training curriculum is more consistent with other allied health professions.<sup>5</sup> Presumably, Provision 12 was never intended to be a mandate<sup>5</sup> because realignment with other allied health profession programs within the institution may be dependent upon institutional funding and facility availability.<sup>6</sup> In addition, some institutions may not have schools of medicine, nursing, or other allied health professions with which to align. Perrin recently suggested that 70% of ATEPs still remain within departments of kinesiology or affiliated subdisciplines.<sup>6,10</sup> However, he did not include specific data on departmental nomenclature and school or college affiliation for ATEPs in his publication.

The Commission on Accreditation on Athletic Training Education (CAATE) replaced CAAHEP as the accrediting body for ATEPs in 2006,<sup>2,6</sup> and brought with it a new set of academic standards. One of the new requirements stipulated that ATEPs offer an athletic training academic major.<sup>11</sup> This idea was not new; in fact, in the late 1970's, Sayers "Bud" Miller, who was chair of the Professional Education Committee, proposed this very idea.<sup>1</sup> While institutions had always been able to offer a major or major equivalent in athletic training, under CAATE's new standards, a major equivalent was no longer acceptable.<sup>2,10,11</sup> Furthermore, by 2014-2015, ATEPs are being asked to offer a formal degree in athletic training.<sup>10</sup>

The primary purpose of this study was to gather and organize information on the current institutional profiles of the 357 CAATE

accredited entry-level athletic training education programs within the United States that is not readily available through CAATE.<sup>6</sup> The data provide a clear picture of where ATEPs are currently located in their respective institutions by gathering information regarding Carnegie institutional classification, college/school affiliation, departmental nomenclature, and types of degrees granted to athletic training students completing their studies. Additionally, a second purpose of this study was to determine how many institutions are currently offering a major in athletic training. The significance of this study was to reveal the extent to which ATEPs have adapted to both mandatory and suggested educational reform policies in regards to program realignment and offering an athletic training major. Subsequently, analysis of this data allowed for discussion regarding the complex nature of programmatic and institutional changes, either recommended or mandated, from external agencies.

## Methods

### Procedures

The intent of this study was to describe five institutional profile components to provide an overview of accredited ATEPs as of February 2007. The population for this study consisted of 357 CAATE accredited entry-level ATEPs, of which 341 were entry-level undergraduate, and 16 were entry-level graduate. Figure 1 shows the geographical distribution of the ATEPs in the United States as shown on the CAATE website in February 2007.<sup>2</sup>

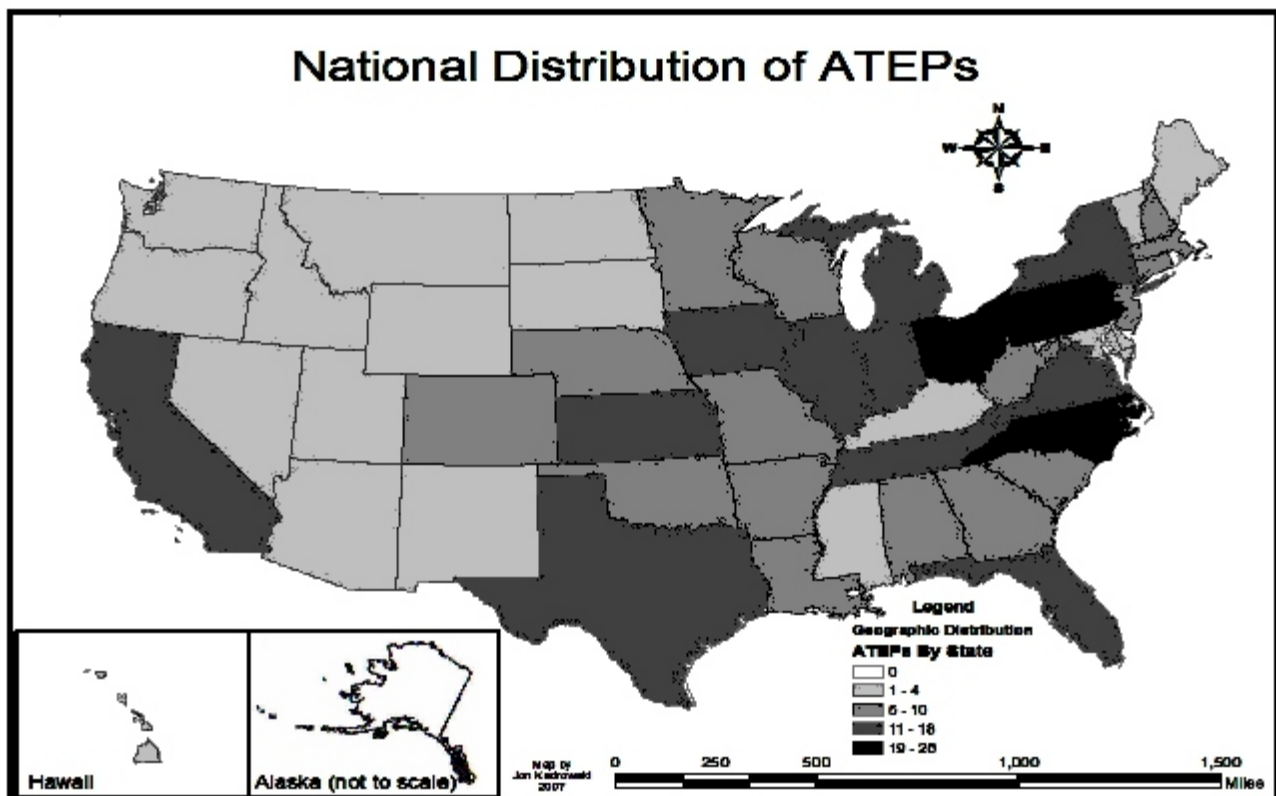


Figure 1. National Distribution of ATEPs

Subsequently, an extensive search of each ATEP's institutional website<sup>12</sup> was performed to collect information on the following components: school/college affiliation, departmental nomenclature, types of degrees granted, and whether the ATEPs offered a major in athletic training. A department was defined as an administrative unit offering programs of specialized discipline, usually housed within a school or college.<sup>13</sup> A school or college was defined as an academic unit that offers more than one department of instruction.<sup>13</sup> In some instances, there was overlap in departmental nomenclature and school/college affiliation. For example, an ATEP may reside within a College of Education and Human Development housing a School of Recreation, Health and Tourism. Upon further investigation, the School of Recreation, Health and Tourism did not contain any departments, only other academic programs. Therefore, the researcher determined that this "school" is representative of a department. This organizational structure was observed in 11 of the 357 institutions profiled.

To determine whether the institution offered a major in athletic training, the major had to be stated explicitly on the program's webpage and academic catalogue. As outlined by CAATE, an ATEP "must be an undergraduate or graduate program that offers a major or graduate equivalent in athletic training."<sup>11(p.11)</sup> This standard is written similarly to the previous CAAHEP standard which stated that an ATEP "shall be an undergraduate academic major or graduate degree program in athletic training as defined by the sponsoring institution."<sup>14(p.47)</sup> In 2007, CAATE specifically identified three criteria that must be met to qualify as a major: the AT program must be consistent with other majors at the institution (not just departmental), identified as a major in all institutional and program publications, and should be listed as a major on the student's transcript.<sup>10</sup> Furthermore, athletic training could not be listed on the webpage as a concentration, specialization, or sub-major.<sup>10,11</sup>

After collecting data on the institutional websites, the researchers used the Carnegie Foundation for the Advancement of Teaching website (<http://www.carnegiefoundation.org>)<sup>15</sup> to identify the ATEP's current institutional classification. Each institution was searched on the Carnegie website to identify the proper classification. The Carnegie classification system is commonly used to compare institutional characteristics (Table 1).<sup>16</sup> The basic classification used in this study is an update of the traditional classification framework developed by Kerr in 1973.<sup>15,16</sup> As a result, institutions were either classified as Baccalaureate Colleges-Diverse, Baccalaureate Colleges- Arts & Sciences, Master's Colleges and Universities- smaller programs, Master's Colleges and Universities- medium programs, Master's Colleges and Universities- larger programs, Doctoral/Research Universities, Research Universities- high research activity, Research Universities- very high research activity, and Medical schools and medical centers.<sup>15</sup> Data collection began February 1, 2007 and concluded March 1, 2007. Therefore, any website modifications after the study period will not be represented here. To verify accuracy of data collected during this time period, the first and second authors reviewed all websites throughout the study period and triangulated their respective findings.

## Results

### *Institutional Classification*

Twenty-nine percent (105/357) of the ATEPs in this study are located within the Master's L category (Figure 2). Five institutional classifications (Baccalaureate Colleges-Diverse, Baccalaureate Colleges-Arts & Sciences, Master's Colleges and Universities-medium programs, Research Universities-high research activity, and Research Universities- very high research activity) housed 10-15% each.

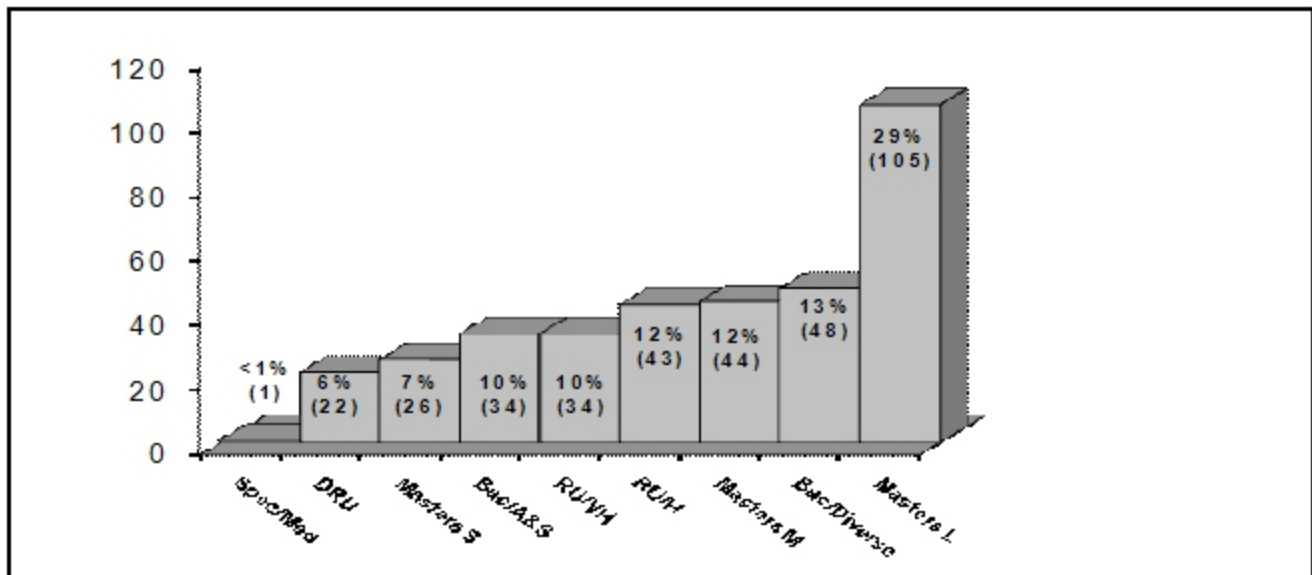


Figure 2. Percentages of ATEPs by Carnegie Institutional Classification

**Table 1. Carnegie Institutional Classification Category Descriptions**

Category	Definition
Associate's Colleges*	Degrees awarded at the associate's level or where bachelor's degrees account for less than 10 percent
Doctorate-Granting Universities** (RU/VH=Research University/Very High Research Activity; RU/H=Research University/High Research Activity; DRU=Doctoral/Research University)	Awards at least 20 doctoral degrees per year; differentiated by level of research activity
Master's Colleges and Universities (Master's L=Master's Larger; Master's M=Master's Medium; Master's S=Master's Small)	Awards at least 50 master's degrees and less than 20 doctoral degrees each year (differentiated on volume of master degree production)
Baccalaureate Colleges (Bac/A&S=Baccalaureate Colleges/Arts & Sciences; Bac/Diverse=Baccalaureate Colleges/Diverse; Bac/Assoc=Baccalaureate Colleges/Associate)	Awards baccalaureate degrees representing at least 10 percent of all undergraduate degrees and awards fewer than 50 master's degrees or 20 doctoral degrees per year
Special Focus Institutions (Special/Medical)	Special-focus designation, concentration of degrees in a single field or set of related fields at both the undergraduate and graduate levels. Institutions have a special focus with concentrations of at least 75 percent of undergraduate and graduate degrees

\*Note: None of the ATEPs in this study fall into this category

\*\*Note: Excludes doctoral level degrees that qualify recipients for entry into professional practice, such as the JD, MD, Pharm-D, DPT, etc.

#### *School/College Affiliation*

Approximately one-fourth of the ATEPs are aligned with schools or colleges containing the nomenclature education (e.g., School or College of Education) and are affiliated with schools or colleges containing the nomenclature health sciences (e.g., College of Health Sciences) (Table 2). Interestingly, some schools or colleges have merged and contain the nomenclature education and health sciences. (e.g., College of Education and Health Sciences). Some institutions did not appear to organize themselves into separate schools or colleges. We were unable to identify distinguishable schools or colleges within these institutions' websites. Subsequently, 52/357 ATEPs (15%) were not aligned with any distinguishable school or college and represented individual programs within their respective institutions.

**Table 2. School or College Affiliation of ATEPs**

School or College Affiliation	Frequency (%)
School or college of education (education and health sciences, education and professional studies)	122 (34%)
School or college of health sciences (health and human services, health professions, allied health)	86 (24%)
No distinguishable school or college	52 (15%)
School or college of arts and sciences (science and letters, arts and performance)	44 (13%)
School or college of natural sciences (natural science and mathematics, science and engineering, human ecology)	21 (6%)
School or college of professional studies	16 (4%)
School or college of nursing and medical professions	12 (3%)
School or college of behavioral sciences or social sciences	4 (1%)
<b>Total</b>	<b>357</b>

#### *Departmental Nomenclature*

Table 3 provides a list of departmental nomenclature identified in this study. Out of 357 accredited ATEPs, 78 programs (22%) included physical education in the department title (e.g., Department of Physical Education). Seventy programs (20%) included kinesiology in the department title (e.g., Department of Kinesiology), whereas 64 (18%) ATEPs included athletic training or sports medicine (e.g., Department of Athletic Training). Some departments are comprised of combinations of physical education, kinesiology, human performance, or exercise science (e.g., Department of Health, Physical Education, and Sport Sciences). In this situation, we placed ATEPs within the first descriptor's category as described by Burns et al.12 (e.g., Department of Kinesiology and Physical Education was counted in Department of Kinesiology).

#### *Athletic Training Major and Degrees Granted*

Most CAATE accredited ATEPs (79%, 282/357) currently offer a major in athletic training, whereas 21% (75/357) do not. There were 16/357 entry-level ATEPs offering a Master's degree (MS or MEd). At the undergraduate level, 83% (294/357) of ATEPs offer a Bachelor of Science degree (BS) and 9% (33/357) grant a Bachelor of Arts degree (BA). Some institutions offer both a BA and BS degree in athletic training (9/357). Four institutions offer a Bachelor of Science in Education and one institution offers a Bachelor of Applied Science degree. Table 4 illustrates the breakdown of degrees granted across institutional classification.

**Table 3. Departmental Nomenclature of ATEPs**

Departmental Nomenclature	Frequency (%)
Physical education (health, physical education, and recreation)	78 (22%)
Exercise science	70 (20%)
Athletic training (sports medicine)	64 (18%)
Kinesiology	56 (16%)
Health and human performance	30 (8%)
Sports studies (leisure studies)	29 (8%)
No distinguishable department	13 (4%)
Other (recreation, tourism, biokinetics)	7 (2%)
Education	5 (1%)
Natural sciences (human physiology)	5 (1%)
<b>Total</b>	<b>357</b>

**Table 4. CAATE ATEP Degrees Granted by Institutional Classification**

	BS	BA	BA/BS	BSEd	BASc	MS or MEd
Bac/A&S	24	9	1	0	0	0
Bac/ Diverse	38	6	4	0	0	0
RU/H	39	0	0	1	0	3
RU/VH	29	1	0	2	0	2
DRU	18	2	0	1	0	1
Master's S	18	6	2	0	0	0
Master's M	39	3	0	0	2	1
Master's L	89	6	2	0	0	8
Spec/Med	0	0	0	0	0	1
<b>Total</b>	<b>294 (83%)</b>	<b>33 (9%)</b>	<b>9 (2%)</b>	<b>4 (1%)</b>	<b>1 (1%)</b>	<b>16 (4%)</b>

## Discussion

The purposes of this study were to organize information on the current institutional profiles of all CAATE accredited entry-level ATEPs and to determine how many institutions are currently offering a major in athletic training. The analysis of this data revealed the extent to which ATEPs have adapted to educational reform policies. Discussion follows regarding the complexities of programmatic and institutional change.

### Accreditation Matters—Optional or Mandatory Change

The NATA was originally responsible for oversight and approval of ATEPs. Subsequently, the Professional Education Committee evolved and granted program approval to undergraduate athletic training curriculums.<sup>17</sup> The NATA board of directors formed task forces to address educational issues, as well as the development of standards and guidelines for educational programs.<sup>17</sup> As a result, recommendations made by the task force<sup>5</sup> were not mandatory changes, but were strongly encouraged to be considered by ATEPs.<sup>3</sup> As athletic training vied for credibility with other allied health care education programs, the need for standardized education emerged. Program standards and guidelines were developed, and it was not until the 1990s that an external agency was selected as an accrediting body<sup>17,18</sup> to ensure quality and accountability in educational delivery.<sup>19</sup> This self-regulatory process “offers institutions methods and support to continue and reinforce academic integrity, institutional diversity, and academic freedom.”<sup>20(p.35)</sup> While concerns exist with accreditation, such as compromising institutional autonomy, it is essential that accrediting bodies define the expected outcomes of ATEPs.<sup>3,17</sup> Holding programs to rigorous standards is necessary not only for public protection, but also for professional integrity and advancement.

### Recommendation to Realign

While the NATA education task force provided strong arguments for ATEPs to align with other allied health programs, several factors must be taken into consideration before any changes are made. Variables in this decision making process include fit within the institutional organizational structure, resources, curricular content, and tenure and promotion guidelines. Although the rationale to realign is reasonable, Perrin<sup>6</sup> maintains that ATEPs can continue to thrive in departments of kinesiology or an affiliated discipline. The decision to remain in these departments or schools is not without challenges and should be made on an individual institutional basis. The decision to move an ATEP within an institution may significantly affect a variety of stakeholders. For example, if a college of education houses an ATEP and is unable to adequately support the program, then ATEP, department, college, and institution administrators should reevaluate where the ATEP can be appropriately housed and funded. Administrators should also consider the complexity of removing the ATEP from the college of education, where the impacts and implications of such a move will affect several institutional stakeholders.

Our results indicate that the majority of ATEPs are not affiliated with schools or colleges of allied health. In fact, most are associated with schools of education, arts and sciences, professional studies, or natural sciences. Hertel et. al<sup>8</sup> suggested that a majority of athletic training faculty were likely to be housed within colleges of education (28%) or health, physical education, and recreation (28%). The same study reported that only 24% of ATEPs are located in schools of health sciences and 3% are located in schools of nursing or medical professions.

Similar results are evident with departmental nomenclature. Over half of all ATEPs are housed within departments of physical education, kinesiology, or exercise science. Hertel et. al<sup>8</sup> reported that 57% of their participants were located within departments of kinesiology and exercise science and only 35% within departments of allied health. Perrin recently reported that 70% of ATEPs were

still affiliated with departments of kinesiology or closely related disciplines.<sup>6</sup>

Many programs have yet to make the transition to realign themselves with colleges of other allied health professions. Previous research suggests that these programs are likely to struggle to find adequate resources, classroom and laboratory space.<sup>5,6</sup> However, the emergence of stand-alone athletic training education programs is interesting. It is unclear at this time how these departments evolved within their respective institution; nonetheless, this suggests that some programs are able to find adequate funding and resources to support their respective programs regardless of institutional classification.<sup>15</sup>

Regardless of where ATEPs are housed, the increasing rigor of accreditation standards requires a significant amount of institutional support and resources. The NATA Education Task Force<sup>5</sup> argues that colleges of allied health or health sciences have an abundance of resources available; therefore, it seems logical that ATEPs would attempt to move or realign with. Additionally, when looking at other allied health education programs (i.e. physical therapy, nursing) tremendous efforts have been made to position themselves within institutions with other health professional programs due to similarities in curricular content.<sup>5</sup> Many of these programs, such as physical therapy also began in schools of education.<sup>21</sup>

Another factor in the realignment of ATEPs with other allied health programs is promotion and tenure guidelines. It is likely that most non-health care faculty members are evaluated based on the traditional academic model of teaching, service, and research. However, if ATEPs realign with allied health programs, then it is likely that faculty members will be evaluated based on a medical model, which includes teaching, service, clinical research, and/or clinical expertise.<sup>8,22</sup> Another factor to consider in the promotion and tenure equation is the type of institution in which ATEP faculty are employed. Faculty employed at high research activity institutions may have greater research demands placed upon them. Currently, 28% of the current accredited CAATE ATEPs are housed within research designated institutions (Doctoral/Research Universities, Research Universities-high research activity, and Research Universities-very high research activity), but little is known regarding the expectations of ATEP faculty. Regardless of the evaluation model used, administrative responsibilities need to be considered. Program directors of ATEPs not housed with other allied health programs may struggle to achieve promotion and tenure if the administrative responsibilities are not clearly outlined.<sup>9</sup>

#### *Mandatory Change to a Major*

Departments housing ATEPs may face several challenges including finding qualified faculty members to lead ATEPs and modifying course requirements.<sup>6</sup> Most recently, the transition from CAAHEP to CAATE standards makes it mandatory for programs to offer an academic major in athletic training.<sup>11</sup> Requiring the major is intended to not only enhance recognition of the athletic training profession, but also to create comprehensive, cohesive curricular programs delivering specific subject matter requirements based on role delineation studies.<sup>1,6</sup> This has posed a challenge to some institutions that offer a major equivalent, which is no longer acceptable by CAATE standards. According to the 2007 CAATE update, ATEPs may no longer list athletic training as a "sub-major or specialization under any other major."<sup>10(p.4)</sup> Using this guideline,

our results indicate that one-fifth of approved ATEPs do not currently offer a major in athletic training. However, it should be noted that the researchers did not attempt to determine whether these institutions were in the process of remedying this noncompliance. Additionally, by 2014-2015, ATEPs are being asked to offer a degree in athletic training.<sup>6,10</sup> Although we did not attempt to collect data from the institutional websites to determine if ATEPs are making adequate progress toward this new standard, this should be an area of future research. If these programs wish to continue offering ATEPs, then they must adapt to the increased rigor of accreditation standards ultimately designed to advance the profession.

#### *Use of Carnegie Classification*

A unique feature of this study is the use of the Carnegie classification in profiling ATEPs. Traditionally, ATEPs were closely associated with athletic departments and therefore it made sense that ATEPs identified themselves based on the National Collegiate Athletic Association (NCAA) ranking systems (Division I, II, or III) or NAIA. However, this ranking system is based on level of athletic competition and not educational affiliations.<sup>23</sup> As we continue to investigate the complexities of ATEPs within the overall institutional environment, using the Carnegie system of classification seems more appropriate. Using this system allows researchers and educators to better understand the types of degrees granted, level of research activity, and focus of the institution itself.

#### *Limitations*

One of the primary limitations in this study is that data were collected in a discrete window of time (February 1, 2007 to March 1, 2007). Any changes to institutional websites or changes in accreditation status are not reflected in this study. The accuracy of data collected in this study is reliant upon the precision of reporting by the institutions themselves. Additionally, the researchers did not attempt to contact those institutions that did not offer a major in athletic training to determine if the institution was in process of changing the status.

#### *Future Research*

Several topics warrant further investigation. First, it would be of interest to determine how many of the current ATEPs that are in their own departments or transferred into another institutional unit, made their decision based on recommendations by the NATA Education Task Force. Additionally, further study is warranted regarding the ATEPs who are currently in standalone departments to better understand the organizational structure, resources and staffing. Similarly, more data is needed from programs that have chosen not to realign with schools of allied health and what factors contributed to that decision. Future research should also explore how current AT faculty are evaluated, whether it be by the academic or medical model, and the influence of program location on promotion and tenure guidelines. At this point in time there is little research exploring what progress programs have made in moving toward a degree in athletic training.

## **Conclusion**

Academic change and reform is necessary, but is often greeted

with resistance. Although it appears that ATEPs are conforming to new standards, it is evident that change is slow. Contemporary ATEPs are typically found at Master's L institutions, located within Colleges of Education and Departments of Physical Education. However, this study illustrates that some ATEPs have aligned with other allied health education programs, and that a majority of ATEPs are compliant with the required standard of offering an academic major. Additionally, this study marks the appearance of ATEPs in stand alone departments.

In order for change to occur, athletic training educators must collaborate closely with administrators to ensure that the new accreditation standards are upheld. This often requires a significant amount of departmental and school flexibility, as well as some creative thinking. Overall, it is imperative that athletic training educators seek further understanding and collaborate with colleagues to make the changes necessary to advance the athletic training profession.

## References

- Delforge GD, Behnke RS. The history and evolution of athletic training education in the United States. *J Athl Train.* 1999; 34: 53-61.
- Commission on Accreditation of Athletic Training Education. Accredited Athletic Training Education Programs. Available at: <http://www.caate.net> Accessed February 1, 2007.
- Craig, DI. Educational reform in athletic training: a policy analysis. *J Athl Train.* 2003; 38: 351-357.
- Board of Certification. *The BOC exam: The first 40 years. A tribute to our volunteers.* Omaha, NE: Jacob North Printing Company; 2007.
- National Athletic Trainers' Association Education Task Force. Recommendations to reform athletic training education. *NATA News.* February 1997: 16-24.
- Perrin, DH. Athletic training: from physical education to allied health. *Quest.* 2007; 59: 111-123.
- Ebel RG. Far beyond the shoe box: Fifty years of the National Athletic Trainers' Association. Chicago, IL: Forbes; 1999.
- Hertel J, West TF, Buckley WE, Denegar CR. Educational history, employment characteristics, and desired competencies of doctoral-educated athletic trainers. *J Athl Train.* 2001; 36: 49-57.
- Perkins, SA, Judd, MR. Dilemmas of program directors: then and now. *J Athl Train.* 2001; 36: 396-400.
- Commission on Accreditation of Athletic Training Education. Newsletters and updates. 2007; 6: 1-6. Available at: <http://www.caate.net> Accessed July 7, 2007.
- Commission on Accreditation of Athletic Training Education. Accreditation standards. Available at: <http://www.caate.net> Accessed February 1, 2007.
- Burns, CE, Whiddon, TR, Richter, ST. A profile of western (USA) higher education physical education degree programs. *The Physical Educator.* 2006; 63: 196-209.
- University of California, Berkeley. Academic program/unit definitions and nomenclature. Available at: <http://opa.berkeley.edu/academicprograms/FINALdefinitionsForWeb.htm> Accessed December 9, 2007.
- The accreditation process for educational programs in athletic training education. Joint Review Committee on Educational Programs in Athletic Training. (no longer available online).
- Carnegie Foundation for the Advancement of Teaching. Category Definitions. Available at: <http://www.carnegiefoundation.org/Classification/sub.asp?key=791>. Accessed February 1, 2007.
- Brint, S. Data on higher education in the United States: Are the existing resources adequate? *American Behavioral Scientist.* 2002; 45: 1493-1522.
- Peer, KS, Rakich, JS. Accreditation and continuous quality improvement in athletic training education. *J Athl Train.* 2000; 35: 188-193.
- Mathies, AL, Denegar, CR, Arnhold, RW. Changes in athletic training education as a result of changing from NATA-PEC to CAAHEP. *J Athl Train.* 1995; 30: 129-132.
- Alstete, JW. *Accreditation matters: Achieving academic recognition and renewal.* San Francisco, CA: Jossey-Bass; 2004.
- Benjamin, E. From accreditation to regulation: The decline of academic autonomy in higher education. *Academe.* 1994; July-August: 34-36.
- Rothstein, JM. Physical therapy research: academic inadequacies. *Phys Ther.* 1992; 72: 92-94.
- Brocato, JJ, Mavis, B. The research productivity of faculty in family medicine departments at US Medical schools: A national study. *Academic Medicine.* 2005; 80: 244-252.
- National Collegiate Athletics Association. History. Available at: <http://www.ncaa.org> Accessed December 9, 2007.