Identifying The Current Program Development Trends For Accredited Undergraduate Athletic Training Educational Programs

by

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Dissertation submitted to the Faculty of the

Virginia Polytechnic Institute and State University

in

Partial fulfillment of the requirements for the degree of

DOCTORATE OF PHILOSOPHY

in

Curriculum and Instruction

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December 12, 2001
Blacksburg, Virginia

Key Words: Program Development, Athletic Training, Accreditation

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(ABSTRACT)

Athletic training is an allied healthcare profession which at the present time offers two routes for certification. Students can sit for the National Athletic Trainers' Association Board of Certification (NATABOC) through successfully completing either an accredited curriculum program or an internship program and pass the NATABOC examination in order to practice as a certified athletic trainer. In January 2004, the internship option towards certification will be eliminated. If institutions want to continue to qualify students to take the NATABOC examination, they must develop curriculum programs that meet the Standards and Guidelines set by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) before this date. To develop an athletic training education program, Program Directors must implement the new standards into their programs in accordance with CAAHEP and institutional policies. The purpose of this study was to survey current Athletic Training Education Program Directors and identify how they developed their programs, with their available resources, to meet CAAHEP accreditation standards.

The population selected to identify and describe the current trends of program development included Program Directors from all currently accredited undergraduate athletic training programs (N = 114). Of the 114 participants surveyed, 53 (46%)

responded. Using Internet technology, a cross-sectional survey instrument was constructed to electronically survey current Program Directors of accredited undergraduate athletic training programs. The data gathered were primarily informational, and the analysis of this data was descriptive in nature.

Data analysis identified, trends regarding the demographics of current Program Directors, curricular patterns, and institutional support roles. The new CAAHEP standards appear to necessitate greater institutional support in terms of faculty and resources, scientific and technological upgrades in curriculum, and clearly defined academic placement for Program Directors.

DEDICATION

This dissertation is dedicated to my loving wife Danette, for all of her patience, support, and words of encouragement. I cannot begin to express how much her sacrifices have meant to me over these years. I love you.

ACKNOWLEDGMENTS

Completing a doctoral dissertation requires not only academic rigor but also the support of many individuals. Even though this dissertation bears my name, it would be selfish to take all of the credit. Therefore, I would like to thank those individuals who were there to guide me through this process, and gave me words of encouragement that greatly motivated and sustained me during many stressful moments.

I would like to thank the Athletic Training Program Directors who gave of their time to complete the questionnaire used in this study. Without their willingness to respond to the questionnaire, this study would have been impossible. I would like to thank Dr. Ethel Houghton for getting me through the beginning of my doctoral work by providing motivation and direction as I began to build the foundation of my study. I would like to thank Dr. Mike Perko for his patience, encouragement, and long hours without which I could have never accomplished this task. There are no adequate words to convey my appreciation for all his support. Thanks to Jason Chafin for providing me with editing and reediting whenever I needed it. I would like to thank Mike Goforth, Head Athletic Trainer at Virginia Tech, for providing my committee with helpful insight into the profession of athletic training. Thanks and grateful appreciation is also extended to the members of my committee: Dr. Susan Magliaro, Dr. Larry Weber, Dr. Margaret Glasgow, and Dr. Jim Krouscas. Dr. George Graham, my committee chair, deserves special recognition for guiding me through this process. His advice and commitment to help me successfully complete the remaining requirements for this degree were invaluable. I would like to thank all of my colleagues at the University of North Carolina-Wilmington department of HPER who, I feel fortunate to write, are too numerous to

name. You listened to me complain, you celebrated all of my small victories, you gave me the will to go on, and you made me laugh when I needed to. I am sure that I have not mentioned everyone who played a part in helping me during the past four years--I thank you one and all. You were there when I needed you.

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Chapter I

INTRODUCTION

Professional athletic training education programs can trace their roots back to the first athletic training curriculum model adopted in 1959 by the National Athletic Trainers' Association (NATA). This curriculum model was developed in an effort to raise the standards of athletic training (O'Shea, 1980, p. 35). Prior to this proposed model, "athletic injuries were cared for by the injured athlete himself, by teammates, by spectators or by one's opponent" (O'Shea, 1980, p. 5). Even though the first recorded athletic trainer in an educational setting was at Harvard University in 1881, no comprehensive effort had been made to offer a standard model of education until 1959 (O'Shea, 1980, p. 5).

The circumstances that lead to the 1959 athletic training education model began in 1955. The NATA Board of Directors, recognizing the lack of comprehensive training among its members, designated a committee called the Special Committee on Gaining Recognition, later to be known as the Professional Advancement Committee. The committee was charged with investigating athletic training in all its phases and developing an educational curriculum that would be acceptable to colleges and universities (O'Shea, 1980). In order to ascertain what professional preparation was needed, the NATA developed and sent out a questionnaire to at least one college or university trainer in every state (Dickinson, 1957). A total of 83 questionnaires were sent out, and there were 61 replies from 39 states. Based on the results from the questionnaire, along with discussions in committee meetings and discussions with fellow athletic trainers at the NATA national meetings, the Professional Advancement

Committee provided their recommendations to the NATA Board of Directors. In 1959, during the tenth annual meeting of the NATA held in Columbus, Ohio, the Board of Directors adopted and approved the Athletic Training Education Model, which was presented to them by the Professional Advancement Committee (O'Shea, 1980, p. 35).

Even though the first educational curriculum model was accepted by the NATA in 1959, it was not until 1969 that the first action was taken to implement the Professional Advancement Committee recommendation's (Kauth, 1984; O'Shea, 1974; Schwank & Miller, 1971). Up to this time "there had been no published research data or studies concerning the acceptance of NATA educational programs" (O'Shea, 1980, p. 62).

On December 7, 1968, William E. Newell, Head Athletic Trainer at Purdue University and chairman of the NATA Professional Advancement Committee, appointed a subcommittee on curricular developments to determine the availability of academic opportunities in the area of athletic training (Miller, 1970, p. 10). The objectives of this subcommittee's investigation were to:

1. Determine the specific colleges and universities throughout the nation offering curriculums in athletic training.
2. Ascertain whether those curriculums being offered in the area of athletic training fulfilled the basic minimum requirements (including specific course requirements) recommended by the NATA approved program of education.
3. Develop a procedure for those institutions offering athletic training curriculums to submit these curriculums for NATA approval.
4. Recommend to the Board of Directors for their approval athletic training curriculums submitted by colleges and universities throughout the nation that

meet the requirements of the NATA approved program of education (Miller, 1970, p. 10).

From 1959 to 1969, there were only a handful of colleges and universities utilizing the new athletic training education model. One reason for this shortcoming was that department heads of physical education where not aware of this new model. An informational brochure was sent out by the Professional Advancement Committee, to institutions and department heads, which explained the role of the athletic trainer and guidelines for the development of curriculums that would prepare athletic trainers for the future.

The 1970s represented the period of greatest proliferation of athletic training education programs around the country. The two largest tasks before the National Athletic Trainers' Association Professional Education Committee (NATA-PEC), formally known as the Professional Advancement Committee, were to formalize a list of behavioral objectives that would identify the desired learning outcomes for the student athletic trainers, and investigate the possibility of having an outside organization provide accreditation for the NATA athletic training programs (Delforge & Behnke, 1999).

In June 1980 the NATA Board of Directors approved a resolution calling for "all NATA-approved undergraduate athletic training education programs to offer a major field of study in athletic training by July 1, 1986" (Delforge, 1982). The NATA employed the Professional Examination Service of New York to conduct a nationwide role delineation study. This study was designed to identify athletic trainers' job responsibilities and corresponding knowledge and skill requirements (Grace & Ledderman, 1982). When completed, the role delineation study furnished the NATA-

PEC with a comprehensive list of 175 competencies in which an entry-level athletic trainer must be competent (Cramer, 1990; Delforge & Behnke, 1999).

With the competencies in order, efforts to obtain recognition had begun. During the late 1980s the NATA Board of Directors sought accreditation of entry-level programs by the American Medical Association (AMA) Committee on Allied Health Education and Accreditation (CAHEA) (Delforge & Behnke, 1999; NATA, 1990a). The Committee on Allied Health Education and Accreditation was a specialized accrediting agency, which accredits allied health educational programs in cooperation with Program Review Committees. It was sponsored by the AMA, which collaborates with national allied health professional organizations and medical specialty societies having interests in allied health education. The decision to use the AMA accreditation stemmed from a long-standing relationship beginning in 1968. “The AMA’s House of Delegates formally recognized the Standards of the NATA for Professional Competence and Certification, and encouraged its members to support the activities of the NATA toward implementation of the standards” (Newell, 1984, p. 257). In June 1990, the AMA formally recognized athletic training as an allied health profession (NATA, 1990a). “As per AMA policy, formal recognition as an allied health profession was a necessary prerequisite for educational program accreditation by CAHEA” (Delforge & Behnke, 1999, p. 58). Thus, AMA recognition was sought for the primary purpose of programmatic accreditation through the CAHEA process (Behnke, 1991; NATA, 1990a).

In October 1992, the AMA proposed the establishment of a new, freestanding agency for accreditation of education programs in the allied health profession, which would include Athletic Training (NATA, 1990a). As proposed the current accrediting

board, CAHEA, was disbanded, and in July 1994 the AMA became a cosponsor, rather than the primary sponsor, of the new independent agency entitled Commission on Accreditation of Allied Health Education Programs (CAAHEP) (Mathies, Denegar, & Arnhold, 1995).

At the present time, there have been no known studies done that have looked at trying to identify the current program development trends for CAAHEP accredited undergraduate athletic training educational programs throughout the 114 already accredited programs. Rather than use a paper survey that would be mailed to participant, it seemed more efficient, for both the participants and the researcher, to rely on recent technology and use the Internet to conduct the survey for this study. It is the intention of this research project to identify the current program development trends for accredited undergraduate athletic training educational programs and fill a void in athletic training literature.

Statement of Purpose

The purpose of this study is to survey current Athletic Training Program Directors (throughout this document known as Program Directors) to identify how they developed their programs to meet CAAHEP accreditation Standards and Guidelines.

Research Questions

The following research questions directed this study:

1. What are the demographic characteristics of the Athletic Training Education Program Directors?
2. What is the workload of the Athletic Training Education Program Directors?

3. What challenges and rewards do Athletic Training Education Program Directors experience while trying to meet CAAHEP Standards and Guidelines?
4. How is the curriculum designed to meet CAAHEP Standards?

Significance of the Study

Professionals in the field of athletic training have expended a considerable amount of effort in examining the CAAHEP accreditation process, National Athletic Trainers' Association Board of Certification examination, working conditions of athletic trainers employed in CAAHEP accredited educational programs and learning styles of athletic training students. There have been only three studies conducted that have investigated the NATA Competencies. One of the first studies to do this was conducted by Robert Barton (1975). His study investigated competency-based objectives for introductory courses in athletic training. The second study, conducted by Donald Zylks (1988), investigated the importance of educational competencies in athletic training as perceived by selected certified athletic trainers. The third study, conducted by Cramer (1990), investigated a preferred sequence of competencies for athletic training education programs. These studies are thoroughly reviewed in chapter two.

During the years between 1985 and 1999, the literature from the NATA's *Journal of Athletic Training* has examined the role of the Program Directors, and the education of student athletic trainers in a variety of ways. Perrin and Lephart (1988) evaluated the role of the NATA curriculum director as clinician and educator. The purpose of their study was to determine the academic credential, faculty rank, and clinical involvement of the athletic trainers directing NATA approved curriculums. They surveyed 62 undergraduate and 10 graduate athletic training education programs that were

approved by the NATA. Ninety-three percent of the curriculum directors responded. Over 80% of the directors were clinically active. Twenty percent (1 graduate, 13 undergraduate) of the directors were tenured, while 39% (4 graduate, 23 undergraduate) held tenure-track appointments. Starkey and Henderson (1995) evaluated performances on the National Athletic Trainers' Association Board Certification (NATABOC) examination based on routes of certification and concluded that students from CAAHEP accredited Athletic Training Programs "had significantly greater scores than did internship candidates" (p. 59). Harrelson, Gallasp, Knight, and Leaver-Dunn (1997) evaluated the predictors of success on the NATABOC examination. They concluded, that the "academic variables which included overall academic GPA, athletic training GPA, academic minor GPA, ACT composite score, and number of semesters of university enrollment are the strongest predictors of first-time success" on the NATABOC examination (p. 323).

One of the most significant long-term studies conducted by the NATA, which began in June of 1994, looked at education reform in the athletic training profession. The NATA Board of Directors created a task force (later entitled The Education Task Force) to address educational preparation and continuing education. For two-and-a-half years the Education Task Force brainstormed, talked to NATA members, studied education requirements within the profession, conducted telephone interviews, and held public forums at the national, district, and state Athletic Trainers' Association meetings. From the information gathered, the Education Task Force came up with eighteen recommendations, which were presented, to the NATA Board of Directors during its December 1996 meeting; subsequently, these recommendations were accepted

(McMullan, 1996, 1997). The most significant of the eighteen recommendations is the combination of the internship and the curriculum routes of education into one new route. This recommendation will not take effect until 2004: after that time, in order to sit for the NATABOC exam, candidates must have completed all requirements from a CAAHEP accredited athletic training program (McMullan, 1997, p. 4).

Limitations of the Study

The limitations of this proposed research study are:

1. The electronic mail (e-mail) list used to contact the Program Director may have missing or outdated information.
2. The computer servers may be inoperative and not able to transmit the e-mail message to the respondents.
3. Results can only be generalized to these institutions who responded to the survey.

Delimitations of the Study

This proposed research study is delimited to those participants who are Program Directors in the 114 CAAHEP accredited undergraduate athletic training programs.

Basic Assumptions

It is assumed that data collection will honestly reflect Program Director demographic descriptions and opinions on how they develop their programs according to the CAAHEP Standards and Guidelines.

Definition of Terms

1. Accreditation – This is a process of external peer review in which a private, nongovernmental agency or association grants public recognition to an institution or specialized program of study that meets certain established qualifications and educational standards, as determined through initial and subsequent periodic evaluations (CAHEA, 1989, p. 1).
2. Committee on Allied Health Education and Accreditation (CAHEA) – CAHEA is a specialized accrediting agency, which accredits allied health educational programs in cooperation with Program Review Committees (Behnke, 1991, p. 4).
3. Commission on Accreditation of Allied Health Education Programs (CAAHEP), – Formerly known as the Committee on Allied Health Education and Accreditation (CAHEA) (Behnke, 1991).
4. The National Athletic Trainers' Association (NATA) – This is a not-for-profit organization that is committed to advancing, encouraging, and improving the athletic training profession (NATA, 2000b).
5. Athletic Trainer Certified (ATC) – This is a highly educated and skilled professional specializing in the prevention, treatment, and rehabilitation of injuries. In cooperation with physicians and other allied health personnel, the ATC functions as an integral member of athletic healthcare teams in secondary schools, colleges and universities, sports medicine clinics, professional sports programs, industrial settings, and other healthcare environments (NATA, 2000c).
6. Allied Health – A large cluster of health related personnel who fulfill necessary functions in the health care system, including assisting, facilitating, and

complementing the work of physicians and other health care specialists (CAHEA, 1989, p. 1).

7. National Athletic Trainers' Association Board of Certification (NATABOC) – The NATA Board of Certification is to certify athletic trainers and to identify for the public quality healthcare professionals through a system of certification, adjudication standards of practice, and continuing competency programs (NATA, 2000c).
8. Joint Review Committee-Athletic Trainer (JRC-AT) – The Commission on Accreditation of Allied Health Education Programs grants accreditation to programs for the Athletic Trainer upon the recommendation of the Joint Review Committee on Educational Programs in Athletic Training (NATA, 2000a).

Summary

This chapter began by looking at the formative years of the National Athletic Trainers' Association and how it has developed over the years. As of January 1, 2000, there were 114 CAAHEP accredited undergraduate athletic training programs. By January 1, 2004, all undergraduate Athletic Training Programs throughout the United States must be CAAHEP accredited. Any student wishing to sit for the NATABOC examination after the year 2004 must have completed the requirements set forth by a CAAHEP accredited athletic training program. The significance of this study is that, at the present time, no other known studies have been conducted that have attempted to identify current program development trends for accredited undergraduate athletic training educational programs. As the 2004 deadline for accreditation approaches and more institutions move towards accreditation, there will be new Program Directors seeking information on what current athletic training Program Directors are doing in their programs. The literature review that is the underpinning for this study is discussed in the following chapter.

Chapter II

REVIEW OF LITERATURE

In this chapter literature relating to accredited undergraduate athletic training education and this particular research methodology are reviewed. The discussion is divided into five sections: (1) history of athletic training education, (2) reorganization and development years, (3) changes and recognition in allied health community, (4) development of competency-based education, and (5) electronic survey research.

History of Athletic Training Education

Until the 1940s athletic trainers lacked professionalism and education and, more importantly, lacked an association that could promote such standards. In the late 1930s there became a strong need to develop a national organization for the athletic trainer. The earliest known attempt at forming a national organization was in 1938 at the Drake Relays in Des Moines, Iowa. This early association, the National Athletic Trainers' Association (NATA), only lasted until 1944 (Hunt, 1999; O'Shea, 1974). Some contributing factors that led to the demise of this organization were the outbreak of World War II, lack of communication amongst the members, and insufficient support from school administrators, coaches, and the medical community (Hunt, 1999). By the late 1940s athletic trainers began to form their own organizations and conferences. One of the earliest conferences was the Southern Conference in the spring of 1947 (O'Shea, 1974). With these conferences developing throughout the country, it became apparent to athletic trainers that they needed to try again to form a national organization.

The early days of collegiate athletics had very few people who knew a great deal about athletic training (Spiker, 1973). Colleges of that time did not offer a curriculum that

would prepare individuals for the field of athletic training. Those young people aspiring to learn about the field could do so only by working with older, more experienced trainers. Athletic trainers were “bucket-and-sponge” types in the early beginnings. The early athletic trainer was an “eccentric character, primarily a ‘rubber’ who used liniment, wisecracks, and rough inspiration for the treatment of almost everything” (Legwold, 1984, p. 251). Those trainers assuming the role of teacher had acquired their knowledge through personal experiences. Thus, there was a student-teacher ratio of one-to-one. The result was that few young people became prepared to work professionally as qualified athletic trainers. These few did not nearly meet the need at that time for athletic trainers, let alone the momentous future demand (Spiker, 1973). It was not until after World War II that the American Medical Association (AMA) recognized athletics as a separate field and established a section on Sports Medicine. At a keynote address reflections on athletic training William E. “Pinky” Newell said, “With the formation of the AMA’s Committee on the Medical Aspects of Sports, Sports Medicine was taken to the grass roots in the 1950’s” (Newell, 1984, p. 256).

On June 24, 1950, a group of men met in Kansas City to form an association for athletic trainers composed of smaller groups that had formed earlier throughout the country. It was not an easy task bringing together men known, in many cases, only by reputation (Newell, 1984; Schwank & Miller, 1971; Spiker, 1973). Also, there were varied standards of education and techniques. It is to the credit of these men that their primary concern would be not only to raise the standards of the association, but of the entire profession. The proclaimed purpose of the National Athletic Trainers’ Association (NATA) was to build and strengthen the profession of athletic training through the

exchange of ideas, knowledge, and methods of athletic training (Newell, 1984; O'Shea, 1974). From the inauguration of this mission statement, athletic training education has continually benefited from the vision, wisdom, and nurturing of numerous NATA members. Shortly after the NATA was founded several events led to the development of athletic training education programs. In 1955 William E. Newell of Purdue University became the first athletic trainer appointed to the position of National Secretary of the NATA, a position that subsequently became known as Executive Director. Under William Newell's leadership as chair, the Committee on Gaining Recognition focused its attention on professional advancement (Delforge & Behnke, 1999). In 1956 the NATA Board of Directors authorized the Committee to study avenues through which the professionalization of athletic training could be enhanced (Schwank & Miller, 1971). Athletic training education, along with national certification of athletic trainers, was chosen as a major vehicle for enhancement (Newell, 1984; Schwank & Miller, 1971).

At the Tenth Annual Meeting in 1959 the Committee's recommendations for an educational program were approved by the NATA Board of Directors along with a change that would have a sweeping influence on the professional growth of the athletic trainer. One of Newell's first acts was to rename the Committee on Gaining Recognition to the Committee for Professional Advancement. At this meeting, the Board of Directors adopted and approved the athletic training program presented to them by the Committee that included a comprehensive program of education (Newell, 1984; Schwank & Miller, 1971). A review of the first athletic training curriculum model adopted in 1959 (see Appendix A) reveals two important features that were directly related to the employability of athletic trainers in the late 1950s and 1960s. The first major feature was

an emphasis on attainment of a secondary-level teaching credential. Largely because of a recognized need for employment of athletic trainers at the secondary school level, the curriculum was designed to prepare the student not only as an athletic trainer but also as a high school teacher, primarily in the areas of health or physical education. A second major feature of the curriculum was the inclusion of courses that represented prerequisites for acceptance to schools of physical therapy, as suggested by the American Physical Therapy Association (Delforge & Behnke, 1999; Kauth, 1984; Schwank & Miller, 1971). Schwank and Miller (1971) summarized the goals and objectives of the 1959 athletic training curriculum model as follows:

> The program was designed to professionally prepare the prospective athletic trainer for a position at the secondary school level. An individual following this guided program could not only function as an athletic trainer, but could teach health, physical education, and adapted and specific programs for handicapped students. With additional study in a paramedical related field, such as physical therapy as suggested by the NATA, the teacher-athletic trainer in cooperation with physicians can provide improved health care not only for student athletes but also for the entire student body (p.43).

While development of the 1959 curriculum represented an important initial attempt to identify a specific body of knowledge for athletic trainers, with the exception of an advanced athletic training course and laboratory practice, colleges and universities proposed curriculums having few courses that set them apart from a typical major in physical education (Delforge & Behnke, 1999, p. 54). In effect, the curriculum represented the most relevant courses available in related academic areas, rather than

an attempt to add new educational experiences based on the identification of learning outcomes specific to athletic training. Delforge and Behnke (1999) described athletic trainers' educational challenges as understandable, considering that the athletic training educator had not yet emerged in the academic arena. Because of the scarcity of qualified instructors and specific athletic training course work, continuation of athletic training students' academic preparation through schools of physical therapy was encouraged (Delforge & Behnke, 1999, p. 54).

Ten years after the development of the original curriculum model in 1959, a significant void in the implementation of athletic training education programs was prevalent within colleges and universities (Delforge & Behnke, 1999; Kauth, 1984). Beginning in 1965, the NATA went through a critical period of self-evaluation and decisions concerning the future of athletic trainers and the Association. It attempted to establish qualifications for future athletic trainers and provide rules and regulations for certification. The Professional Advancement Committee, chaired by William Newell, appointed two sub-committees on Professional Education and Certification for the Athletic Trainer in 1968 (Foster, 1995; Newell, 1984; O'Shea, 1974; Schwank & Miller, 1971).

Sayers Miller, University of Washington, Chaired the Subcommittee on Professional Education, which later became known as the National Athletic Trainers' Association Professional Education Committee (NATA-PEC) (Delforge & Behnke, 1999; Foster, 1995). In the spring of 1968 the NATA surveyed department chairs of Health, Physical Education, and Recreation that employed athletic trainers. The purpose of this survey was to find out what knowledge they had regarding the educational program for

athletic trainers established in 1959. A highly significant finding from this questionnaire was that the directors and heads of physical education departments were poorly informed about the NATA's educational program. It was discovered that "less than half" the heads of physical education departments had any knowledge of the educational program approved by the NATA in 1959 (Schwank & Miller, 1971, p. 43). Consequently, the recommendation of the subcommittee to the NATA Board of Directors at the 1969 national meeting was that an informational brochure explaining the role of the athletic trainer and providing the guidelines for the development of curriculums that will professionally prepare the athletic trainer should be developed and published (Kauth, 1984; Miller, 1999).

The results of the survey gave impetus to the NATA's decision to push for three goals to assure employers that athletic trainers had the proper professional preparation. Theses goals where:

1. Seek the development of specific athletic training curriculums, which would meet the approval of the NATA.
2. Carry out certification of the NATA membership through a standardized testing procedure, which requires a certified athletic trainer to meet minimal competencies.
3. Convince high school administrators and boards of education of the need for qualified teacher-athletic trainers at the secondary level. Actively recruit high school and college students for the athletic training curriculum (Schwank & Miller, 1971, p. 43).

An educational curriculum was accepted by the NATA in 1959, but it was not until 1969 that the first action was taken to implement the programs recommended by the subcommittees (Kauth, 1984; O'Shea, 1974; Schwank & Miller, 1971). The first task for the NATA-PEC was to identify a number of courses most relevant to athletic training (e.g., Human Anatomy, Human Physiology, Kinesiology). The perceived relevance of existing courses was a significant practical consideration of the initial athletic training curriculum development (Kauth, 1984). Once this was accomplished, the NATA-PEC evaluated and recommended to the NATA Board of Directors the recognition of the first undergraduate athletic training education programs (Delforge & Behnke, 1999). Thus, the NATA curriculum evaluation and approval process was born. Now that the first undergraduate athletic training programs had been accredited, it was time for the NATA-PEC to turn its attention to graduate athletic training curriculums. It was not until the early 1970s that the first graduate athletic training programs became accredited (Delforge & Behnke, 1999).

J. Lindsy McLean, Jr., of the University of Michigan, chaired the subcommittee on Certification. His committee was responsible for the development of the certification examination and procedures for the NATA. The Board of Certification, made up of six athletic trainers and two medical doctors, gave the first written, practical, and oral examination to fourteen candidates in Waco, Texas, July 30, 1970, during the annual Southwest Athletic Trainers' Association District No. 6 meeting (Delforge & Behnke, 1999; Newell, 1984; O'Shea, 1974). Graduation from a NATA-approved athletic training education program, either undergraduate or graduate, was one way to become a certified athletic trainer. Other ways to obtain certification were graduating from a school

of physical therapy or actively engaged in athletic training for a minimum of five years (Delforge & Behnke, 1999).

The development of the first NATA-approved athletic training education programs and implementation of a certification examination were two historically significant events in the professionalization of athletic training, especially as they related to community recognition and sanction (Delforge & Behnke, 1999). A good example of the NATA's hard work and direction from William Newell paid off in 1968 when the American Medical Association's (AMA) House of Delegates formally recognized The Standards of The National Athletic Trainers' Association for Professional Competence and Certification and encouraged its members to support the activities of the NATA toward implementation of these standards (Foster, 1995; Newell, 1984). The end of the 1960s saw NATA attain its goals of credibility within the medical communities, public opinion, colleges and universities, and secondary schools. This was a great end to a lot of hard work, especially from Newell, and foresight on the part of the NATA membership.

The Reorganization and Development Years

The greatest proliferation of athletic training education programs around the country came during the 1970s (Delforge & Behnke, 1999). Now that the NATA had its curriculum in place and had successfully administered their first athletic training board certification exam, it was time to recruit students into the field of athletic training. The NATA decided to develop a brochure on the colleges and universities that offered accredited educational programs leading to professional qualification in athletic training. The brochure, titled *The Athletic Trainer,* was first distributed in 1971. In 1973 the NATA printed a second brochure titled *Athletic Training Careers* (O'Shea, 1974). Along with

the Association's campaign for recruitment of student trainers, they also developed a survey concerning females in athletic training. In 1974 a questionnaire regarding the acceptance of females into athletic training programs was sent out to the 23 schools already approved by the NATA, including the two graduate programs. It was found that fifteen of these schools accept women in their athletic training program and both schools with a graduate curriculum in athletic training approved by the NATA accept women (O'Shea, 1974).

Changes and Recognition in the Allied Health Community

The second task before the NATA-PEC was to investigate the possibilities of having the Committee on Allied Health Education and Accreditation (CAHEA) accredit all of the athletic training programs. The NATA Board of Directors and NATA-PEC "decided to wait until athletic training educational programs were fully established before they proceeded with the CAHEA" (NATA, 1990a, p. 4).

On June 21, 1990, NATA history was made in Chicago. The American Medical Association and its Council on Medical Education (CME) formally recognized athletic training as an allied health profession (NATA, 1990a).

In the area of Athletic Training, one of these accrediting bodies was the Committee on Allied Health Education and Accreditation (CAHEA, 1989). CAHEA is sponsored by the American Medical Association, which collaborates with national allied health professional organizations and medical specialty societies having interests in allied health education. General public and governmental acceptance of the CAHEA system is indicated by the fact that federal agencies and non-governmental foundations use the list of CAHEA-accredited programs to determine eligibility for some special

institutional and student grants and financial aid. In addition, many health care facilities require job applicants to be graduates of a program accredited by CAHEA. Accreditation is an assurance of acceptable quality in education in that accredited programs are required to meet certain minimum standards (Behnke, 1991). Having CAHEA accreditation can benefit different groups in the following ways:

1. Helps prospective students to identify institutions that have been accredited by CAHEA within the field of athletic training.
2. Having CAHEA accreditation protects the institutions, which is housing the program against internal and external pressures to modify programs for reasons that might not be educationally sound.
3. Society is benefited with CAHEA accreditation by providing a reasonable assurance of quality educational preparation before students can take their NATA Board of Certification Exam. Also by having CAHEA accreditation it can assist in the process of licensure which some states require for allied health professionals (Behnke, 1991).

Several preliminary steps related to accreditation of entry-level athletic training education programs preceded AMA recognition (Delforge & Behnke, 1999). The first of these steps was to put together representatives from the NATA-PEC's along with a representative from the American Academy of Family Physicians and a representative from the American Academy of Pediatrics. These representatives form what CAHEA calls a "Joint Review Committee" (JRC), now known as Joint Review Committee Athletic Trainer (JRC-AT) (Behnke, 1991). CAHEA has a directory on allied health education, which has a brief explanation of the structure within the AMA regarding allied health

profession education programs. The educational programs of a particular profession seeking CAHEA accreditation submit an extensive self-study followed by an on-site visitation. The JRC-AT for the profession reviews the self-study and conducts the on-site visitation. Recommendations regarding accreditation are made from the JRC-AT to CAHEA.

> CAHEA, in cooperation with the Review Committees for allied health educational programs, is recognized nationally as an 'umbrella' accrediting body by the United States Department of Education (DE) and the Council on Postsecondary Accreditation (COPA)' (Behnke, 1991).

As per AMA policy, formal recognition as an allied health profession was a necessary prerequisite for educational program accreditation by CAHEA. During this initial stage of CAHEA's existence there were 13 graduated and 73 undergraduate athletic training programs already accredited by the NATA-PEC. At renewal time, CAHEA and JRC-AT evaluated each existing program as if it were a new one (NATA, 1990a). In June 1993 the NATA-PEC discontinued its approval process for undergraduate athletic training education programs (Delforge & Behnke, 1999). The JRC-AT announced on February 19, 1994, that the AMA, through CAHEA, formally accredited the first two entry-level athletic training educational programs. The two universities were Barry University, in Miami Shores, Florida, and High Point University in High Point, North Carolina. Accreditation of athletic training education programs by CAHEA, however, was short lived. In October 1992 the AMA proposed the establishment of a new, freestanding agency for accreditation of education programs in the allied health professions (Delforge & Behnke, 1999). As proposed by the AMA,

CAHEA was disbanded, and in July 1994 the AMA became a cosponsor, rather than primary sponsor, of the new independent agency, entitled “Commission on Accreditation of Allied Health Education Programs” (CAAHEP) (Mathies et al., 1995). Private-sector recognition of CAAHEP came from the Commission on Higher Education Accreditation (CHEA), a new organization formed by university presidents after disbandment of the Council on Postsecondary Accreditation in 1993 (Delforge & Behnke, 1999).

After the disbandment of CAHEA, the NATA Board of Directors, on June 13, 1994, appointed a task force to address the educational preparedness of entry-level athletic trainers and the proliferation of new work environments (Starkey, 1997). The task force was officially entitled the Education Task Force on September 13, 1994, and was co-chaired by Richard Ray, head athletic trainer at Hope College in Michigan, and John Schrader, assistant athletic trainer and curriculum coordinator at Indiana University (McMullan, 1996). The Board of Directors charged the new Education Task Force with evaluating the education and professional preparation of the NATA certified/state licensed athletic trainer (Starkey, 1997).

Development of Competency-based Education

The 1970s saw a great deal of renovation within the profession, primarily to clear up any misconceptions that society, school administrators, or the medical community might have had about the NATA. Two tasks that the NATA-PEC had before them were to formalize a list of behavioral objectives that would identify the desired learning outcomes (later on known as Competencies in Athletic Training) for the student athletic trainer and to investigate the possibility of having an outside organization provide

accreditation for the NATA athletic training programs. The latter of these two tasks will be discussed later in this chapter.

The first task was to take the eleven required courses already identified (see Appendix B) as a framework, and develop a list of behavioral objectives for each course. The NATA has come through some muddy waters to establish its role in the accreditation process for Athletic Training Education. Through continual formative and summative evaluation of the presently accredited athletic training programs the NATA felt that there were some insufficiencies within their curriculums. That is why it was imperative that the Association captures a wider view and clearly demonstrates that the role of accrediting athletic training education programs was indeed in the public's best interest (Newell, 1984). As the number of NATA-approved undergraduate programs proliferated during the 1970s, and as these programs expanded their course offerings, the concept of an athletic training major became increasingly viewed as a reasonable and realistic educational goal (Delforge & Behnke, 1999; Kauth, 1984).

In a discussion paper by Bill Kauth (1984), he talked with then chairman of the NATA-PEC Gary Delforge in regards to the changes that were taking place in the athletic training educational programs. Kauth (1984), asked "why did the NATA decide to require colleges and universities to develop presently approved undergraduate athletic training curriculum into majors (p. 12)?"

> Delforge… although behavioral objectives for athletic training students were developed to guide curriculum development, there were perhaps insufficient efforts to relate required courses to desired educational outcomes. Delforge continues to say in the late 1970s, the NATA-PEC began to realize that the

> desired athletic training competencies could not be developed sufficiently within the confines of limited course work. A nationwide role delineation study completed by the NATA Board of Certification and the Professional Examination Service of New York City in 1982 substantiated many of the NATA-PEC's concerns. This study identified a wide range of competencies essential to the performance of 'major tasks' by the certified athletic trainer. As a result of this study, a comprehensive list of 175 competencies to be developed by the entry-level athletic trainer was published by the NATA-PEC. The study and list of competencies indicated a compelling need both for expansion of athletic training curriculum offerings and corresponding need for greater flexibility in development of competency-based curriculum offerings. Flexibility in curriculum design was facilitated by requirements that specified competency-based subject matter, rather than specific courses, be included in the curriculum (Kauth, p. 13).

In June 1980 the NATA Board of Directors approved a resolution calling for all NATA-approved undergraduate athletic training education programs to offer a major field of study in athletic training by July 1, 1986 (Delforge, 1982). Within those colleges and universities sponsoring NATA approved programs, the new guidelines would stimulate expansion of curriculum offerings, especially in subject areas determined by the role delineation study to be of greatest importance to the education of athletic trainers. One point that should be made at this time is that "while the various programs had to adhere to basic guidelines set forth by the NATA, they were all subject to institutional policies and procedures" (Rudd, Templin, & Toriscelli, 1988, p. 131).

Upon completion of a summative evaluation of the current curriculum, the NATA-PEC felt there needed to be two major features incorporated into the curriculum design. The first feature was inclusion of specified subject matter requirements, rather than specific courses (see Appendix C). In contrast with curriculum design based on specified courses, the subject matter approach permitted greater flexibility in the development of educational experiences, with varying degrees of emphasis on specific learning outcomes. The required subject matter could be developed as separate courses or incorporated as instructional units within existing courses, depending on determination of the appropriate emphasis (Delforge & Behnke, 1999). The Competencies in Athletic Training represented the second major feature toward the new curriculum design. These competencies, which replaced the original behavioral objectives developed during the 1970s, were based on the “performance domains” of a certified athletic trainer that were identified in the first role delineation study conducted by the NATA in 1982. The competencies have six domains that comprise of; cognitive domain, psychomotor domain, and affective domain. The six domains are 1) prevention, 2) recognition and evaluation, 3) management/treatment and disposition, 4) rehabilitation, 5) organization and administration, and 6) education and counseling (Henderson, 1995). Incorporation of the subject matter requirements and athletic training competencies into the 1983 Guidelines represented an effort to promote the development of true competency-based athletic training education programs (Delforge & Behnke, 1999).

In 1987 Gary Delforge stepped down as the chair of the NATA-PEC and was succeeded by Robert S. Behnke from Indiana State University. Dr. Behnke revived the

efforts of the NATA-PEC towards seeking approval from CAHEA and gaining recognition of athletic training as an allied health profession. The NATA's efforts were supported by the American Physical Therapy Association, the American Academy of Family Practitioners, and the American Orthopedic Society for Sports Medicine, and co-sponsored by the American Academy of Pediatrics (NATA, 1990a). During the late 1980s the NATA-PEC continued to oversee the conversion NATA-approved undergraduate education programs to academic majors or equivalent majors until the process was complete in 1990. By June 1, 1990, the deadline for implementation of an athletic training major, approximately one third of the 73 NATA-approved undergraduate athletic training education programs represented equivalent majors. The remainders were approved as formal majors offering a bachelor's degree in athletic training (Delforge & Behnke, 1999).

In 1988 under the new direction of chairman Bob Behnke, the NATA-PEC's top priority was to develop new undergraduate and graduate programs throughout the country. There were at this time 78 undergraduate athletic training education programs, all of which have to be reviewed at staggered, five-year intervals.

A study by Donald Zylks (1988) investigated the importance of educational competencies in athletic training as perceived by selected certified athletic trainers. A mail survey instrument was developed utilizing the list of 175 competencies grouped into seven major tasks. Three hundred respondents in three groups ranked each competency on the basis of its importance for entry-level athletic trainers. The results revealed that twelve competency statements exhibited group differences. The three groups surveyed did not consider all competencies as either important or very

important, but did consider all major tasks as important or very important. When comparing a correlation between male and female responses, female respondents rated competencies higher than male respondents. Donald Zylks' recommendations from his research were:

1. New competencies should be formulated and evaluated by the Professional Education Committee.
2. Additional research should be conducted to determine the reason for differences in the evaluation of the competencies by males and females.
3. Competency statements for Major Task 1 should be evaluated for applicability to entry-level certified athletic trainers.
4. The Professional Education Committee is urged to develop performance criteria for each athletic training competency statement.
5. Future development of competencies should involve a broad base of athletic trainers.
6. The Professional Education Committee should undertake its own study of the competencies to determine their applicability to the entry level athletic trainer (p. 76).

Carl Cramer (1990) conducted a research project with some similarities to Zylks' (1988). Cramer, investigated the preferred sequence of competencies for athletic training education programs instead of a perception view point as Zylks' study investigated. The underpinning of Cramer's (1990) study was to determine the preferred sequence of the National Athletic Trainers Association Competencies in Athletic Training. Developing a mailed survey instrument and utilizing the same seven major

tasks as did, Zylks. Cramer (1990) surveyed 64 approved college/university athletic training curriculums and asked the Program Directors to rank the competencies in each major task area from basic to advanced sequence. The survey results were analyzed by major tasks using the Wilcoxon Signed-Ranks Test to determine significant differences between the preferred sequence and random chance (p. 33). Cramer concluded that all major tasks exhibited no significant difference from random chance. Recommendations stemming from Cramer's study and presented to the NATA were as follows:

1. The NATA should define the Role Delineation Study in terms of competencies to be mastered.
2. For the competencies to be viewed as an important tool in educating students, the target behaviors and appropriate verbiage need to be identified and tested.
3. Further research is needed to determine why no significant preferred sequence was found. Alternated methods, analytical tools, and tests should be considered.
4. Continued research on a preferred sequence of competencies in athletic training could involve certified athletic trainers from all career areas.
5. Future competency research and development should include all certified athletic trainers interested in research in athletic training education.
6. All academic programs should involve competency mastery, curriculum mapping (as part of the methods requirement), and multicultural issues in athletic training (p. 97).

The role of instruction in Competency Based Education (CBE) is essential to the attainment of the outcome goals that guide its purposes. The choice of goals may have

a major impact on established instructional practices, particularly when life-role competencies imply exposure and activities that are either inadequately provided by or poorly simulated in classroom or formal school contexts and when teaching staffs may lack the competence or versatility to facilitate certain goals (Spady, 1977). Essentially, the more closely outcome goals reflect competencies that require problem solving, personal initiative, and social skills in connection with life-roles, the greater is the need to expand the instructional program beyond the walls of the school and tap instructors as resource specialists outside the formal school staff (Spady).

Spady and Mitchell (1977) explained that curricula and instructional resources are typically designed and organized according to some internal logic of the subject matter itself, not according to the nature and requirements of the social roles in which that subject content may be applied. Nearly identical problems arise with respect to the content and role of testing and evaluation systems in CBE.

The foregoing discussion leaves little doubt concerning the scope and magnitude of changes and procedures that are implied by the implementation of a “full blown” CBE program. Realistically, however, this conception of CBE will be extremely difficult to implement even if state legislatures were to mandate it word for word, since neither current funding provisions nor the orientations of practitioners seem conducive to undertaking such sweeping reforms (Spady, 1977). As an innovation, a competency-based program is a package of interrelated items that are not easily unwrapped or purchased piecemeal. For example, if there is a serious attempt to specify program-wide or college-wide competencies, then some group must be responsible for reviewing the competence statements of individual faculty members or departments. Once this is

done, there must be a specification of the grounds on which the competence will be demonstrated and assessed, whether in a course or in some other way. This complexity, interdependence, and indivisibility of CBE makes it difficult (but not impossible) for potential adopters to take only portions of developed competence-based programs. As seen within this paper, the diffusion throughout an entire curriculum requires an effort nearly Herculean in its demands for leadership and coordination of whole faculties (Gamson, 1979).

Competency-based education, if properly planned, developed, and implemented, can successfully correlate the four processes of curriculum, assessment, instruction, and testing. The competencies are derived from the course of study or the curriculum. Instruction begins with the competencies, and testing are criterion-referenced to the competencies. Curriculum development becomes more meaningful because the academic deans and faculty know that student evaluation will be based on the planned curriculum. Instruction is, therefore, more closely correlated with the planned curriculum because of the evaluation process (Bradley, 1987). Students in CBE curriculums, courses, or programs, are active agents in the educational process, not passive recipients of society's concern with their accountability, custody, socialization, or training (Spady, 1977). Perhaps the most obvious commonality of school, community, worksite, and medical care settings is the necessity of providing relevant health educational opportunities that are appropriate to learners' needs and capabilities. While content and methodology may vary according to setting and learners' characteristics, the principles of sound educational practice apply across all practice environments. Entry-level professional preparation that emphasizes common competencies in all practice settings

can benefit both clients and health educators. Clients benefit from increased assurance of competent and consistent health education services, while health educators benefit from enhanced geographical and work setting choice throughout their professional careers (Luebke & Bohnenblust, 1994).

The resources necessary to develop CBE on a local level are of two kinds: monetary and human. The monetary resource need is not a particular dollar amount. But can the program be maintained on the “hard money” budget? If the program is unable to be maintained within the normal budget, without dependence on grants or other “soft money,” then the school should look for a cooperative venture, one that could be sustained on the regular budget (Bradley, 1987). CBE should be done at a level that is effective. Effectiveness is doing the right thing. Efficiency is doing things right. In education, doing things right is not sufficient if the right things are not being done. Monetarily, the correct level for competency-based education development has been achieved when there is efficiency without the loss of effectiveness (Bradley, 1987).

The most important resources are human resources. Is release time given to the faculty and staff? What types of support staff services are available? Material resources, such as paper, printing, envelopes, etc, are also vital. If faculty and staff have to wait for these resources this slows down the development and implementation of the program. Bradley (1987) explained that because available resources vary from school to school, different implementation guidelines will be recommended. He developed a variety of plans for the development of CBE. An example of his two-year plan can be found in Appendix D.

Within CBE the outcome goals may impose major constraints and demands on schools system with respect to reconceptualizing, redesigning, and providing adequate curriculum and instruction. The problems are minor compared to those related to reliable, valid, and timely measurement of applied role performance (Spady, 1977). To the extent that reform approaches to CBE authorize the demonstration of capabilities that go beyond the discrete basic skill represent a challenge to a substantial segment of the schools' curriculum structures and instructional resources.

It was the objective of the NATA Board of Directors that the Education Task Force come up with recommendations that would take the NATA into the future of allied health care. Some of the issues facing the Education Task Force were:

1. The need for more consistent educational preparation of the entry-level athletic trainer.
2. The need to address the divergent scores occurring on the National Athletic Trainers' Association Board of Certification (NATABOC) examination.
3. Need to prepare entry-level athletic trainers in the context of rapidly expanding body of knowledge.
4. Need to ensure entry-level preparation in the context of strong institutional support for athletic training education.
5. Need to improve the consistency and quality of athletic training instruction.
6. Need to recognize special competence.
7. Need to prepare athletic trainers for post entry-level competencies required in specialized settings.

8. Need to streamline the educational functions of the NATA (NATA, 1996, p. 21 - 23).

One of many issues facing the Education Task Force was to unify the profession towards one route of certification, taking the best elements from the internship and curriculum routes and forming a single, better educational model (Starkey, 1997, p. 114). With the scope of responsibility in mind, it is the NATA Board of Directors' wish that this task force discuss, direct, evaluate, project, and recommend possible action for the Board of Directors to consider. This work is to evaluate education of the undergraduate, both internship and curriculum, graduate education, continuing education, and future education mandates or requirements that may affect the profession and NATA members.

After two years of conducting telephone interviews, mail surveys, pouring over accreditation documents of other allied health organizations, and conducting public forums at the national, district, and state meetings, the Education Task Force derived with eighteen recommendations that were presented to the Board of Directors during its December, 1996 meeting in Dearborn, Michigan, subsequently these recommendations were accepted. Among the 18 recommendations was a requirement, taking effect in 2004, stating that in order to sit for the NATA Board of Certification examination, candidates must have completed all the requirements for athletic training from a baccalaureate or master's degree program that is accredited by CAAHEP (McMullan, 1996; McMullan, 1997). Now that the Board had embraced those recommendations from the Education Task Force, they felt it was necessary to appoint a new committee entitled Education Council (EC). Its role was to help move these new changes into the

athletic training profession and help members understand and implement these changes (McMullan, 1997). Following the creation of the Education Council, the NATA Professional Education Committee was officially disbanded in June 1998 after guiding the development of athletic training education for the previous 28 years (Delforge & Behnke, 1999).

Electronic Survey Research

Historically, mail surveys have been criticized for inadequate response rates, which are usually lower than both telephone and face-to-face modes (Krysan, 1994). Neither mail, nor telephone has been considered anything more than a poor substitute for the face-to-face interview. Perhaps this view was justified, because the two methods had many deficiencies and problems, such as wrong telephone numbers, mailing address etc. (Dillman, 1978). A successful data collection survey is not simply a set of well-designed questions that are written down and administered to a sample population (Litwin, 1995). The usual reason that surveys are commissioned is that the distribution of certain population characteristics is unknown and a survey becomes the tool to find out the distribution of those characteristics. An examination of all federal surveys approved by the US Office of Management and Budget and active in August 1981 revealed that nearly 8 out of 10 utilized self-administered questionnaires. Of these 2,137 surveys, 69% were conducted solely by self-administered procedures, 2.2% solely by telephone, and 9.4% solely by face-to-face interviews. An additional 11% involved self-administered questionnaires in combination with one of the other methods (Dillman, 1991).

For about a decade, a few researchers in business, communications, and other disciplines have used computers and computer networks to administer surveys (Goree & Marszalek, 1995). As more people have access to computers, electronic surveys may become widespread. The electronic survey can reduce processing costs because it automates the transformation of raw data into computer-readable form (Goree & Marszalek, 1995; Kiesler, 1986). The technology in common use that most closely approximates the electronic survey is computer-assisted telephone interviewing (CATI). In CATI, the interviewer types oral responses directly into the computer, which improves the efficiency of data collection over oral-response-to-paper-to-computer methods (Kiesler, 1986).

More sample surveys are done by mail than by any other survey method. The new age of computer technology allows sequences of one-way communication between people to be replaced by meaningful two-way communication. One of the many important aspects of this technology is that it allows users of the technology to communicate with each other through electronic mail (e-mail) (Mehta, 1995). Once respondents have access to a computer or to a network, relatively lower marginal costs of collecting communication data electronically can be substituted for the substantial costs of interviewing, telephoning, and sending questionnaires through the mail (Kiesler, 1986). Electronic Mail System (EMS) uses computer text-editing and communications tools to provide a high-speed message service. Anyone with a computer account can use a terminal to compose a message and send it to anyone who has a mailbox on that computer or on any other computer that communicates with the sending computer (Sproull, 1986).

Kiesler and Sproull (1986) conducted a survey on health and personal characteristics of 76 students and 75 faculty/staff employees at a research university, half by electronic mail and half by hard copy. The electronic mail survey resulted in a higher response rate than the survey sent by hard copy. On close-ended items, those who responded by electronic mail made fewer item completion mistakes and left fewer items blank than those who responded on paper. Computer users' answers to open-ended questions were twice as long as the paper responses, and they gave less socially desirable responses than those who received the survey in hard copy (Goree & Marszalek, 1995).

Advantage and Disadvantages of Electronic Survey

Electronic surveys are highly flexible; they may have any style, formal or informal. Electronic surveys can include explanatory material, prompts, error corrections, menus, branches, and skips. Because of this flexibility, the electronic survey is potentially adaptable to many kinds of research including organizational case studies, political polls, attitude surveys, experiments, and evaluations (Kiesler, 1986). Any researcher who has generated labels from outdated mailing lists, stuffed and banded envelopes, paid for postage, and waited weeks for responses will look forward to the prospect of sending a survey in seconds at no cost and receiving responses within a few minutes. Despite these appealing advantages, electronic surveys have disadvantages as well. The first and most obvious disadvantage is that not everyone has access to computers or feels comfortable using them. A second disadvantage is that it is not possible to know precisely whom one has reached with an electronic message. It is both possible, and common, for electronic messages to be forwarded or

"bounced" to other e-mail addresses. Another disadvantage is that it is impossible to know for certain how many people have received the survey; therefore, the return rate is uncertain (Goree & Marszalek, 1995).

Summary

Although athletic training's rich history began in the late 19th century, the athletic training profession did not come to fruition until June 24, 1950, when a group of men met in Kansas City to form an association for athletic trainers presently known as the National Athletic Trainers' Association (NATA). Without great vision and wisdom from such leaders as William E. Newell, Sayers Miller, J. Lindsy Mclean, Jr., Gary Delforge, Robert Behnke, and Robert Gunn, the first president of the NATA, the athletic training profession would not be where it is today. Recognized by the American Medical Association in 1990, and claiming 22,000 members, and 114 accredited undergraduate athletic training programs. Educational reform has been at the pinnacle of the athletic training profession since 1959 when the first curriculum for athletic trainers was developed. A review of the first athletic training curriculum reveled two distinct features that were directly related to the employability of athletic trainers in the late 1950s and 1960s. The first major feature was an emphasis on attainment of a secondary-level teaching credential and the second major feature was the inclusion of courses that represented prerequisites for acceptance into physical therapy schools. In 1969, the NATA-PEC identified a number of courses most relevant to the entry-level athletic trainer, which were the underpinnings of the athletic training curriculum for many years. It was not until the late 1970s that the NATA-PEC began to realize that the desired athletic training competencies could not be developed sufficiently within the limited

course work. A nationwide role delineation study substantiated many of the NATA-PEC's concerns. This study identified a wide range of competencies essential to the performance of the certified athletic trainer. As a result of this study, comprehensive lists of 175 competencies were developed for the entry-level athletic trainer. The study and list of competencies indicated that expansion and flexibility were needed in already accredited athletic training programs. The competencies in athletic training provided a framework for Program Directors to design their curriculums around, rather than specific course work.

Competency-based education, therefore, requires more time for the conceptual work involved in defining and evaluation of the competencies. If properly planned, designed, and implemented, can successfully correlated the four processes of curriculum, assessment, instruction and testing. Curriculum development and instruction becomes more meaningful because the academic faculty is aware that student evaluation will be based on the planned curriculum. Students in CBE programs are active agents in the educational process, not passive recipients of society's concern with their accountability, custody, socialization, or training (Spady & Mitchell, 1977). Competencies in athletic training have been shaping the athletic training curriculums for more than a decade, allowing the athletic training profession to be recognized by the allied health community as a qualified health care provider. Educational reform is once again in the forefront of the athletic training profession. A new set of competencies were developed to replace the older 1992 competencies, and the two routes towards certification will be coming to a close by the year 2004 with only one unified route of certification. But before these recommendation came into fruition the NATA Board of

Directors established an Education Task Force to conducted a study of what are the needs of the athletic training profession in order to move into the future. The Education Task Force conducted telephone interviews, mailed surveys, and poured over accreditation documents of other allied health organizations, to come up with 18 recommendations. Survey research has historically utilized mail surveys, telephone and face-to-face interviews to collect import data that can be used for decision makers, in this case NATA Board of Directors.

Neither mail, nor telephone has been considered anything more than a poor substitute for the face-to-face interview. This view could be justified, because the two methods had many deficiencies and problems, such as wrong telephone numbers, or mailing address. In the last two decades computers have come to figure in many phases of survey research: instrument design, sampling, monitoring of work in the field, coding and editing, data entry, data cleaning, scale and index construction, data base organization, and report writing (Kiesler, 1986). The advantages and disadvantages of computer-aided research have been outlined earlier in this chapter but are important to review one last time. Electronic surveys are highly flexible, adaptable to many kinds of research including organizational case studies, political polls, attitude surveys, experiments, and evaluations (Kiesler, 1986). The disadvantage is that not everyone has access to computers. In this study a database of e-mail address confirms that all of the respondents have access to a computer. Another disadvantage that is impossible to over come is the break down of computer systems themselves, e.g., if your server goes down, the email messages may not be sent to the respondents. If the respondents' severs go down, they may not be able to receive the email message. Being aware of

these advantages and disadvantages, this researcher feels it is advantage to utilize the computer and develop a Web-based survey that can be easily accessed by the 114 athletic training Program Directors.

Chapter III

METHODOLOGY

This chapter describes the procedures followed in collecting and analyzing data for this study. This study was designed to survey directors of athletic training programs throughout the United States. The chapter is subdivided into ten sections:

a. Research design and rationale
b. Web-based survey design
c. Population to be surveyed
d. Development of instrumentation
e. Telephone interview
f. Data collection
g. Response rate
h. Research questions
i. Statistical treatment and analysis
j. Qualitative analysis

Research Design and Rationale

A cross-sectional survey instrument was devised to electronically interview current directors of accredited undergraduate athletic training programs. The data gathered was primarily informational, and the analysis of this data was descriptive in nature. There were several reasons for the choice of this design.

First, this is a topic and population that have not been studied in terms of educational program development, so there is no existing study or question bank with which to compare. However, once this study was completed, it provided a baseline for

continued study of athletic training programs and factors important to national accreditation standards. A major objective of this study was to provide that groundwork. According to Fowler (1993), “good questions are reliable, providing consistent measures in comparable situations” (p. 69). The ability to standardize data collected offers a special strength for this study and future studies of athletic training programs.

Second, as this is a baseline description of factors related to a relatively new curriculum in higher education, it lends itself to a very compact focus. The logical first point of contact for such a focus seems to be with the persons who have the most knowledge and experience with the curriculum and the process of accreditation in their institutions—the athletic training Program Directors. Aday (1989) described a cross-sectional design as one that generally focuses on a single group representative of some population of interest” (p. 22). The survey design allows an advantage in terms of economy and the amount of data that can be collected from this particular group.

Third, a cross-sectional survey was selected on the basis of the first two reasons. Aday (1989) described a cross-sectional design as “a slice of life at a particular point in time” (p. 23). In this sense, it is essentially a snapshot of athletic training programs at the time the survey was administered. This does lend itself to the criticism of being potentially superficial because it is difficult to gain a full sense of process when dealing with cross-sectional survey results. However, if “valid answers correspond to what they are intended to measure” (Aday, 1989, p. 24), then results from cross-sectional surveys are reasonably used by other researchers in either secondary or comparative analyses.

Web-based Survey Design

Rather than use a paper survey that would be mailed to participants, it seemed prudent, for both the participants and the researcher, to rely on recent technology and use the Internet to conduct the survey for this study. The Web-based questionnaire is a near exact replication of the printed survey instrument (see Appendix E). The web-based survey, however, with radio buttons and pop-up menus, is more interactive than the paper-based survey, which has no interactivity. The author realizes, though, that there are differences in the presentation of the questions and mechanisms through which respondents answer survey questions and submit their forms compared to that of the printed survey. For the purpose of this study, however, the advantages of the Internet survey outweigh the disadvantages as determined in the pilot study (Appendix G). In order to complete the online-survey, respondents needed access to a graphical browser such as Internet Explorer or Netscape Communicator 3.0 or higher. This did not appear to be a problem for the population that was surveyed.

To develop the Web-based questionnaire the author used the software product Dreamweaver 4 for web site design and production, developed by Macromedia. Once the respondents completed the questionnaire they clicked on the submit button located at the bottom of the questionnaire. When Dreamweaver determines that all required inputs are properly entered, a thank you page appeared and the results were stored in the Microsoft Access database. Once the questionnaire was finished and placed on the server, the next step was to select the sample/population for this study.

Population

Program Directors, for whom this survey was designed, were identified from the NATA World Wide Web site (www.nata.org) , which maintains a list of all accredited athletic training programs throughout the United States (see Appendix F). The population selected to identify and describe the current trends of program development included athletic training Program Directors from all of the accredited entry-level undergraduate athletic training programs (N = 121). The Colleges and Universities that were identified had E-mail addresses listed for each athletic training Program Director. From the list of accredited programs seven athletic training Program Directors were selected for the pilot study. They were excluded from the 121 participants. This made the actually number of participants for this study to 114.

Development of Instrumentation

The survey instrument (see Appendix G) was pilot-tested by the seven Program Directors selected from the list of accredited athletic training programs. The panel of seven experts was selected to ascertain content validity (Litwin, 1995). Expert judgment can come in three or more forms: (1) the evaluators as experts, (2) the program staff as experts, and (3) outside panels of experts (Rubinson & Neutens, 1987). Six of the seven pilot reviewers were interviewed by telephone the seventh reviewer declined participation in the telephone interview process. Expert number one was the chair of the Education Council, which developed the Athletic Training Educational Competencies. Expert number two has directed an accredited athletic training program since 1975, when the National Athletic Trainers' Association Professional Education Committee accredited athletic training programs. Expert number

three recently finished going through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) accreditation process. Expert number four has been on the Joint Review Committee site visitation team, which makes recommendations to CAAHEP. Expert number five directs one of the first athletic training programs to be accredited by CAAHEP. Expert number six works at a university that has an undergraduate and graduate accredited athletic training program. Revisions were applied to the following questions, see changes made to the survey base on the two pilots surveys (see Table 1).

Table 1. Changes made to the survey based on the two pilots

Appendix G Initial Survey	Appendix E Revised Survey
Question number five	New question was added that asked if the academic position was a tenure or non-tenure track position.
Question ten was deleted	Experts felt it was not relevant to program development.
Question thirteen was deleted	Experts felt it was not relevant to program development.
Question fifteen	Moved and re-worded to question nine.
Question sixteen	Moved to question ten.
Question nineteen	Moved and re-worded to question twenty.
Question twenty	Moved and re-worded to question twenty-one.
Question twenty-one	Moved and re-worded to question twenty-two.
Question twenty-three	Moved and re-worded to question twenty-four.
Question twenty-four	Moved and re-worded to question twenty-five.

(table continues)

Question twenty-seven	Moved to question twenty-eight and clinical/affiliate was added
Question thirty-three	Moved to question thirty-five and further explanation was added to clarify the researcher's meaning.
Question thirty-four	Moved to question thirty-six and re-worded to be more specific.
Question thirty-five	Moved to question thirty-seven and re-worded.
Question thirty-six	Moved to question thirty-eight and re-worded.
Question thirty-nine	Was added because CAAHEP evaluates the breadth and scope of the athletic training curriculum and if it is analogous to an academic major in the educational unit in which it is housed.

A pre-pilot online survey was sent to three of the seven experts. They were then contacted by telephone and interviewed about the format of the survey, its clarity and the usefulness of each question. Based on the information obtained in these initial three telephone interviews, revisions were made to the survey. The revised survey was then sent to the remaining four experts. The questions asked by the researcher were in

regard to (a) content, (b) format, (c) directions, (d) wording (e) structure of the survey, (f) how long it took to complete the online-survey and finally (g) if they liked the online-survey format?

The number of questions was deemed appropriate by the six pilot panel of experts since the time to complete the survey ranged from 10 to 15 minutes. The panel of experts felt questions of the same sequence type should be kept together, i.e., open-ended questions should be placed together at the end of the survey while keeping all closed-ended questions at the beginning of the survey. This was done.

Telephone Interview.

Interviewing has a wide variety of forms and a multiplicity of uses. The most common type of interviewing is individual, face-to-face verbal interchange, but it can also take the form of face-to-face group interviewing, mailed or self-administered questionnaires, and telephone surveys (Dillman, 1978). Interviewing can be structured, semi-structured, or unstructured (Denzin & Lincoln, 1998). This author chose an unstructured, one-time telephone interview to gather further information about the initial two versions of the survey from six of the seven experts who completed one of the initial versions of the survey that will be used in this study. The overall responses to the online-survey were excellent. Each expert said that this was a very easy survey to finish, taking between 10 and 15 minutes to complete. In the actual study the same telephone format was used with ten of the 114 respondents asking more specific questions derived from the responses to the online survey. Once the telephone interviews were completed for the pilot survey, final revisions were made and it was

deemed ready to be used in the actual study (see Appendix E). The following procedures were followed when collecting the data for this study.

Data Collection

An introductory e-mail letter was sent out to the 114 participants. Participants were invited to participate and were given an explanation of the study and of what their participation entails. In order for the participants to begin the survey, they were required to initially read the on-line consent form (see Appendix I), which was electronically hyper-linked from the introductory letter. Protecting the rights of human subjects (e.g., consent form) included information about confidentiality, anonymity, and the option to withdraw from the study at any time. Once the participants had read the consent form, they were prompted at the end of the document to either agree or disagree to take the on-line survey. If they clicked the hyper-link, “Yes I Agree”, it took them directly to the survey. If they clicked the hyper-link “No I Do Not Agree”, it took them to a thank you page where the participants were prompted to return to their home browser.

Once the respondents finished the survey they clicked on the submit button located at the bottom of the online-survey. Raw data collection was accomplished electronically through Microsoft Access database. The qualitative responses were downloaded directly into analytic software SPSS 6.1 for windows, whereas the qualitative data was copied and pasted into a word processor. This saves time and staff resources as well as eliminating data entry errors. Since this survey utilized the technology of electronic mailing each respondent received their survey the day it was sent to them. The time allotted for completion of the survey was one month.

Response Rates.

Although much information about individual procedures and techniques which are useful for increasing response rate in mail surveys is scattered throughout the literature, little in the way of a coordinated, planned sequence of procedures has been offered (Cote, 1986). The work of Erdos (1970), Pride (1979), and Dillman (1978) are notable exceptions. Each author attempted to offer suggestions to improve response rates from the perspective of addressing the entire mail survey process. Erods' work, however, is oriented primarily to market research; Pride's research is based largely upon his experience directing the National Geographic Society's readership surveys. In contrast, Dillman's recommendations offer a fully integrated, planned sequence of procedures and techniques that are designed to increase the response rates to mail surveys in ways which are fully adaptable to research problems in education (Cote, 1986).

The general assumption is that the higher the response rate, the lower the potential of nonresponse error and, therefore, the better the survey (Dillman, 1991). To help increase the response rate, the following procedure suggested by Dillman (1978) was followed. A follow-up e-mail was sent on the second week after the initial survey was sent, to remind the respondents to submit their questionnaire. The raw data collected electronically through Microsoft Access database provided the respondents with anonymity and therefore, follow-up letters were sent out to all of the participants. This first follow-up sought to "make an appeal that, carefully worded, conveys a sense of importance and also informs the respondents that if they have completed the questionnaire to disregard this letter. At the same time it will not sound impatient or

unreasonable" (Dillman, 1978, p. 183). The second follow-up e-mail was sent on the third week and had a "tone of insistence that the previous contacts lack" (Dillman, 1978, p. 186).

Research Questions.

Research question number one was used to create a demographic profile of the Program Directors who responded to this study. Research question number two was used to see what kinds of workloads the Program Directors are subjected to. Research question number three was used to identify what challenges and rewards the Program Directors experience while trying to meet CAAHEP Standards and Guidelines. The last research question looked at how Program Directors design their curriculums to meet CAAHEP standards. For a further breakdown of what instrument questions align with a particular research question (see Table 2).

Table 2. Breakdown of survey instrument questions

Research questions	Survey instrument questions
Question #1 What is the demographic characteristics of the Athletic Training Education Program Directors?	See questions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Question #2 What is the workload of the Athletic Training Education Program Directors?	See questions 6, 7, 8, 9, 10, 11, 12, 14, 15, 24, 25, 35, 36
Question #3 What challenges and rewards do Athletic Training Education Program Directors experience while trying to meet CAAHEP standards?	See questions 22, 23, 24, 25, 26, 27, 28, 29, 31, 33, 34, 37, 38, 39
Question #4 How is the curriculum designed to meet CAAHEP standards?	See questions 13, 14, 15, 16, 17, 18, 19, 20, 21, 30, 31, 32, 34, 35, 36, 39, 40

Statistical Treatment and Analysis.

The quantitative raw data generated from the closed-ended questions were analyzed using Statistical Package for the Social Sciences (SPSS) 6.1 for windows. Descriptive statistics (percentages and standard deviations) were used to describe the athletic training Program Directors that responded to the online survey.

Another consideration was to attain adequate response rates. Dillman (1978) suggested, “despite the great importance given to response rate comparisons, they are very difficult to make”(p.49). Dillman (1978) described one way to calculate response rates and that is to determine the percentage of people in the original sample from whom completed questionnaires is obtained (p. 49). The formula for this calculation would be

$$\text{response rate} = \frac{\text{number returned}}{\text{number in sample}} * 100$$

> The definition of response rates in this manner tends to underestimate response for mail questionnaires. In face-to-face and telephone interviews a refusal is not considered such until a contact is made. In mail studies, the opposite is assumed, that is, a nonresponse is a refusal until proven otherwise (Dillman, 1978, p. 50).

Hypothetically if in this study, 90 of 114 Athletic Training Program Directors in the original sample returned their questionnaires, the response rate would be 78.9%. The rest of this chapter will explain how the opened response or qualitative data was analyzed.

Qualitative Analysis

Descriptive qualitative data was collected and used in conjunction with the quantitative data. The purpose of the descriptive method is to intensively investigate the background and environmental interactions of a given social unit. Using the descriptive method begins with an explicit perspective with clearly asked questions and specific objectives. The data collection vehicles may be any or all of the following: 1) questionnaire, 2) personal interview, and 3) observation (Parse, Coyne, & Smith, 1985). This study utilized the data collection vehicle of an on-line questionnaire. The basis for using qualitative methods is simply an interest in observing and asking questions in real-world settings (Patton, 1987). Quantitative measures are concise and easily accumulated for analysis; by contrast, qualitative responses are more in-depth and vary in content. The purpose of gathering responses to open-ended questions is to permit the evaluator to understand and capture the perspectives of program participants and to provide a framework within which people can respond in a way that represents accurately and thoroughly their point of view about the program (Patton, 1987). Data analysis in the descriptive method begins with a careful examination of the subject-researcher interaction, which entails a search for major themes articulated by the subjects about the phenomenon (Parse et al., 1985).

A theme is an idea, usually of some signal trend, master conception, or key distinction, like rationality and reason (Mills, 1959). Themes can be formulated at different levels of abstraction, from statements about particular kinds of settings to universal statements about human beings, their behaviors, and situations (Spradley, 1980). They apply to numerous situations and recur in two or more domains. One way

themes can be detected is by examining the dimensions of contrast from several domains (Spradley, 1980). Patton (1990) discusses themes of qualitative inquiry as strategies that emphasize and build on several interconnected themes. One theme that will be used for this study is inductive analysis.

Patton (1987) describes inductive analysis as an evaluation approach that is deductive to the extent that the evaluator attempts to make sense of the situation without imposing pre-existing expectations on the program setting (p. 15). Inductive designs begin with specific observations and build toward a general pattern. For this study, which examined several programs, the inductive approach looked for unique characteristics that made each setting a case unto itself. The categories that emerged from the open-ended questions allowed the researcher to gain a clearer understanding of the existing program patterns. Researchers do not search out data or evidence to prove or disprove hypotheses they hold before entering the study; rather, the abstractions are built as the particulars that have been gathered are grouped together (Bogdan & Biklen, 1998). This means that the findings are grounded in specific contexts; theories that result from the findings will be grounded in real-world patterns (Glaser & Strauss, 1967).

Responses from the open-ended questions were entered in a Microsoft Access database. These responses were then copied and pasted into a Word document. The raw text was then read by the researcher who identified general trends that kept repeating themselves throughout all of the responses. While reading the raw text the researcher identified and underlined these general trends and then grouped them into categories. These categories were organized into a table format. The researcher went

back to the raw text and located the responses for each category in the table. The total number of responses for each category were then summed.

Summary

This chapter explained the various methods that were used to complete this study. This was accomplished by discussing the rationale for selection of the design, the population, development of the on-line survey, selection of the follow-up interview participants, and statistical treatment and analysis of the raw data. The findings and discussions will be described in Chapter IV and V, respectively.

Chapter IV

Results and Discussion

This chapter reports the results of the statistical and descriptive analyses, which were conducted for the purpose of answering the four major research questions:

1. What are the demographic characteristics of Athletic Training Education Program Directors?
2. What is the workload of the Athletic Training Education Program Directors?
3. What challenges and rewards do Athletic Training Education Program Directors experience while trying to meet CAAHEP standards?
4. How is the curriculum designed to meet CAAHEP standards?

The results of the study are profiled in the following three sections:

(1) a demographic profile of athletic training Program Directors,

(2) a discussion of factors that impact program development, and

(3) results from the open-ended questions.

Discussion of the results will follow details of the survey response and data analysis.

Survey and Response

Of the 114 subjects who were contacted by e-mail regarding this survey, 53 (46%) responded. Following the Dillman (1978) protocol for mailed surveys, the researcher sent out three follow up e-mails ten days apart to remind the respondents to submit their questionnaires. The fourth and final survey of non-respondents was

conducted by telephone. During this process the researcher personally called 10 participants who had not responded to the initial e-mails. The telephone survey results were divided into no contact and contact groups. The no contact group consisted of four participants who did not return a telephone message after repeated tries. Of the six who where contacted by telephone, all were asked if a return of the electronic questionnaire could be expected. If the answer was affirmative, the researcher asked the Program Director to immediately submit the questionnaire. If the answer was negative, the researcher asked the Program Director to give a reason for nonparticipation. Of those contacted, three participants refused to participate in the survey. Reasons given for nonparticipation include not enough time to fill out all of the surveys that they receive, and that their program was currently going through re-accreditation. The three participants who did say they would fill out the on-line questionnaire did so, making a total of 53 respondents.

Other non-respondents consisted of e-mail returns, which were divided into wrong e-mail addresses and e-mail returns that explained why they could not participate. The wrong e-mail addresses group consisted of 10 participants who were not contacted because their e-mail addresses were not up-dated on the accredited programs list from the Education Council. There were 8 participants who returned the contact e-mail message with an explanation of why they could not participate. Some of the remarks included “due to a flood of incoming surveys, and in attempt to treat them all the same, my office will not be participating in any survey research projects this year,” and, “I am sorry, I will not be able to participate in your study. Since February, our program has received 20 surveys. I just do not have the time.”

All of the non-respondents contacted during the telephone interviews were generally positive and, for the most part, supportive of the study. Those who refused to participate did so politely, and usually indicated that because they have received so many surveys they did not have the time to fill them all out.

Data Analysis

The quantitative data generated from the closed-ended questions (1-32) were analyzed using SPSS 6.1 for Windows using descriptive statistics consisting of percentages and standard deviations. These descriptive data are helpful in describing characteristics of the athletic training Program Directors who responded to the online survey, and in assessing the tasks and responsibilities that current program directors are facing. The data describing courses, competencies, and students are used to assess the current state of educational reform and make inferences regarding future program and curricular development. Finally, the open-ended questions are assessed qualitatively, to provide further insight as to program trends.

Demographic Profile of Athletic Training Program Directors

A total of 53 Program Directors responded to the online survey. Of these respondents, 36 were male and 17 were female (see Table 3). A slight majority of those who responded held earned doctorates (53%), and another 45% had masters degrees (see Table 4). Almost all the respondents (98%) were licensed athletic trainers, and a relative few held dual credentials in emergency medical training, physical therapy, strength conditioning, and kinesiotherapy (see Table 5). Most of the respondents (45%) held the academic title of instructor, although a third (34%) were listed as assistant professors. Three respondents (6%) held the rank of associate

professor, and 7 (13%) were full professors (see Table 6). Despite the low academic rank of many of the respondents, over two-thirds (68%) state that they were in tenure-track positions (see Table 7). About one-third of the respondents (34%) state that they hold split appointments between athletic and academic departments, while 64% state they have single appointments only (see Table 8). Of those respondents who hold split appointments, 4 reported a 40:60 split in academics and athletics, while 1 has a 90:10 split between academics and athletics (see Table 9).

In looking closely at this demographic data, it appears that the current Program Director of athletic training is most likely male (although females are currently one-third of the total group of respondents), posses an earned doctorate or a master's degree, is certified as an athletic trainer and working in a tenure track position (but not necessarily moved up in rank as of yet), and less likely to hold a split appointment than have a single academic appointment. If these trends continue, future Program Directors will most certainly need an earned doctorate, will take on increased academic stature, and will be less likely to work in split appointments. Full certification as an athletic trainer will remain important, however.

Table 3. Gender of respondents

Survey Measures	n	Percent	Standard Deviation
Male	36	67.9	
Female	17	32.1	
Total	53	100.0	.471

Table 4. Highest degree earned

Survey Measures	n	Percent	Standard Deviation
Bachelors	1	1.9	
Masters	24	45.3	
Doctorate	28	52.8	
Total	53	100.0	.541

Table 5. Program Directors with dual credentials

Survey Measures	n	Percent	Standard Deviation
Licensed/ATC	52	98.1	
EMT	5	9.4	
Physical Therapist	4	7.5	
Strength & Conditioning	3	5.7	
Kinesiotherapist	1	1.9	

Table 6. Academic rank of survey respondents

Survey Measures	n	Percent	Standard Deviation
Instructor	24	45.3	
Assistant Professor	18	34.0	
Associate Professor	3	5.7	
Full Professor	7	13.2	
Missing cases	1	1.9	
Total	53	100.0	1.030

Table 7. Survey respondents in tenured or non-tenured positions

Survey Measures	n	Percent	Standard Deviation
Tenure	36	67.9	
Non-Tenure	16	30.2	
Missing	1	1.9	
Total	53	100.0	.466

Table 8. Survey respondents with/without a split appointment between athletic and academics

Survey Measures	n	Percent	Standard Deviation
Yes	18	34.0	
No	34	64.2	
Missing cases	1	1.9	
Total	53	100.0	.480

Table 9. Percentage of split appointment of survey respondents

Survey Measures	n	Percent	Standard Deviation
40%academics/60%athletic	4	7.5	
50%academics/50%athletic	3	5.7	
60%academics/40%athletic	1	1.9	
70%academics/30%athletic	2	3.8	
80%academics/20%athletics	2	3.8	
90%academics/10%athletics	1	1.9	
N/A	8	15.4	
Missing cases	32	60.4	
Total	53	100.0	2.481

The second group of questions in the survey asked specific questions about the various responsibilities of the Program Director. The majority of respondents (88%) stated that they were NOT the head athletic trainer at their institution. In fact, only 11% (6 respondents) said they were the head athletic trainer as well as the Program Director. (see Table 10). Regarding clinical responsibilities, 62% answered no, while 38% have some clinical responsibilities (see Table 11). Almost a third of the respondents (28%) report traveling some amount of time each year with teams; however, 47% did not provide an answer to this question (see Table 12). This probably means that most Program Directors do not travel with teams during athletic seasons.

Most of the respondents to this survey (45%) report that they are in NCAA Division I athletics, with the rest being almost evenly split between Division II and

Division III schools. Only one respondent was affiliated with the NAIA athletic division (see Table 13). The respondents do report, however, that they carry a substantial teaching load. Approximately 38% of the respondents teach fifteen hours or more per academic year, and another 36% report 10-14 hours per year (see Table 14). Additionally, these respondents are advising a substantial number of students. In fact, 62% advise 20 or more students each year (see Table 15). Although a large number of respondents (72%) report that they receive some release time (see Table 16), most of that release time (87%) is 3 hours or less (see Table 17).

Table 10. Survey respondents who are also the head athletic trainer

Survey Measures	n	Percent	Standard Deviation
Yes	6	11.3	
No	47	88.7	
Total	53	100.0	.320

Table 11. Survey respondents who have clinical responsibilities

Survey Measures	n	Percent	Standard Deviation
Yes	20	37.7	
No	33	62.3	
Total	53	100.0	.489

Table 12. The number of times Program Directors travel with athletic teams per year

Survey Measures	n	Percent	Standard Deviation
1 to 4	7	13.2	
5 to 9	4	7.5	
10 to 14	3	5.7	
15 to 19	1	1.9	
N/A	13	24.5	
Missing cases	25	47.2	
Total	53	100.0	2.217

Table 13. Level of intercollegiate athletic division housing an athletic training program

Survey Measures	n	Percent	Standard Deviation
NCAA Division I	24	45.3	
NCAA Division II	15	28.3	
NCAA Division III	13	24.5	
NAIA	1	1.9	
Total	53	100.0	.871

Table 14. Number of credit hours that Program Directors teach per academic year

Survey Measures	n	Percent	Standard Deviation
1 – 4	1	1.9	
5 – 9	13	24.5	
10 – 14	19	35.8	
15 – 19	11	20.8	
20 or more	9	17.0	
Total	53	100.0	1.077

Table 15. Average number of students that are being advised per year by Program Directors

Survey Measures	n	Percent	Standard Deviation
None	6	11.3	
5 to 9	1	1.9	
10 to 14	5	9.4	
15 to 19	8	15.1	
20 to 24	5	9.4	
25 to 29	8	15.1	
30 or more	20	37.7	
Total	53	100.0	2.299

Table 16. Release time given for program development

Survey Measures	n	Percent	Standard Deviation
Yes	38	71.7	
No	15	28.3	
Total	53	100.0	.455

Table 17. Number of credit hours given for release time per semester

Survey Measures	n	Percent	Standard Deviation
N/A	18	34.0	
1	2	3.8	
2	3	5.7	
3	23	43.4	
4	2	3.8	
5	1	1.9	
6	3	5.7	
9	1	1.9	
Total	53	100.0	2.003

Program Development

When looking at the descriptive curricular data for each program, some interesting trends appear. First, the number of core athletic training courses offered at each of the responding institutions is primarily between 5 and 14 courses (64%). An additional 30% of institutions offer 15-24 core athletic training courses (see Table 18). The core courses are those that are required by CAAHEP, and those that cover the competencies needed to pass the NATA Board Certification exam.

Competency training is further broken down to look at differences in the amount of teaching done by Program Directors in cognitive vs. psychomotor athletic training courses (see Tables 19 and 20). It appears that Program Directors are slightly more likely to be teaching cognitive courses than they are to be teaching psychomotor courses. In both cases, Program Directors are more likely to be teaching 1 – 4 courses per year in the designated area. Table 21 represents the number of competencies in athletic training that are being taught in the core athletic training courses. The data show a low of 0 (11%) to a high of 50 or more (17%), with most respondents teaching between 20 and 34 competencies per course.

In terms of program development and curricular reform, it appears that current Program Directors are offering a substantial number of courses in their major programs (averaging about 12 courses) to cover the material needed to pass the national examination and meet CAAHEP standards. Almost a third of the institutions are finding it necessary to teach 15 courses or more to cover those competencies.

Program Directors as faculty are slightly more likely to be teaching the cognitive courses than the psychomotor courses, which is probably a reflection of their academic

training and faculty appointments. The high number of competencies offered per course (average 20-34) probably is an indicator that those who teach psychomotor courses are probably those more involved with direct athletic training and/or clinical patient care.

Table 18. Core athletic training courses being offered

Survey Measures	n	Percent	Standard Deviation
1 – 4	3	5.7	
5 – 9	18	34.0	
10 – 14	16	30.2	
15 – 19	12	22.6	
20 – 24	4	7.5	
Total	53	100.0	2.003

Table 19. The number of cognitive athletic training courses being taught per year by Program Directors

Survey Measures	n	Percent	Standard Deviation
None	2	3.8	
1 – 4	35	66.0	
5 – 9	11	20.8	
10 – 14	4	7.5	
15 or more	1	1.9	
Total	53	100.0	.765

Table 20. The number of psychomotor athletic training courses being taught per year by Program Directors

Survey Measures	n	Percent	Standard Deviation
None	11	20.8	
1 – 2	17	32.1	
3 – 4	15	28.3	
5 – 6	8	15.1	
7 or more	2	3.8	
Total	53	100.0	1.103

Table 21. The number of 1992-1999 Competencies in Athletic Training being taught in core athletic training courses

Survey Measures	n	Percent	Standard Deviation
None	6	11.3	
10 – 14	3	5.7	
15 – 19	3	5.7	
20 – 24	11	20.8	
25 – 29	8	15.1	
30 – 34	6	11.3	
35 – 39	4	7.5	
40 – 44	2	3.8	
45 – 49	1	1.9	
50 or more	9	17.0	
Total	53	100.0	2.843

As a follow-up to the amount of courses and competencies being taught, the survey also asks Program Directors how many staff members they currently have to adequately cover the material now required for accredited athletic training programs. The data show that most of the programs employ 3-7 full time certified athletic trainers (Table 22). Respondents were also questioned about additional faculty who are not certified athletic trainers but are responsible for teaching some of the competencies in athletic training (e.g., anatomy and physiology). Although 21% of the respondents reported no full-time faculty who were not certified, 79% did have such faculty (see Table 23). Most institutions reported between 3-5 additional non-certified faculty teaching athletic training competencies. The number of full time certified athletic trainers responsible for assessing clinical proficiencies reflects the findings in Table 22; that is, almost 70% of the institutions have between 3-7 certified athletic trainers taking care of this responsibility (see Table 24).

One particularly interesting finding shows that the ratio of students to certified athletic trainers is quite low. In Table 25 we see that the majority (75.5%) of responding institutions provide less than a 7:1 ratio. Current CAAHEP standards require a faculty to student ratio of 8:1. Also of interest is the gender breakdown between students accepted into the athletic training majors (see Tables 26 and 27). Females appear to be as well represented as males within these programs. In terms of graduates, the total number of students graduating per year from these institutions averages between 10 and 14 (see Table 28).

Table 22. Number of staff who are full time certified athletic trainers

Survey Measures	n	Percent	Standard Deviation
None	1	1.9	
2	3	5.7	
3	9	17.0	
4	14	26.4	
5	8	15.1	
6	5	9.4	
7	5	9.4	
8	2	3.8	
9	2	3.8	
10	1	1.9	
11	2	3.8	
15 or more	1	1.9	
Total	53	100.0	2.675

Table 23. Additional full-time faculty (not certified athletic trainers) assigned to teach some of the Competencies in Athletic Training

Survey Measures	n	Percent	Standard Deviation
None	11	20.8	
1	4	7.5	
2	4	7.5	
3	10	18.9	
4	6	11.3	
5	7	13.2	
6	1	1.9	
7	2	3.8	
8	2	3.8	
9	1	1.9	
10 or more	5	9.4	
Total	53	100.0	3.098

Table 24. Number of full time-certified athletic trainers responsible for assessing clinical proficiencies

Survey Measures	n	Percent	Standard Deviation
None	3	5.7	
2	3	5.7	
3	9	17.0	
4	7	13.2	
5	11	20.8	
6	5	9.4	
7	5	9.4	
8	1	1.9	
9	1	1.9	
10	3	5.7	
11	2	3.8	
13	1	1.9	
15 or more	2	3.8	
Total	53	100.0	3.372

Table 25. Student athletic trainer to certified athletic trainer ratio

Survey Measures	n	Percent	Standard Deviation
Less than 7 to 1	40	75.5	
7 to 1	7	13.2	
8 to 1	5	9.4	
9 to 1	1	1.9	
Total	53	100.0	.740

Table 26. Number of male athletic training students

Survey Measures	n	Percent	Standard Deviation
1 – 4	13	24.5	
5 – 9	15	28.3	
10 – 14	11	20.8	
15 – 19	9	17.0	
20 – 24	2	3.8	
25 – 29	2	3.8	
30 or more	1	1.9	
Total	53	100.0	1.467

Table 27. Number of female athletic training students

Survey Measures	n	Percent	Standard Deviation
1 – 4	4	7.5	
5 – 9	8	15.1	
10 – 14	23	43.4	
15 – 19	10	18.9	
20 – 24	2	3.8	
25 – 29	2	3.8	
30 or more	4	7.5	
Total	53	100.0	1.496

Table 28. Number of students graduating from CAAHEP accredited athletic training programs per year

Survey Measures	n	Percent	Standard Deviation
None	3	5.7	
1 – 4	7	13.2	
5 – 9	17	32.1	
10 – 14	22	41.5	
15 – 19	1	1.9	
20 – 24	3	5.7	
Total	53	100.0	1.113

Another group of questions focused on the clinical sites affiliated with the athletic training programs at each institution. A slight majority of institutions report having 1 or 2 on-campus clinical sites (52%), but almost as many have 3 or more on campus clinical

sites (see Table 29). In terms of off-campus affiliate sites for clinical training, 9% report having none, 17% have 1 or 2 sites, and almost three-quarters of the institutions (74%) have 3 or more off-campus affiliate clinical sites (see Table 30).

A probe was asked to determine the types of off-campus clinical training sites used by these programs. The majority (89%) of the programs are using a high school setting as their clinical/affiliate site, followed by Sports Medicine Clinics (66%), and college or university (34%) other than the home institution (see Table 31). A large number of students are assigned to these off-campus sites (see Table 32), with most students being assigned to clinical sites in their sophomore or junior year (see Table 33).

A final question on the survey asked about the overall level of satisfaction among Program Directors regarding the new CAAHEP Standards. The results demonstrate a fair amount of satisfaction, with 43% stating they are satisfied, and another 43% saying they are somewhat satisfied. Only 13% state they are dissatisfied (see Table 34). It appears that despite the challenges these institutions face in reforming curriculum and teaching more competencies, and in recruiting and retaining faculty and students, most are satisfied with the direction that CAAHEP is providing in program development and curricular reform. It is also apparent that accredited programs are utilizing a wide variety of clinical training sites, both on and off-campus, to provide their students with the necessary hands-on training to attain NATA certification.

Table 29. Number of on-campus clinical education facilities

Survey Measures	n	Percent	Standard Deviation
None	1	1.9	
1	12	22.6	
2	16	30.2	
3	10	18.9	
4	5	9.4	
5	2	3.8	
6	2	3.8	
7	1	1.9	
8	1	1.9	
9	1	1.9	
10 or more	2	3.8	
Total	53	100.0	2.316

Table 30. Number of off-campus clinical/affiliate sites

Survey Measures	n	Percent	Standard Deviation
None	5	9.4	
1	3	5.7	
2	6	11.3	
3	8	15.1	
4	6	11.3	
5	6	11.3	
6	7	13.2	
7	1	1.9	
8	2	3.8	
9	1	1.9	
10 or more	8	15.1	
Total	53	100.0	3.113

Table 31. The different types of off-campus clinical/affiliate education sites

Survey Measures	n	Percent	Standard Deviation
High School	47	88.7	
Sports Med. Clinic	35	66.0	
College/university	18	34.0	
Hospital	15	28.3	
Professional	14	26.4	
Industrial	5	9.4	

Table 32. Number of athletic training students assigned to off-campus clinical/affiliate sites

Survey Measures	n	Percent	Standard Deviation
None	7	13.2	
1	3	5.7	
3	4	7.5	
4	7	13.2	
5	7	13.2	
6	5	9.4	
7	1	1.9	
8	5	9.4	
9	1	1.9	
10	3	5.7	
12	3	5.7	
14	1	1.9	
15 or more	6	11.3	
Total	53	100.0	4.660

Table 33. The year that athletic training students beginning their off-campus assignment

Survey Measures	n	Percent	Standard Deviation
Freshman	2	3.8	
Sophomore	19	35.8	
Junior	22	41.5	
Senior	6	11.3	
Missing	4	7.5	
Total	53	100.0	.751

Table 34. The level of satisfaction Program Directors have for CAAHEP Standards

Survey Measures	n	Percent	Standard Deviation
Satisfied	23	43.4	
Somewhat satisfied	23	43.4	
Somewhat dissatisfied	6	11.3	
Dissatisfied	1	1.9	
Total	53	100.0	.744

Open-ended Responses

The following is a description of the findings for the qualitative data that were collected in the survey, much of it based on open-ended responses from the Program Directors. There are two basic divisions of this data: one deals primarily with curricular issues and student selection, the second with rewards and challenges of CAAHEP standards for institutions and individual program directors. Certain themes emerge from all these responses that add depth to the previously described data, and they will be pointed out as they become apparent. Since many respondents listed more than one response to these questions, the total percentages in the figures do not equal 100%.

Curricular and Student Issues

Program Directors were asked to list the criteria used for the admission of transfer students into their accredited programs (see Figure 1). It appears that GPA (44%) and clinical observation hours completed (34%) are the most important criteria used. Using both GPA and clinical observation hours as admission criteria are not surprising, but there are some new standards from CAAHEP that Program Directors have to be aware of regarding the observation hours for perspective athletic training students. Perspective students have not been formally accepted into the athletic training program, but may come into the athletic training room to observe or shadow one of the certified athletic trainers. This allows prospective students to see what a certified athletic trainer's day is like and to get a better feel for the athletic training profession. The prospective students cannot be given any direct supervision from the certified athletic training staff because this will take away from the learning experience of the students who have been accepted into the program. The ratio of students to certified athletic

trainers (see Table 25) only pertains to those students who have been formally accepted into the athletic training program and this is closely watched by the Joint Review Committee-Athletic Training (JRC-AT) when programs have to turn in their annual reports of the number of students they have in the program. If athletic training programs do not adhere to the ratio set by CAAHEP and have too many students under direct supervision, it may affect them when it comes time for re-accreditation.

The issue of student assessment is also clearly on the minds of Program Directors. The NATA Board Certification examination consists of three sections based on the following assessment techniques: 1) written, 2) oral practical, and 3) written simulation. It is apparent from this study that Program Directors are evaluating their students within a similar format (see Figure 2). Ninety percent of program directors surveyed utilize written exams and oral practical exams to evaluate their students. About one-quarter (26%) of Program Directors use clinical check-off sheets to document successful completion of the required competencies that make up the NATA Board Certification exam. It would seem that videotaping the students (for teaching purposes) while performing their clinical skills might have been mentioned, but it's not. This could be explained by the fact that Program Directors do not have the time to review the tapes with all of the students that are completing the competencies.

Curriculums for accredited programs are, under new CAAHEP standards, more closely tied to successful certification competencies and outcomes for students. The athletic training competencies are divided into cognitive, psychomotor, and affective. An example of an affective competency may be "Accepts the moral, professional and legal responsibilities to conduct safe programs to minimize injury and illness risk factors for

individuals involved in physical activity" (NATA, 1990b). Since affective competencies are so multifaceted, it is not surprising that there are a variety of ways that Program Directors are assessing them (see Figure 3). The most common method of assessment is written essays (29%), followed by oral practical exams (18%), check-off sheets (16%), and classroom performance (16%). Also mentioned were clinical observation, evaluation forms, portfolios and/or papers, and projects. A question as to how overall competencies of students in athletic training were documented from 1992-1999 showed an overwhelming majority (58%) of program directors rely on check-off sheets (Figure 4).

Rewards and Challenges in CAAHEP Accreditation

The rewards that were identified are consistent with other studies completed by the NATA (NATA, 1994, 1996, 1997). Seventy five percent (75%) of the Program Directors who responded to this survey list the quality, the recognition, or the standardization of the athletic training education program as the most rewarding aspect of being CAAHEP-accredited (Figure 5). Also mentioned as rewards were recruitment and preparation of students and structure of the program. Least mentioned as a reward was evaluation by CAAHEP (7%). Hopefully, as Program Directors become accustomed to the new accreditation guidelines, that process will be seen as more helpful. Also, as time goes on, the public will also recognize these rewards by the fact that entry-level athletic trainers that are entering the work force will be better prepared to handle a variety of allied health care responsibilities and skills.

The challenges encountered while trying to meet CAAHEP standards (see Figure 5) that program directors emphasize are consistent with what has been seen earlier in

the study. Lack of time and staff are equally mentioned (20% each), followed by money (18%) and resources (12%). Having enough staff to provide clinical supervision, teach didactic courses, and also provide clinical coverage for the athletic teams is another challenge. For example, if the Program Directors assign seven students to one clinical supervisor but that supervisor travels with the athletic teams, the quality of the students' education and learning may suffer.

This finding leads the researcher to wonder whether perhaps one of the greatest issues facing the CAAHEP programs is where that accredited major will be housed. The data from this survey show that currently there are a wide variety of academic divisions where athletic training programs can be found (see Table 35). Some of the major divisions (Schools or Colleges) include Health and Physical Education, Education, Arts and Sciences, Social Science, Medicine, Allied Health, and Physical Therapy. Departments are also under a wide umbrella, listed in various places as under Athletic Training, Kinesiology, Health and Physical Education, Exercise Science, Sports and Leisure Studies, Movement Science, and Sports Science. Historically, athletic training departments have been closely allied with physical education and athletic programs. As such, they provided much of the workload for taking care of athletes for the supporting institution. Increasingly, institutions and athletic trainers alike are realizing the demand for certified athletic trainers for a physically active general public. This has moved some departments out of physical education and into the growing area of health and human services. The field of allied health care has also picked up on the need for certified athletic trainers working in addition to, or in conjunction with, physical therapists in clinical settings. This has led to recognition by the American Medical

Association (AMA) of athletic trainers as allied health care professionals. Program directors are being pulled in different directions depending on their own institutional structure, and they also have to be cognizant that some academic divisions have more staff, money, and resources at their disposal than do others. One wonders, will the AMA recognition of athletic trainers push the accredited programs into a closer relationship with allied health and medical school divisions? Will this mean there are less accredited programs in the future under the direct control of physical education departments? What role will athletic departments play in staffing and supporting the trainers they need to support their programs? Will Schools of Education and/or Arts and Sciences find themselves less likely to be able to afford the high costs and increased staffing needs of a fully accredited CAAHEP program?

All of the challenges listed lead program directors into the murky waters of institutional support. When asked if there was something else they would like to add, 25 respondents made direct reference to institutional issues related to time, staffing, resources, and the political savvy necessary to swim through these waters (see Table 36). Common themes among these responses are for program directors seeking accreditation to be ready to increase their workload, to make sure they have enough time and personnel to do all that needs to be done, and to be absolutely sure of institutional support beyond the initial stages of applying for accreditation.

n = 43

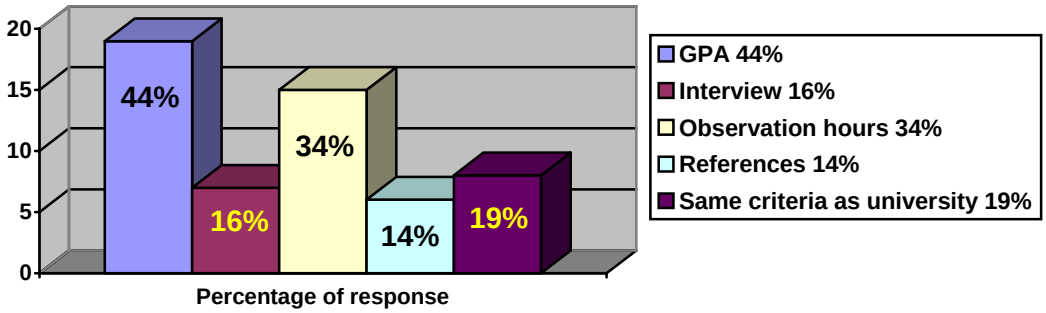

Figure 1. Athletic training Program Directors admission criteria for transfer students

n = 43

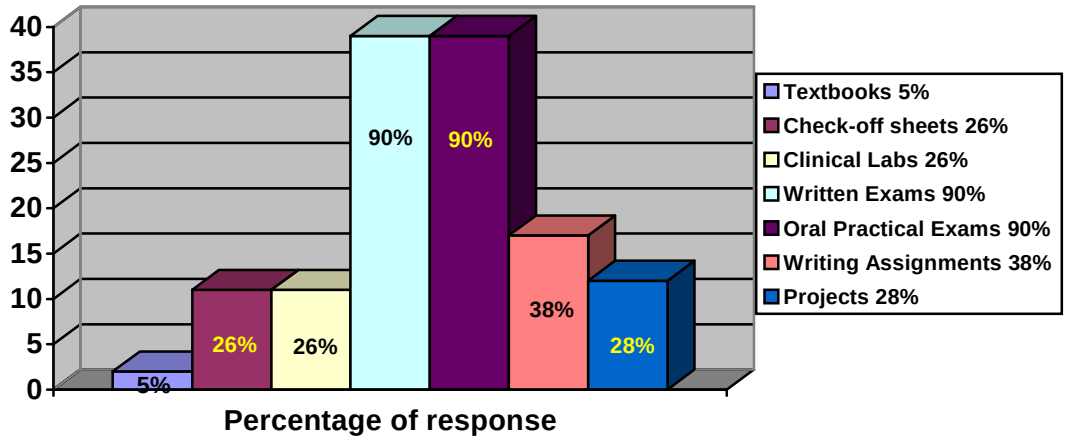

Figure 2. How athletic training Program Directors evaluate competency-based student learning at the course level.

Note. Most widely used textbook was Knight, K. L. (1998). Clinical experiences in athletic training: A modular approach (2nd ed.). Champaign, IL: Human Kinetics.

n = 38

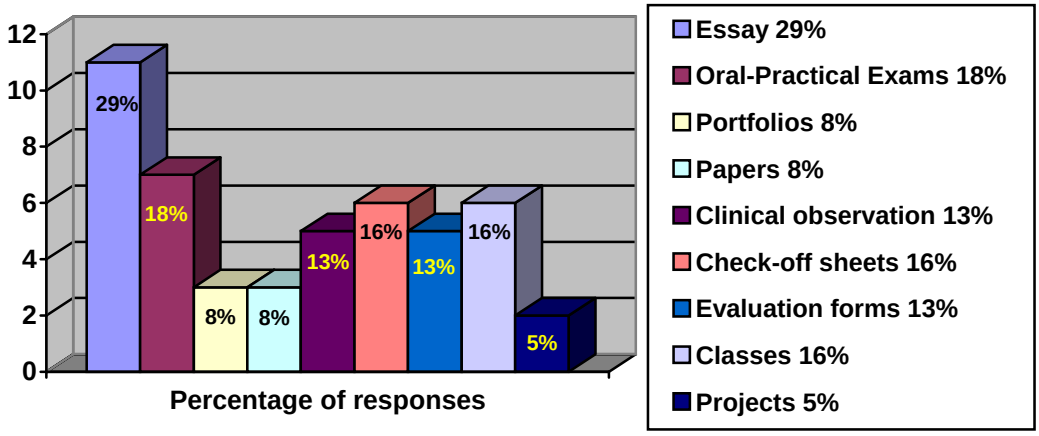

Figure 3. How athletic training Program Directors are assessing the affective competencies in Domain 1: Prevention for the 1992-1999 Competencies in Athletic Training.

n = 43

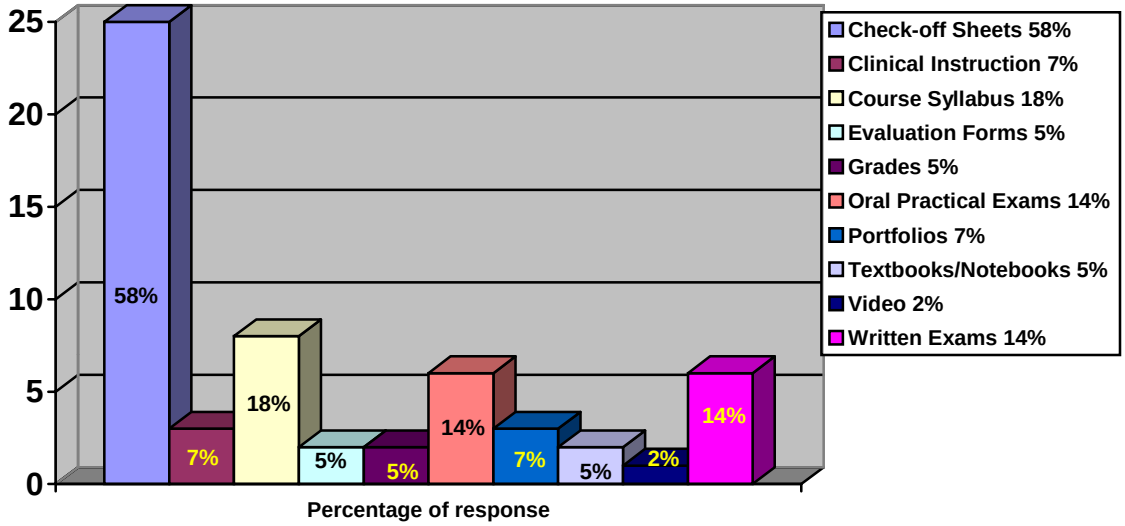

Figure 4. How athletic training Program Directors documented the 1992-1999 Competencies in Athletic Training

n = 44

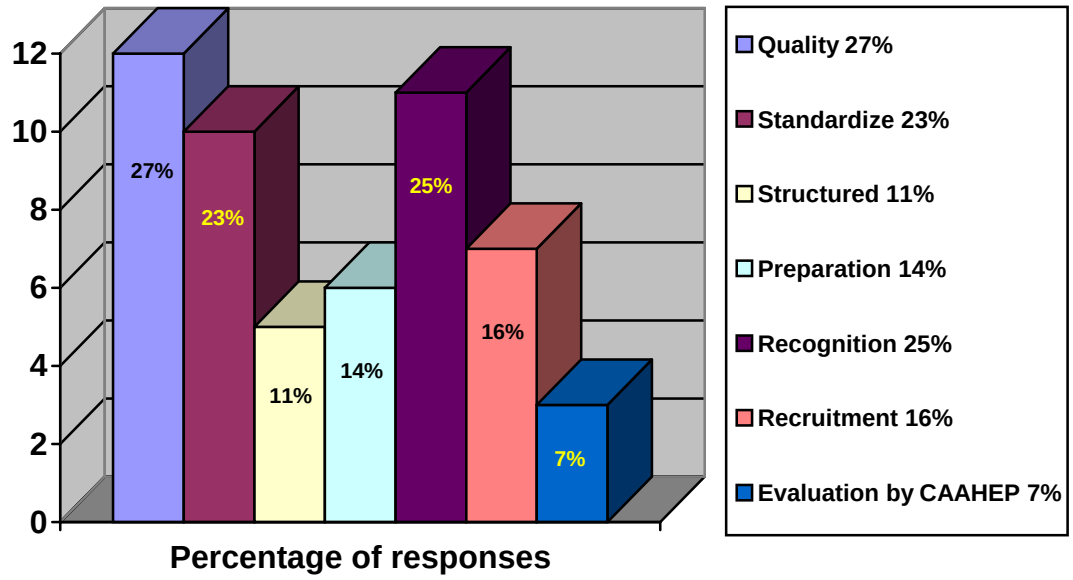

Figure 5. The rewards of having a CAAHEP accredited entry-level undergraduate athletic training program.

n = 45

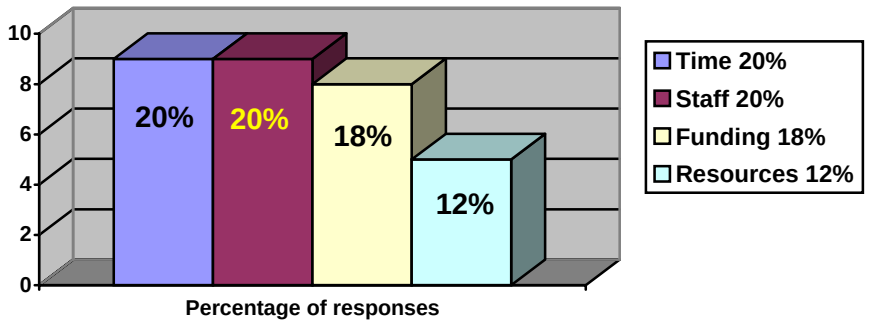

Figure 6. The challenges athletic training Program Directors encounter while trying to meet CAAHEP Standards and Guidelines.

Note: Most common theme seen with resources was equipment and facilities.

Table 35. College and/or department that athletic training programs are housed.

College or School of	Department of
Health and Human Services	Kinesiology
Health, Physical Education and Recreation	Healthful Living and Sports Studies
Education	Athletic Training
Arts and Sciences	Health, Physical Education, Recreation, and Dance
Medical Center	Sports, Fitness and Leisure Studies
Education and Human Services	Physical Education and Athletic Training
Education and Professional Studies	Health, Physical Education and Sports Sciences
Science and Humanities	Health Science
Fine and Applied Arts	Exercise Science Department
Health and Human Performance	Physical Education
Social Science	Health, Leisure, and Exercise Science
School of Medicine	Movement Science, Sport and Leisure Studies
Allied Health and Nursing	Exercise Science
Physical Therapy	Sport Sciences

Table 36. Direct quotes from the athletic training Program Director's

1. Initiate a feasibility study of applicant pool for interest in the field of athletic training.
2. Run everything by Pete Koehneke for his ok; he is the final authority on all issues. The opinion of anyone else, official or unofficial, is of little value if Pete thinks otherwise.
3. Assess future program needs beyond initial accreditation and be sure University is willing to expand and support program in future. Assess need for program based on job market and geographic location (proximity to other CAAHEP ATEPs). Do not add program simply to avoid loss of student help.
4. Hire a consultant
5. Be ready to add to your workload. Talk with other Program Directors. Attend education presentations and conferences.
6. Make sure you have all of the time & personnel that you need
7. Assess carefully your goals for wanting accreditation
8. Be honest in your assessment of weaknesses. If you are struggling to meet minimum requirements and cannot find a creative way to solve the problem, then your institution cannot support a program.
9. Don't start a new program unless you think your program will be able to provide a high quality athletic training education experience or your program will have something unique to offer students. The proliferation of new programs is the single greatest threat to the profession of athletic training.
10. Think outside the box and just because that is the way it has been done historically does not mean that is the best way. Look at other professional programs and pick and choose what will work at your institution.
11. Need minimal staff of three or more need sufficient funding, need support from administration, need adequate facilities both academic and athletically and need to start early enough to get the job done. Also hiring someone to consult with potential programs prior to process is benefit to the accreditation process.
12. What I have told most people is look at the proficiencies and what necessary equipment is to teach those proficiencies. This seems to be the biggest start up cost for most programs outside of cost for staffing.

13. Good Luck. Times have changed and it is often difficult to convince administration of the changing needs of initiating and maintaining a CAAHEP accredited program.
14. Surround yourself with highly motivated and hard working professionals on your institutions self-study committee. Trying to do everything your self is impossible; must have a committee working on accreditation!
15. Everyone involved be prepared to a very time intensive procedure that will take years to adequately complete.
16. Have a good support group. Make sure your administrators are with you on this process. Make sure your team physician(s) is with you on this process. Have an internal and external steering committee throughout the entire process.
17. Play the game
18. Plan early. Start the self-study 2 yrs prior to submission date. Delegate responsibilities to sections of the self-study. Meet weekly to discuss progress. Establish set time lines for completion of sections
19. Unless there is unquestionable support from administration, Athletics, and faculty, explore the possibility of initiating a Graduate Entry-level AT program.
20. Have an evaluator team evaluate the program ahead of time. Maintain contact with NATA-JRC about questions and clarifications of S and G.
21. Is there support for the program? (Which always comes down to money and resources) Make sure the Dean of the college and department chair will support the program.
22. TOO MANY institutions are seeking accreditation for the wrong reasons, the market cannot bear this many programs therefore many will fail!
23. Use your staff to help, get support from your faculty, get release time, be patient, and have faith.
24. Make certain you have institutional support or don't bother seeking initial CAAHEP accreditation.
25. Critical to have sufficient institutional support in terms of resource (both personnel and financial). Essential to have all players on board to ensure that program is being initiated for the right reasons (education) rather than for the wrong reasons (to sustain labor force).

Discussion

Review of Findings and Discussion

The purpose of this study was to survey current Program Directors and identify how they developed their programs with available resources to meet the Commission on Accreditation of Allied Health Education Programs (CAAHEP) accreditation standards. Casa (2001) suggests five "I"s for framing a good discussion: 1) **I**ntegrate your findings into the current literature; 2) **I**nterpret the meaning of your results; 3) **I**mplications of your findings for changing or strengthening policies, procedures, methodology, etc; 4) **I**dentify the limitations of the current study, so the reader can apply the results to the specific context in which the data collection occurred; 5) **I**deas for continued research that would build upon the current findings. This section will utilize this model as it relates to the findings.

Research Question One

1. What are the demographic characteristics of Athletic Training Education Program Director?

Program Directors of CAAHEP approved programs are required by undergraduate guidelines to have 1) current NATA recognition as a certified athletic trainer, and 2) a minimum of three years of full-time experience as a NATA certified athletic trainer including experience in the clinical supervision of student athletic trainers. A CAAHEP Program Director must also be a member of the institution's teaching faculty, while demonstrating involvement in athletic training and sports

medicine through publication, research, public speaking, and membership in related professional organizations.

Athletic trainers seeking Program Director positions should recognize the difficulty associated with the combined responsibilities of being an educator and a clinician. The results show a shift in the demographic profile of Program Directors. There were three themes that emphasized a demographic profile: 1) Program Directors are not likely to hold the title of Head Athletic Trainer, but do have some clinical responsibilities, 2) Program Directors tend not to have a split appointment between academics and athletics, and 3) Program Directors are likely to be in tenured positions instead of non-tenured positions, even though they have not yet moved up in academic rank in great numbers.

The position of Program Director was developed in the early seventies and has changed considerably since that time according to the results of this study. Oftentimes in the past, the head athletic trainer and athletic training education Program Director were one in the same. Data from this study reveals that 89% of the respondents do not have the job title of head athletic trainer and when asked if they had a split appointment between athletics and academics, 64% said they did not have a split appointment. Perrin and Lephart (1988) first suggested that Program Directors are facing a dilemma between being an athletic training educator and a clinician. From a student's perspective, the classroom credibility of an athletic trainer may be questioned if the athletic trainer is not involved in performing the daily responsibilities of a clinician (Perrin & Lephart, 1988, p. 42). For example, a professor of orthopedics attempts to describe to

an orthopedic resident the best approach for reconstruction of a shoulder injury without having regularly performed surgery on such cases.

As for faculty rank, the majority of the respondents were in a junior rank position, with 45% as instructors and 34% as assistant professors. When asked if the athletic training Program Directors' positions were in a tenured or non-tenured track position, 67.9% said that they were in a tenured position. The Walsh and Dewald (2000) study between 1997-1998 surveyed undergraduate CAAHEP accredited athletic training programs (N=88) and found that 29% were on a tenure track and 42% had already acquired tenure. Perrin and Lephart (1988) discussed the concept of Program Directors obtaining tenured status in the *Journal of Athletic Training*. At that time, the authors recognized the conflicts between the criteria required to gain tenure (teaching, scholarship/research, and service) and the clinical demands and challenges of implementing a new academic program that face many Program Directors.

Research Question Two

2. What is the workload of the Athletic Training Education Program Directors?

The Program Director must serve as an educator, faculty member, clinician, recruiter of students, supervisor of clinical assignments, student advisor, coordinator of the educational experience, and liaison between the athletic training program and Joint Review Committee-Athletic Training. From the results of this study it is clear that Program Directors have to balance a considerable workload, with 38% advising 30 or more students per year, and having an academic load of 10 to 14 credit hours of teaching per year. For those Program Directors who are in a tenure track positions which typically reflect assessments of past and current performance, and judgments

about future potential as a faculty member in the areas of scholarship/research, teaching and service. Perrin and Lephart (1988) found that the demands placed on a faculty member seeking tenure often forces that professor to compromise his or her professional integrity. The quality of classroom instruction and academic advising may suffer. Complicating matters is the athletic trainer's commitment to clinical work.

Research Question Three

3. What challenges and rewards do Program Directors experience while trying to meet CAAHEP Standards?

As athletic training programs change to meet accreditation standards, the concept of quality has come to the forefront. One respondent said, "The students in the athletic training program are ensured that they will be provided with a quality educational experience." Richard Ray, co-chair (1994) of the NATA Education Task Force, said the greatest way to enhance the education of the athletic trainer was to standardize it (McMullan, 1997). A benefit of standardization is that it lets the public and other members of the health-care community know that when they work with an athletic trainer, they will be working with a person of high quality who has been educated to a very rigorous standard. Another respondent said, "By having CAAHEP standards in place it will assure quality graduates for placement and professional advancements." CAAHEP accredited athletic training programs provide recognition to other allied health care professionals by producing quality graduates. On the other side of the equation are the difficulties that Program Directors face while administering a CAAHEP accredited program. Some of these issues have previously been discussed, specifically, the conflicts between tenure and clinical responsibilities.

According to one respondent, “The most difficult aspect has been the recent expansion of the number of subject matter areas and competencies to be taught.” According to Koehneke (2001), the days of the Program Director being the individual to coordinate the academic program, the clinical education portion, and be extensively involved in athletics have passed. This study reveals a different story. Program Directors are still doing it all, with 34% still in a split appointment between athletics and academics. Even though the number of Program Directors acting as head athletic trainers is significantly low (11.3%), 37.7% of the respondents still have some clinical responsibilities. Another difficulty that was mentioned earlier is how tenure requirements place another burden on Program Directors. The number of adverse tenure decisions has been rising as more effort by Program Directors is put into academic programs, thus decreasing their time for the scholarly productivity required to gain tenure (Koehneke, 2001).

Research Question Four

4. How is the curriculum designed to meet CAAHEP standards?

According to the respondents from this study, CAAHEP accreditation has increased the educational competencies and clinical proficiencies, which at times do not always seem relevant to the entry-level professional. CAAHEP has asked Program Directors to assess the competencies over time and for some respondents it is quite a task to fit them into a curriculum that is already in existence. An increase in the number of competencies requires the expansion of the curriculum, which for some programs demands an increase in the length of the athletic training program from two to three

years. Along with the expansion of the curriculum and assessment over time, Program Directors are faced with increasing their staff to accommodate this demand.

Athletic training programs are also expanding their curriculums to expose athletic training students to other allied health care professionals. This exposure to other allied health care professionals is evidenced in this study by the utilization of off campus clinical/affiliate sites. Koehneke (2001) says the field experience component of the CAAHEP standards has been broadened to allow more flexibility for programs to develop experiences unique to their institutions. The majority of the respondents use high schools and sports medicine clinics for their field experience. This exposes the students to high school nurses, clinical nurses, physical therapists, physicians, nutritionist, and exercise physiologists. This field experience prepares athletic training students for graduate school and may clarify their career choices as athletic trainers.

Chapter V

Summary, Conclusions and Recommendations

The purpose of this study was to survey college and university Athletic Training Program Directors to ascertain how they have met or are currently meeting standards for Commission on Accreditation of Allied Health Education Programs (CAAHEP) certification guidelines to be implemented in 2004. One hundred and fourteen Program Directors were contacted and 53 (46%) completed the survey. This chapter summarizes the study and follows with a discussion of the conclusions and recommendations

Summary

Athletic training is a growing profession that has attained a significant level of professional acceptance in the fields of athletics and allied health care. The National Athletic Trainers Association (NATA) was founded in 1950 to stimulate and promote the recognition of the athletic training profession by establishing closer professional relationships within the allied health care communities; facilitate ideas and knowledge through local, state, district and national meetings; and establish a unified standard of professionalism by providing continuing education. The NATA has steadily raised the standards of education and performance of its members since the inception of the first athletic training education curriculum, accepted by the NATA in 1959. Perrin and Lephart (1988), studied the role of the NATA curriculum director as clinician and educator. Rudd, Templin, & Torisceli (1988), discussed a systematic approach toward achieving the successful conversion of an athletic training emphasis, concentration, option, or minor to an academic one. Harrelson, et al., (1997) assessed the learning

styles among undergraduate athletic training students. However, the largest undertaking and most significant study began in 1994 with an internal review aimed at reforming athletic training education. The NATA Board of Directors commissioned the Education Task Force to submit recommendations for taking the NATA into the future of allied health care. Specifically, one of these recommendations was to see entry-level athletic trainers expand their body of preparatory knowledge and move athletic training education into the 21st century. As a result, the NATA eliminated the traditional student internship, thereby aligning athletic training education programs all under one route of certification. Instituting CAAHEP Standards and Guidelines to help with this unification and develop new competencies and clinical proficiencies are some of the challenges facing this new education reform.

Data Collection

A review of the literature does not reveal a survey instrument that could be used in conjunction with the accredited undergraduate athletic training programs. Therefore, an instrument (Appendix E) was developed that was based on this researcher's twelve years of experience as a certified athletic trainer and Program Director. This study criterion was delimited to program directors who already had established an accredited undergraduate athletic training education program through CAAHEP accreditation standards and guidelines. The population frame consisted of those athletic training Program Directors identified from a roster of accredited athletic training programs obtained on the NATA World Wide Web site (www.nata.org). A cross-sectional survey instrument was pilot tested, revised, and then sent via e-mail with a cover letter (Appendix H) to the 114 subjects in the population. A total of 53 were returned for an

overall response rate of 46%. The data gathered was primarily informational, and the analysis of this data was descriptive in nature.

Conclusion

While this study focused on current CAAHEP accredited undergraduate athletic training programs, it is important to realize that before CAAHEP and athletic training educational reform there were two routes toward certification—an internship (hands-on) training program, or an NATA accredited program that focused on academic coursework. Students from an internship program that received less didactic instruction and more clinical instruction did predominately worse on the written section of the NATA Board Certification exam than did students from an accredited program. On the other side of this issue, internship students did better on the oral section of the exam than did the students from an accredited program. This has been attributed to the fact that accredited programs have more didactic course work and less clinical course work. New athletic training educational reform focuses on the strengths of both methods of learning.

A second reason for the combination of the two routes toward certification was for state licensure requirements and regulation of allied health care workers. For these reasons the NATA set out to combine the two routes of certification, utilizing the stronger didactic framework of an accredited program and the stronger clinical course work of the internship program. The findings of this study corroborate the new emphasis on balance of both didactic and clinical course work (see Tables 19 and 20). Additionally, the American Medical Association recognition of NATA brings more credibility to the profession of athletic training. The AMA, in working with CAAHEP, is

assisting the accrediting agency for athletic training to make sure that educational standards are becoming more clearly defined, broader in scope, and well-publicized.

The Commission on Accreditation of Allied Health Education Programs has also provided to the institutions that elect to have an accredited athletic training program broad flexibility in program development and administration. The CAAHEP standards and guidelines provide the basic framework for program development while, at the same time, allow the institution the flexibility to tailor the program specifically for their institutional policies and procedures. This study demonstrates that flexibility quite clearly. For example, one can see the diversity in the number of competencies being taught per course, and in the number of courses being offered in each department (see Tables 18 and 21).

Until recent times, athletic trainers primarily worked in a traditional sports setting (i.e., high schools, colleges, and professional sports) and not with the general public. Since the AMA has officially recognized the NATA as a member of professional allied health care providers, job opportunities have expanded into more traditional medical areas (i.e., hospitals, clinics, and private practices). This movement by athletic trainers into more patient-based areas of health care is why the NATA has such an expanded list of competencies for the accredited athletic training programs to cover. New programs must prepare students for jobs in all different types of health care settings and not just in a traditional sports or academic setting.

One potential problem with the new CAAHEP standards and guidelines is that current Program Directors wear a variety of hats, perhaps too many. Athletic training Program Directors are faced with the daunting task of program development and

administration of evolving and complex programs, and for some this still includes heavy clinical responsibilities. Another factor identified in this study is that Program Directors have different levels of educational degrees and academic ranks, all of which may influence the Program Directors' time commitment to the athletic training program (see Table 4 and 6). An example being a Program Director in a tenure track position must provide considerable additional time to teaching, scholarly activities, and services to the institution. Those Program Directors that still hold the title of Head Athletic Trainer must also provide clinical duties, which oftentimes include team travel.

From the descriptive data gathered, it is clear that certain themes can be identified and that future trends of athletic training education programs are evolving. Some of these themes and trends include:

- Program Directors will increasingly have achieved a terminal degree (Ph.D.) that automatically places them into a tenured position. This will increase the amount of professional responsibility required by the position.
- Program Directors will increasingly find themselves strictly in an academic position and far less likely to be in a split position between athletics and academics.
- Newly accredited programs, and programs seeking accreditation, will most likely have to expand their course offerings to cover all new competencies.
- Athletic training positions for faculty at accredited institutions and those seeking accreditation will need to be increased in order to cover the expanded curriculum. Certified athletic training faculty will need to teach non-core as well as core courses in the new curriculums. (It is noteworthy that faculty positions in this study seem not to be affected by gender bias (see Table 3).)

- Accredited programs will utilize several affiliate training sites for students to obtain their clinical work experience. Program directors will have to spend more time involved in community networks to maintain a good working relationship with those professional sites.
- Evaluation of student learning at the course level in accredited programs will predominantly be by written and oral practical exams patterned after the NATA Board Certification examination.
- The ratio of student athletic trainers to certified athletic trainers would need to remain small. In the current study, that ratio is 7:1, which is below the recommended 8:1 ratio set by CAAHEP.

Even though the athletic training profession is moving toward its goal of educational reform and, more specifically, recognizing only accredited athletic training programs by the year 2004, education has always been in the forefront of athletic training. There have been steady changes introduced into athletic training education beginning in 1959. At that time the first curriculum model was established, and in 1969 the first accredited undergraduate athletic training program was recognized. As a result of the Role Delineation Study, institutions have had to expand their curriculums in order to cover all of the new competencies. A comparison of the 1980s athletic training curriculum (appendix C) to this current study shows that Program Directors are now offering more core athletic training courses. New courses that CAAHEP is requiring, such as pharmacology, sports nutrition, therapeutic modalities, and therapeutic rehabilitation, were originally taught within one or two courses (basic athletic training and advanced athletic training) as subject matter and not as separate courses.

Additionally, Program Directors are developing their curriculums with one subject matter, i.e., rehabilitation, and are not having a multitude of subject matters in one course. Rationale for this curriculum expansion could be explained by both the increased number of athletic training competencies required, and that athletic trainers are no longer providing health care only to injured athletes. Athletic trainers are increasingly moving into allied health care settings where the injured patient may be a banker during the week and a downhill skier on the weekends.

Another theme that has been identified from this study is the need of supporting faculty to teach the non-core athletic training courses. Currently, certified athletic trainers must teach the entire core athletic training courses, as this is required by CAAHEP. However, as for the other courses (i.e., anatomy and physiology, nutrition, exercise physiology, pharmacology, etc.), there is a need for additional certified faculty to be involved. This study shows that some programs utilize as many as 10 additional faculty members to teach courses that are not core athletic training courses (see Table 23). Program Directors have to coordinate and communicate learning outcomes to all faculty involved in order for the total academic program to run smoothly. For this reason, a good portion of the Program Director's time will be spent in administrative duties, communicating to the faculty, doctors, certified athletic training staff, affiliate athletic trainers, and administration. All of these stakeholders must be on the same page, understanding what the required competencies are, how best to assess the competencies, and how to assess students' learning outcomes over time.

With all of the administrative and teaching responsibilities required of Program Directors under the new standards, it seems clear that there needs to be a rethinking of

institutional policy when defining the position of athletic training Program Director. In this new era, athletic training Program Directors will unlikely be given any clinical care responsibilities because they do not have the time. In the future, institutions that are looking into developing an accredited athletic training program must realize that Program Directors in the future will not be able to handle split appointments.

Recommendations for Further Research

There are six recommendations for future research that come out of this study:

1. As the athletic training programs continue to expand their curriculums it is necessary to systematically assess how these programs are evaluating students' progress through the competencies over time. If students are unable to pass a competency are they still matriculated through the program?
2. When developing the athletic training curriculum is there a preferred sequence for the competencies that have to be taught?
3. Is there a preferred way to evaluate students' learning over time in a competency based athletic training education program?
4. There should be further research in the area of designing an athletic training program curriculum model that could be utilized by future Program Directors.
5. How will institutional support change as a result of the new recommendations from CAAHEP? Current Program Directors cite problems with time, resources, and money as they scramble to meet new standards. Will institutions respond? Will there be a shift in where the academic major is housed based on resources available?
6. A change in policy at the institutional level should be implemented when it comes to hiring practices for Program Directors in a tenured position. The Program Directors job responsibilities are so vast that they should be included as part of their tenure and promotions.

In conclusion, this study has shown a continual growth of athletic training education, from the inception of the first accredited athletic training program in 1969 to the current status of having all athletic training programs accredited by 2004. Historically, many athletic training Program Directors were also Head Athletic Trainers, primarily hired by the athletic departments to provide clinical coverage of their athletic teams and to teach some classes in athletic training. This study shows the athletic training Program Director becoming a separate entity, now being integrated into the mainstream of academia with far fewer clinical responsibilities. Program Directors will increasingly be doctorate-level, tenure-track academicians who will have to oversee a broad-based curriculum, diverse faculty, and various training sites for student athletic trainers. The following recommendations for future research have been made on the basis of the findings of this present study.

The goal of this study has been to assist future athletic training Program Directors that are trying to meet the new CAAHEP accreditation standards and to help them understand the institutional, curricular, program development and academic issues involved in providing athletic training education to future athletic trainers.

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Appendix A

1959 Athletic Training Curriculum Model

- Physical therapy school prerequisites (minimum 24 semester hours)
  - Biology/Zoology (8 semester hours)
  - Physics and/or chemistry (6 semester hours)
  - Social sciences (10 semester hours)
  - Electives (i.e., hygiene, speech)
- Specific course requirements (if not included above)
  - Anatomy
  - Physiology
  - Physiology of exercise
  - Applied anatomy and Kinesiology
  - Laboratory physical science (6 semester hours, chemistry and/or physics)
  - Psychology (6 semester hours)
  - Coaching techniques (9 semester hours)
  - First aid and safety
  - Nutrition and foods
  - Remedial exercise
  - Organization and administration of health and physical education
  - Personal and community hygiene
  - Techniques of athletic training
  - Laboratory practices (6 semester hours or equivalent)
- Recommended courses
  - General physics
  - Pharmacology
  - Histology
  - Pathology

Note: Material reprinted from The History and Evolution of Athletic Training Education in the United States, by Gary D. Delforge, & Robert S. Behnke, March 1999, The Journal of Athletic Training, 34, (1) pp. 54.

Appendix B

Table 37. Mid 1970s athletic training curriculum course requirements

Name of Course	Number of Courses Required
Anatomy	1
Physiology	1
Physiology of exercise	1
Applied anatomy and Kinesiology	1
Psychology	2
First aid and safety	1
Nutrition	1
Remedial exercise	1
Personal, community, and school health	1
Basic athletic training	1
Advanced athletic training	1

Note: Laboratory or practical experience in athletic training to include a minimum of 600 total clock hours under the direct supervision of a NATA-certified athletic trainer. Material reprinted from The History and Evolution of Athletic Training Education in the United States, by Gary D. Delforge, & Robert S. Behnke, March 1999, The Journal of Athletic Training, 34, (1) pp. 56

Appendix C

1983 Athletic Training Curriculum Subject Matter

Prevention of athletic injuries/illnesses

Evaluation of athletic injuries/illnesses

First aid and emergency care

Therapeutic modalities

Therapeutic exercise

Administration of athletic training programs

Human anatomy

Human physiology

Exercise physiology

Kinesiology/biomechanics

Nutrition

Psychology

Personal/community health

Instructional methods

Note: Material reprinted from The History and Evolution of Athletic Training Education in the United States, by Gary D. Delforge, & Robert S. Behnke, March 1999, The Journal of Athletic Training, 34, (1) pp. 58

Appendix D

Competency-Based Education Development Two Year Plan

First Year; Policy Development (Ongoing)

1. Philosophical Emphasis
    a. Basic vs. Optimal
    b. Instructional vs. Evaluative
    c. Availability vs. Security
2. Course of Study
3. Competency Item Selection
4. Test Item Development or Selection
5. Field Test
6. Revision Based on Field Test
7. Field Test
8. Revision based on Field Test
9. Record keeping Management System
10. Staff In-Service

Second Year;

11. Implementation
12. Evaluation (Bradley, 1987).

Appendix E

Actual Survey Instrument

Identifying the current program development trends for accredited undergraduate athletic training educational programs

This survey is being conducted under the guidelines established by Virginia Polytechnic Institute and State University. By cooperating, you will help the survey administrators find answers to important questions: however, your participation is strictly voluntary. You should omit any questions that you feel invade your privacy or may be offensive to you. Confidentiality is guaranteed; your name will not be associated with your answers in any public or private report of results. The purpose of this study is to identify the current program development trends for accredited undergraduate athletic training educational programs. This information could help Program Directors seeking initial CAAHEP accreditation.

Directions: Using your mouse click on the appropriate radio button, check box or pop-up menu. In the open-ended question click inside the text box and begin typing, the text will automatically wrap. Once you have completed the survey click on the submit button at the bottom of this survey.

Demographic Profile of Athletic Training Program Directors

1. What is your gender?

Male ○ Female ○

2. Check the highest degree that you hold:

Bachelors ○ Masters ○ Doctorate ○

3. Check all the certifications or licenses that you hold:

Licensed/Certified Athletic Trainer ☐ Physical Therapist ☐ Kinesiotherapist ☐

Emergency Med. Tech. ☐ Strength and Conditioning ☐

Other, specify _____

4. Select your academic position:

Staff ○ Instructor ○ Assistant Professor ○ Associate Professor ○

Full Professor ○

5. Is your academic position Tenure or Non-Tenure track?

Tenure ○ Non-Tenure ○

6. Do you have a split appointment between academics and athletics?

Yes ○ No ○

7. If yes to question number six what is your percentage?

40% academics/60% athletics ○ 50% academics/50% athletics ○ 60% academics/40% athletics ○ 70% academics/30% athletics ○ 80% academics/20% athletics ○ 90% academics/10% athletics ○ N/A ○

other: _____

8. Are you the head athletic trainer at your institution?

Yes ○ No ○

9. Do you have athletic training responsibilities for a specific sport(s)?

Yes ○ No ○

10. If yes to question nine, then how often do you travel with the team(s) per year?

1 to 4 ○ 5 to 9 ○ 10 to 14 ○ 15 to 19 ○ 20 or more ○ N/A ○

11. What athletic division does your athletic teams compete in?

NCAA Division 1 ○ NCAA Division 2 ○ NCAA Division 3 ○ NAIA ○

12. What is the number of credit hours that you are teaching during the 2000-2001 academic year?

None ▼

13. What is the average number of students that you academically advise per year?

None ▼

14. Are you given release time for program development?

Yes ○ No ○

15. If yes to question fourteen, how many credit hours of release time are you given per semester?

N/A ▼

Program Development

16. Indicate the number of core athletic training courses (e.g., Advanced Athletic Training, Therapeutic Modalities etc.) that your Department offers:

1 to 4

17. What is the number of cognitive athletic training courses that you are teaching during the 2000-2001 academic year?

None

18. What is the number of psychomotor athletic training courses that you are teaching during the 2000-2001 academic year?

None

19. What is the average number of the 1992-1999 Competencies in Athletic Training that are being taught in each of the core athletic training courses?

None

20. How many full time certified athletic trainers are working at your institution this academic year?

None

21. How many additional full time faculty (that are not certified athletic trainers) do you have assigned to teach some of the Competencies in Athletic Training.

None

22. Based only on the number of certified athletic trainers at you institution, how many are responsible for checking off clinical proficiency completed by the student athletic trainers?

None

23. What is your student athletic trainer to certified athletic trainer ratio?

less than 7 to 1 ○ 7 to 1 ○ 8 to 1 ○ 9 to 1 ○ 10 to 1 ○ 11 to 1 ○

12 to 1 ○ greater than 12 to 1 ○

24. Indicate the total number of male athletic training students that are currently and have been accepted into your program for this academic year.

None

25. Indicate the total number of female athletic training students that are currently and have been accepted into your program for this academic year.

None

26. What is the average number of students graduating from your program per year?

None

27. Indicate the number of on campus clinical education facilities that your program provides.

None

28. Indicate the number of off campus clinical/affiliate education facilities that your program provides.

None

29. Check the types of off campus clinical/affiliate education sites that you are currently using? (check all that apply)

High School ☐ Sports Medicine Clinic ☐ Hospital ☐ College/University ☐

Industrial setting ☐ Professional Sports ☐ Other, ☐

30. How many student's are assigned to the off campus clinical/affiliate sites?

None

31. When do you start to assign students to the off campus clinical/affiliate sites?

Freshman year ○ Sophomore year ○ Junior year ○ Senior year ○

32. Are you satisfied with the current CAAHEP Standards and Guidelines?

Satisfied ○ Somewhat satisfied ○ Somewhat dissatisfied ○ Dissatisfied ○

comments:

33. What is your admission criteria for transfer students into your athletic training program?

Text box

34. How does your program evaluate competency-based student learning (e.g., textbooks, oral practical exams, written exams etc.) at the course level?

Text box

35. How did you document the 1992 -1999 Competencies in Athletic Training (e.g., clinical check off sheets, taping skills, etc.) being met or have been meet in your core courses for athletic training?

Text box

36. What benefits can you identify by having a CAAHEP accredited entry-level undergraduate athletic training program?

Text box

37. What difficulties can you identify in trying to meet CAAHEP Standards and Guidelines?

Text box

38. In what college and/or department is your athletic training program housed? (example; College of Arts and Science, department of HPER)

Text box

39. For the 1992 - 1999 Competencies in Athletic Training how are you assessing the affective competencies in Domain 1: Prevention?

Text box

40. Please provide any comments or insights that you feel that might benefit Program Director's seeking initial CAAHEP

Text box

41. Would you be willing to be contacted for a telephone interview regarding follow-up to this survey? If yes, please fill in the text boxes bellow.

Name/Office phone number with area code:

42. Would you like to receive survey results when they become available?

Yes ○ No ○

43. If yes to question number forty two, then please fill in the text box below.

E-mail address:

Submit Reset

Last up-dated April 27, 2001

Send comments about this questionnaire to Kirk W. Brown

Appendix F

List of Accredited Programs

Table 38. Accredited undergraduate athletic training programs

Samford University	Troy State University
The University of Alabama	University of West Alabama
Arkansas State University	California State University-Northridge
California State University-Fresno	California State University-Sacramento
University of Northern Colorado	Southern Connecticut State University
The George Washington University	University of Delaware
Barry University	Stetson University
University of North Florida	Valdosta St. University
Boise State University	Eastern Illinois University
Northern Illinois University	Southern Illinois University
University of Illinois	Western Illinois University
Anderson University	Ball State University
DePauw University	Indiana State University
Indiana University	Purdue University
University of Iowa	Emporia State University
Kansas State University	Eastern Kentucky University
Salisbury State University	Towson University
Boston University	Bridgewater state College
Endicott College	Northeastern University
Salem State College	Springfield College
Westfield State College	Central Michigan University
Eastern Michigan University	Grand Valley State University
Hope College	Gustavus Adolphus College
Minnesota State University, Mankato	Winona State University
University of Southern Mississippi	Park University
Southeast Missouri State University	Southwest Missouri State University
Truman State University	University of Montana
University of Nebraska, Omaha	University of Nevada
Colby-Sawyer College	Plymouth State College
University of New Hampshire	Keene State College
Kean College of New Jersey	Rowan University
William Paterson University	New Mexico State University
University of New Mexico	Canisius College
Hofstra University	Ithaca College
St. University of New York at Cortland	SUNY-Brockport
Appalachian State University.	Campbell University
Catawba College	East Carolina University

Elon College	High Point University
University of North Carolina	Lenoir-Rhyne College
Wingate University	North Dakota State University
University of Mary	University of North Dakota
Capital University	Marietta College
Miami University of Ohio	Mount Union College
Ohio Northern University	University of Toledo
Wilmington College of Ohio	Ohio University
Xavier University	University of Cincinnati
University of Tulsa	Oregon State University
California University of Pennsylvania	Duquesne University
East Stroudsburg University	Lock Haven University
Mercyhurst College	Messiah College
Pennsylvania State University	Slippery Rock University
Temple University	University of Pittsburgh
Waynesburg College	West Chester University
College of Charleston	University of South Carolina
Augustana College	South Dakota State University
Lipscomb University	Southwest Texas State University
Southwestern University	Texas Christian University
Brigham Young University	Castleton State College
University of Vermont	James Madison University
Longwood College	Washington State University
Whitworth College	Marshall University
West Virginia University	University Of Charleston
West Virginia Wesleyan College	University of Wisconsin, LaCrosse
University of Wisconsin, Madison	

Appendix G

Pilot Survey Instrument

Survey for Program Directors of Accredited Entry-Level Undergraduate Athletic Training Programs Section A-Directions: This survey is being conducted under the guidelines established by Virginia Polytechnic Institute and State University. By cooperating, you will help the survey administrators find answers to important questions: however, your participation is strictly voluntary. You should omit any questions, which you feel invade your privacy or may be offensive to you. Confidentiality is guaranteed; your name will not be associated with your answers in any public or private report of results. The purpose of this study is to describe the current trends in CAAHEP accredited entry-level undergraduate athletic training programs.

1. Check the highest degree that you hold:

   Bachelors Masters Doctorate

2. Check all the certifications or licenses that you hold:

   Athletic Trainer Physical Therapist Kinesiotherapist Emergency Med. Tech. Strength and Conditioning

3. Other, specify

4. Select you academic position:

   Administrative staff, Academic staff, Instructor, Assistant Professor, Associate Professor, Full Professor.

5. Check the number of years you have been at your present institution:

   1 to 4, 5 to 8, 9 to 12, 13 to 16, 17+

6. Select the total number of years you have served as a Program Director of athletic training (include all institutions):

1 to 4, 5 to 8, 9 to 12, 13 to 16, 17+

7. Select the number of years you have been certified as an athletic trainer:

1 to 4, 5 to 8, 9 to 12, 13 to 16, 17+

8. Are you also the head athletic trainer at your institution?

Yes No

9. Do you have athletic training responsibilities for a specific sport(s)?

Yes No

10. If yes, which sport(s) check all that apply:

Football, Women's Basketball, Men's Basketball, Baseball Softball, Cross Country, Track and Field, Volleyball, Men's Soccer, Women's Soccer, Swimming, Lacrosse, Field Hockey, Ice Hockey, All sports.

11. Other, specify

12. How often do you travel with the sports team(s)?

Never, Seldom, Often, Always

13. Which academic calendar does your institution use?

Semester Quarter

14. What was the number of courses that you taught during the 1999-2000 academic?

15. What was the number of credit hours that you taught during the 1999-2000 academic?

16. How many students did you advise during the 1999-2000 academic year?

17. Were you given release time for program development during the 1999-2000 academic year?

Yes No

18. If yes, how many hours were you given?

19. How many full time certified athletic trainers were working at your institution last year?

20. How many part time certified athletic trainers were working at your institution last year?

21. How many graduate assistants certified athletic trainers were working at your institution last year?

22. What is your student athletic trainer to certified athletic trainer ratio?

less than 7 to 1, 7 to 1, 8 to 1, 9 to 1, 10 to 1, 11 to 1, 12 to 1, greater than 12 to 1.

23. Indicate the number of male athletic training students that are currently enrolled in your program.

24. Indicate the number of female athletic training students that are currently enrolled in your program.

25. What is the average number of graduates from your program per year?

26. Indicate the number of on campus clinical education facilities that your program provides.

27. Indicate the number of off campus clinical education facilities that your program provides.

28. How many student's are assigned to the off campus clinical/affiliate sites?

29. When do you start to assign students to the off campus clinical/affiliate sites?

30. Indicate the number of clinical hours your program requires for graduation.

31. At what academic level do most students apply for admissions into your athletic training program?

Freshman first semester, Freshman second semester, Sophomore first semester, Sophomore second semester, Junior first semester

32. What is your admission criteria for transfer students into your athletic training program?

Text box

33. How does your program evaluate competence-based student learning at the course level?

Text box

34. How do you document these learning outcomes in order to comply with the Joint Review Committee?

Text box

35. What benefits can you identify for your program with the CAAHEP standards?

Text box

36. What barriers can you identify for your program with the CAAHEP standards?

Text box

37. Please place here any comments or insights that you feel might benefit Program Directors seeking accreditation.

Text box

38. Indicate the number of courses that your department offers in athletic training?

39. Indicate the number of credit hours that your department offers in athletic training?

40. In each of the core courses of your program, what is the average number of athletic training educational competencies taught?

41. Are you satisfied with the current CAAHEP standards?

Satisfied, Somewhat satisfied, Somewhat dissatisfied, Dissatisfied

42. Would you be willing to be contacted for a telephone interview regarding follow-up to this survey? If yes, send contact information to my email at the end of this survey

Yes No

Last up-dated July 9, 2000

Send comments about this questionnaire to Kirk W. Brown

This page generated by WhizQuest v1.1 on 30-Dec-2000 at 11:31 am Developed at ISIS, Virginia Tech Contact Developers

Appendix H

Web-based Survey Introductory Message

Date: December 15, 2001

To: Accredited Undergraduate Athletic Training Program Directors

From: Kirk W. Brown, MS ATC

Subject: Web-based Athletic Training Program Director Survey

Dear NAME:

I would like to invite you to participate in a study that I am conducting entitled "Identifying the current program development trends for accredited undergraduate athletic training educational programs". The purpose of this study is to survey the current Athletic Training Education Program Directors to identify how they developed their programs, with their available resources, to meet CAAHEP accreditation Standards and Guidelines.

In order to gather data for this study, please read the Informed Consent for Participants. Click on this link http://www.uncwil.edu/people/brownk/InformedConsent.htm. Once you have finished reading the consent form, located at the bottom of the form you will be prompted to either click the "Yes I Agree" hyper-link or the "No I Do Not Agree" hyper-link. The “yes I agree” hyper-link will take you to the survey where you will find the directions for completing the survey. If you decide to click the “no I do not agree” hyper-link it will take you to a "Thank You" page where it will prompt you to return back to your home browser. If you would like to receive a copy of the results of the study please fill in your e-mail address at the end of the survey and I will forward them to you electronically when the study is completed.

Thank you in advanced for your time and expertise.

Sincerely,

Kirk Brown, MS ATC
Doctoral Candidate at Virginia Tech

Dr. George Graham
Doctoral Committee Chair

Appendix I

Consent Form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent for Participants of Investigative Projects

Title of Project: Identifying the current trends of program development for accredited undergraduate athletic training educational programs.

Investigator(s) Kirk W. Brown and Dr. George Graham (Committee Chair)

I. The Purpose of this Research/Project

The purpose of this study is to: (a) survey the current PROGRAM DIRECTOR of accredited entry-level undergraduate athletic training programs throughout the United States, (b) to identify how PROGRAM DIRECTOR developed their programs, with their available resources, to meet the Commission on Accreditation of Allied Health Education Programs (CAAHEP) accreditation "Standards and Guidelines."

II. Procedures

Rather than use a paper survey that would be mailed to participants it seemed easier, for both the participants, and the researcher, to rely on recent technology and use the Internet to conduct the survey for this study. In order to complete the online-survey, respondents will need access to a graphical browser such as Internet Explorer or Netscape Communicator 3.O or higher. At the bottom of this consent form you will see two links, the first link is Yes I agree which will send you to the survey, the second link which will send you to a "Thank You" page and prompt you to return back to your home browser. The direction for the online survey are as follows; Using your mouse click on the appropriate radio button, check box or pop-up menu. In the open-ended question

click inside the text box and begin typing. Once you have completed the survey click on the submit button located at the bottom of the survey.

III. Risks

There are no known risks to the participants other than what they would experience in everyday activity.

IV. Benefits of this Project

This study has benefits that will help PROGRAM DIRECTOR seeking initial CAAHEP accreditation. From the results the PROGRAM DIRECTOR can see what trends are going on in already accredited athletic training programs throughout the United States.

V. Extent of Anonymity and Confidentiality

Neither the school nor you will be identified specifically in this study. Your survey will go to a database where it will record your responses, it does not identify you in any way other than your responses.

VI. Compensation

You will not be compensated for your participation.

VII. Freedom to Withdraw

You are free to withdraw from this study at any time without penalty. If you choose to withdraw, you will not be penalized by reduction in points or grade in a course. You are free not to answer any questions if you choose without penalty.

VIII. Approval of Research

This research project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State

University, by the Department of Teaching and Learning and Curriculum Instruction and Design.

IX. Subject's Responsibilities

I voluntarily agree to participate in this study.

X. Subject's Permission

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

If I participate, I may withdraw at any time without penalty. I agree to abide by the rules of this project.

Yes I Agree No I Do Not Agree

Should I have any questions about this research or its conduct, I may contact:

Kirk W. Brown, MS ATC (910) 962-7184 office

Principle Investigator (910) 794-9185 work

Dr. David Moore (540) 231-4991 office

Chair of the University IRB e-mail: moored@vt.edu

Kirk W. Brown

Curriculum Vita

Bone: 1963-Seattle, Washington

Marital Status: Married

Education

Doctorate of Philosophy, Teaching & Learning, Expected December 2001
Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg,VA
Dissertation: A study that identifies the current program development trends for accredited undergraduate athletic training educational programs.
Master of Science Degree, Health & Sports Sciences and Athletic Training,
May 1987, Ohio University, Athens, OH
Bachelor of Science, Physical Education and Athletic Training,
May 1986, Seattle Pacific University, Seattle, WA

PROFESSIONAL SUMMARY

Volunteered at the United States Olympic Training Center, Colorado Springs. May 15 - 30, 2001.

2000 – Present	Assistant Professor/Athletic Training Education Program Director University of North Carolina at Wilmington
1999 – 2000	Graduate Teaching Assistant Virginia Polytechnic Institute and State University, Blacksburg, VA Taught three section of volleyball
1992 – 1999	Head Athletic Trainer/Assistant Professor/Athletic Training Education Program Director Bluefield College, Bluefield, VA 24605
1989 – 1992	Head Athletic Trainer/Instructor at Bluefield State College, Bluefield, WV
1987 – 1989	Sports Medicine Clinic, staff athletic trainer. Seattle, WA

1982 – 1986	Seattle Seahawks NFL, Assistant Athletic Trainer
Nov. 3, 1999	Worked as a consultant to develop a CAAHEP accredited entry-level undergraduate athletic training program for King College located in Bristol, TN
1999 – Present	Worked as a consultant to implement athletic trainers into the Tazewell County Public School District

UNIVERSITY TEACHING EXPERIENCE

2001 – Present	University of North Carolina at Wilmington, Athletic Training Program Director, Assistant Professor.
1992 – 1999	Assistant Professor/Director of the Sports Medicine Program in the department of Health Physical Education and Recreation, Bluefield College, Bluefield, VA.

Teaching Responsibilities:

- PED 302: The purpose of this course is to provide the student with an understanding of the physiological response to tissue injury and pain, physical and physiological properties of therapeutic modalities, and application of therapeutic modalities as part of the comprehensive plan of care designed to facilitate the recovery of the injured physically active person.
- PED 303: Physiological effects, indications, contraindications and applications of therapuetic exercise in the rehabilitation of injuries and illnesses for the physically active person.
- PED 304: Presents principles and techniques in the clinical evaluation of injuries and illnesses in the physically active person. The focus for this course will be the lower extremity and lumbar spine.

- PED 305: Presents principles and techniques in the clinical evaluation of injuries and illnesses in the physically active person. The focus for this course will be the upper extremity, cervical spine and general medical conditions.

Director of Sports Medicine Program Responsibilities:

- Developed the curriculum for the Athletic Training major
- Clinical supervision of student trainers
- Student advising
- Committee Work:

2001 – Present: Chaired Ad-hoc committee for Accreditation of Athletic Training Education Program.
Health, Physical Education and Recreation Dept. Graduation Committee

PRESENTATIONS & SEMINARS

Kirk Brown, Sarah Westfall, Jim Krousas, Mark Manross, George Graham, Jon Poole, Todd Pennington, and Linda Person, Survey of Workplace Conditions for K-12 Physical Education Teachers. American Alliance for Health, Physical Education, Recreation and Dance National Convention Boston, Massachusetts April, 1999

Conducted regular sports medicine seminars for the local area coaches on the following topics: 1994 to 1999

- Care and prevention of athletic injuries
- How to properly manage a suspected head and neck injury
- Baseball Workshop
- Athletic Nutrition
- Football Workshop

- Shoulder Injuries
- Cardiovascular Response to Exercise
- Weight Training

PUBLICATION

Storey, M., Schatz, C., & Brown, K., (1989) Anterior Neck Trauma. The Physician and Sportsmedicine, 17 (9), 85 – 96

Brown, K., & Knox, R., (1991) Don't Run Away From Buying New Running Shoes. Youngstown News Paper. Youngstown, Ohio

CERTIFICATIONS

1988 - Present National Athletic Trainers Association Board of Certification.

Certification number: 0001000434

CURRENT MEMBERSHIPS

1982 - Present National Athletic Trainers Association