Accredited Athletic Training Clinical Experience: Are We Adequately Preparing Our Students?

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By

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

Accredited Athletic Training Education:
Are We Adequately Preparing Our Students for the Profession?

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a candidate for the degree of doctor of education, hereby certify that, in their opinion, it is worthy of acceptance.

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DEDICATION

This manuscript is dedicated to all the service men and women of the United States armed forces, who have made or are willing to make the ultimate sacrifice to protect us, our children and our future. Freedom is not free; it comes at the ultimate price. Thank you for your service and protecting all of us, so we may be free!

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LIST OF ABBREVIATIONS

American Medical Association-AMA

Approved Clinical Instructor-ACI

Athletic Trainer, Certified-ATC

Athletic Training-AT

Athletic Training Education Program-ATEP

Athletic Training Student-ATS

Board of Certification-BOC

Clinical Instructor-CI

Commission of Accreditation of Allied Health Education Programs-CAAHEP

Commission on Accredited Athletic Training Education-CAATE

Committee on Allied Health Education and Accreditation-CAHEA

Joint Review Commission for Athletic Training-JRC

National Athletic Trainers' Association-NATA

CHAPTER ONE

INTRODUCTION

In the field of allied healthcare, Athletic Training (AT) is a multi-faceted and dynamic profession. Among other aspects, it emphasizes critical decision-making abilities that often require both time-tested techniques and the latest medical research. Certified Athletic Trainers (ATC) "are healthcare professionals who collaborate with physicians to optimize activity and participation of patients and clients. Athletic training encompasses the prevention, diagnosis and intervention of emergency, acute and chronic medical conditions involving impairment, functional limitations and disabilities" (Board of Certification, 2012, paragraph 1). Unlike other allied health fields such as emergency medicine, general medicine, physical therapy, and nursing, AT involves the full timeline from the athlete's/patient's injury to his/her complete return to participation (Steadman, 2012).

Athletic Training additionally requires the successful practitioner to be a part-time counselor, a role also played at times by other healthcare professionals. It is rare, however, for those other healthcare workers to experience much more than a brief snapshot of the daily battle with, and the physiological timeline of, the injury or illness (Board of Certification, 2012, paragraph 1). These aspects make AT quite unique among medical professions, making it paramount that students wishing to pursue a career in AT undergo thorough coursework and hands-on involvement (Jordan, 2006). These experiences in coursework plus involvement serve as the central tenets of the entry-level Athletic Training Education Program (ATEP), the foundational cornerstone for AT as a profession.

The purpose for the current study was to examine the effectiveness of Accredited Athletic Training Programs' clinical education experiences in newly educated Certified Athletic Trainers compared to two older models of clinical education experiences, the Curriculum and Internship models, respectively. Specifically, this study examined the perceived effectiveness of the current models as compared to the former models. Since the 2002 educational reform in athletic training, little research has been conducted to study its perceived effectiveness on clinical education.

History of the Athletic Training Profession

The National Athletic Trainers' Association (NATA) was founded in 1950, forming the foundation for the athletic training profession. Approximately 20 years later the educational foundation began solidifying under the NATA Professional Education Committee. The committee began by identifying learning outcomes based on 11 required didactic courses and a laboratory or practical experience with a minimum of 800 clock-hours under the direct supervision of a Certified Athletic Trainer (ATC). This became known as the Curriculum model for athletic training education (Delforge & Behnke, 1999).

Since its inception, the NATA has offered two different avenues toward eligibility for the National Athletic Trainers' Board of Certification Exam. The first route is Athletic Training Education Program, the aforementioned Curriculum model of 11 required courses and 800 clock hours of practical experience; the second model, Internship, focuses more on clinical work. Any student who completed 1,500 clinical clock hours under a Certified Athletic Trainer (ATC) and had graduated with seven core classes was eligible to take the exam as part of an Internship program (Weidner & Henning, 2003).

In 1990 the NATA endeavored to strengthen the education of the nation's athletic trainers by developing one standard and combining the strengths of the Internship and Curriculum avenues. Two groups, the *Joint Review Commission for Athletic Training* (JRC) and the *Commission of Accreditation of Allied Health Education Programs* (CAAHEP), set forth to write clear competencies and proficiencies that every athletic training student must be able to perform prior to being eligible to take the Board Of Certification exam (CAHEA, 1991; Delforge & Behnke, 1999; McMullan D., 1996; McMullan, 1997; NATA, 1996; NATA, 1997; NATA Education Taskforce, 1997; NATA JRC-AT, 1996).

In 1997 the NATA adopted the policy requiring one route for eligibility for the BOC examination, the accredited Athletic Training Education Program. In 2000 the BOC announced only athletic training students from accredited ATEPs would be allowed to sit for the BOC exam beginning in the fall of 2002. The BOC stated these students must now complete competencies and proficiencies for eligibility and no longer required clinical experience hours to be eligible. This policy shift, or reform, created the need for a commission to oversee accrediting athletic training education programs throughout the country. The first commission charged with this task was the Commission Accredited Allied Health Education Professions (Delforge & Behnke, 1999; Joint Review Committee, 1998). In 2006 CAAHEP split with the JRC and formed into the Commission on Accreditation of Athletic Training Education (CAATE). This transformational educational reform of athletic training education was the foundation of today's programs. With this new scaffolding, two degree programs emerged: the entry-level undergraduate accredited program and the entry-level master's accredited program. The significant

difference between the programs, aside from the level of degree, is the amount of time the athletic training student remains in each program. The entry-level undergraduate program students cannot complete the required competencies and proficiencies in any less than two years and there must be uniform course matriculation for all students within a program. A vast majority of entry-level undergraduate programs throughout the country distribute their competencies and proficiencies, as well as their clinical experiences, over three to four years. Conversely, entry-level graduate programs condense the course work and clinical experiences into the minimum two year window (Delforge & Behnke, 1999). The one constant throughout the history of athletic training is the requirement of clinical experience in all programs. Historically, over 50% of an Athletic Training Student's professional educational preparation came directly from the clinical education component of the Athletic Training Education Program (Weidner & Henning, 2002). Current ATEPs are required to provide specific clinical experiences to their respective students. CAATE defines clinical education as "the application of knowledge and skills, learned in the classroom and laboratory settings, to actual practice on patients under the direct supervision of an Approved Clinical Instructor (ACI)/Clinical Instructor (CI)" (CAATE, 2005, p.15). CAATE differentiates clinical education from clinical experience, as "those clinical education experiences for the Athletic Training Student that involve patient care and the application of athletic training skills under the supervision of a qualified instructor" (CAATE, p. 15). For the purpose of this inquiry these two definitions describe the same aspect and thus will be called *clinical education experiences*.

There are six categories of these experiences: equipment intensive, general medical, rehabilitation, athletic population, opposite gender, and other (CAATE, 2005, Table B

2.2). How each program achieves these required clinical experiences and how much time is dedicated to each is solely at the discretion of each individual education program. Most athletic training students spend a vast majority of their clinical experiences in the athletic setting, most with equipment intensive sports. General medical clinical experience was more of an afterthought than a structured experience of the athletic setting (Weidner & Henning, 2002).

With the current educational reform, students are no longer required to achieve clinical experience hours, but are required to have hands-on experience based on the competencies and proficiencies. This has led to highly educated Certified Athletic Trainers (ATC) who are excellent in reciting their plethora of knowledge (BOC, 2014), but based on anecdotal data are not able to apply that gathered knowledge in the workplace. Dr. Chad Starkey, one of the forefathers of educational reform in the National Athletic Trainer's Association, had some harsh criticism of the education reform. In his Educator of the Year address at the NATA Educators Conference 2006, Dr. Starkey pointed to a lack of BOC involvement in the educational process, especially in the Athletic Training Education Programs. The learning, communication, and performance of the new generation of Athletic Training Students were examined in an article written by Nate Dougherty (2007). Both Starkey and Dougherty concluded that accredited Athletic Training Education Programs were succeeding in the goal of creating a single method for eligibility based on competencies and proficiencies set forth by the BOC. The accredited ATEPs have also done a much better job of educating the student in all aspects of the profession. However, with the educational changes anecdotal data suggest there is a gap,

or disconnect, between the Certification Exam and the skills needed to be a professional athletic trainer.

Statement of Purpose

The purpose for the current study was to examine the perceived preparedness of newly educated Certified Athletic Trainers from Accredited Athletic Training Programs' based on clinical education experiences as compared to the two older models of clinical education experiences, the Curriculum and Internship models, respectively. Specifically, is the current model perceived to be as effective as the former models? Since the 2002 educational reform in athletic training, little research has been conducted to study its effectiveness on clinical education. Furthermore, limited research has compared the accredited program model to the previous Internship and Curriculum models for educational preparation. This inquiry was a multi-leveled examination of the clinical education experiences of four specific groups based on their educational preparation: the Internship Group, the Curriculum Group, the entry-level Undergraduate Accredited Group, and the Entry-level Masters Accredited Group.

Research Questions and Hypotheses

The following research questions have guided this study.

1. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?
2. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters

Programs prepare Athletic Training Students for the Profession of Athletic Training?

3. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?
4. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Profession of Athletic Training?

Hypothesis 1. There is a perceived significant difference among the four models in preparation for the BOC exam based on the didactic structure.

Hypothesis 2. There is not a perceived significant difference among the four models in preparation for the profession based on the didactic structure.

Hypothesis 3. There is not a perceived significant difference among the four models in preparation for the BOC based on clinical education.

Hypothesis 4. There is a perceived significant difference among the four models in preparation for the profession based on clinical education.

Conceptual Framework

The conceptual framework for this study is based on constructivist epistemology. Constructivist epistemology revolves around learners creating their own knowledge from experiences. New information is either reconciled with previous ideas and experiences, beliefs change, or the new information is discarded as irrelevant. Learners are active

creators of their own knowledge. They construct knowledge through questioning, exploring, and assessment (Colburn, 2000, Crotty, 1998).

In the classroom, the constructivist view of learning can point toward a number of different teaching practices. In the most general sense, it usually means encouraging students to use active techniques (experiments, real-world problem solving) to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing. The teacher makes sure he/she understands the students' preexisting conceptions, then guides the activity to address them and build on them. (Crotty, 1998). The constructivist view ties directly with the three fundamental theories of athletic training education. These theories revolve around the students as the center of the educational process and as the main contributor to their own learning.

The following three theories serve as the foundational conceptual strands used in athletic training education today and throughout its history: cognitive apprenticeship theory, self-directed learning theory and clinical education theory (Colburn, 2000). According to Rauk (2003), clinical education's main focus is the integration of didactic knowledge into the clinical setting.

The cognitive apprenticeship theory has been used throughout many allied healthcare professions (Collins, Brown & Newman, 1989). The foundation of the cognitive apprenticeship model transfers specific knowledge, skills, procedures, critical thinking and professional culture to the novice through directly working with the expert in the profession (Collins, Brown & Newman).

> This model [cognitive apprenticeship model] allows for optimal use of the learning experiences in the practical environment. Athletic training students must learn not only the observable procedures and behaviors demonstrated by expert

> practitioners, but also the decision making processes, values, and culture that guide the selection and implementation of these behaviors. (Jordan, 2006, p.30)

Cognitive apprenticeship theory is ideal for developing the knowledge and skills needed by athletic training students throughout their academic career. This theory requires athletic training students to be active learners in their education. The quality of the experience in theory will better prepare the Athletic Training Student for the new and challenging future of the profession. In education this theory may be called acculturation, where the student is socialized into the profession by meeting the traditional expectations of the profession (Joyce, Weil, & Weil, 2000).

Self-directed learning theory is the second major strand in the conceptual framework. Self-directed learning theory deals with the transfer of didactic knowledge into relevancy in practice (Hughes, 2002, Prawat, 1989). The transfer of didactic knowledge contributes to development and reconstruction of meaning in professional practice (Lauder, Reynolds & Angus, 1999). To achieve this transfer, self-directed learning must occur. Chene (1983) defined one of the tenants of self-directed learning as the "ability to make choices and critical judgments" (p. 42). Grow (1991) developed an instructional model based on Knowles' (1980) model of self-directed learning assumptions. Knowles' primary assumption was all adults move toward becoming self-directed learners through four stages: dependency, interest, involved and, ultimately, self-directed. Grow (1991) added the role of the educator to this model in relationship to the learner, as the learner continues to grow, the role of the educator changes from one of authority figure, to a consultant and then ultimately to delegator. Smith (2001) developed a framework for undergraduate faculty members to develop self-directed learners through

three distinct behaviors: increasing professional enthusiasm, modeling appropriate professional behavior, and providing feedback based on the students' abilities.

Clinical education theory is the final strand of the conceptual framework. Clinical education theory is the "practice of assisting a student to acquire the required knowledge and skills and attributes in practice settings to meet the standards as defined by the professional accrediting board" (Rose & Best, 2005, p.3). Myrick and Yonge (2001) saw clinical education as the vital connection between higher education and real world practice in allied health care professions. Mannix, Faga, Beale, and Jackson (2006) went further to break down this theory into five specific goals: authenticating student knowledge, interpreting theoretical and applied knowledge, developing and refining skills, familiarizing students with the workplace, and developing problem solving and time management skills. One variable remains constant throughout the clinical education theory, the student. The student in this theory must be an active participant in the educational process. This theory only works when the student is engaged, the peers are engaged and the preceptor/mentor is engaged.

The three theories of cognitive apprenticeship theory, self-directed learning theory, and clinical education theory are intertwined together to form the conceptual framework for this study. Without one of the theory strands described previously the framework fails and the student is left without being fully prepared for the profession.

Research Design and Rationale

Using constructivist epistemology, the researcher concluded the need to use a quantitative design to answer the research questions. With the depth and breadth of the four design models and the autonomy of differing institutional practices the researcher

determined the need for numerous participants' viewpoints into their educational preparedness for the profession and for the Board of Certification Exam. A quantitative study allowed the researcher to examine the relationship, opinions, and trends between and among identified variables of a sample population (Creswell 2003).

This study is a quantitative study examining the perceived preparation of the Certified Athletic Trainer for the BOC Examination and for the profession based upon the route to Certification both in the didactic classroom and in the clinical education setting. This study examined the current accredited model's perceived preparation for the profession based upon the opinions of those Certified Athletic Trainers who graduated from the older Internship or Curricular models of education.

Significance of the Study

With athletic training being a multi-faceted and dynamic profession, the education of future athletic trainers must be just as dynamic. Athletic training education requires both didactic and clinical education components (CAATE, 2006). The clinical education integrates the didactic components with real-life skills and attributes of the athletic trainer. With the clinical education component being an important component of all athletic trainers' education, it is important to ensure these clinical education experiences are truly fulfilling the needs of students in preparation for the BOC exam, as well as the profession they are entering. This distinctive clinical education experience prepares the athletic training student to become the real world professional. In examining the clinical experiences of athletic trainers from the previous models and those graduating from the newer model should allow insight into how this clinical experience transfers into the knowledge for the Board of Certification Exam and into practice.

Definitions

The following words and abbreviations are used throughout the profession of athletic training.

Approved Clinical Instructor (ACI). An appropriately credentialed professional identified and trained by the ATEP Clinical Instructor Educator to provide instruction and evaluation of the Athletic Training Educational Competencies and/or Clinical Proficiencies (CAATE, 2006).

Athletic Trainer, Certified (ATC). An athletic trainer who has passed the Board of Certification examination after completing either Internship or Curriculum approved educational routes, or entry-level educational route, also known as Certified Athletic Trainer.

Athletic Training Education Program (ATEP). An educational program that has met the requirements of the Commission of Accredited Athletic Training Education Programs.

Athletic Training Student (ATS). A student formally enrolled in an Athletic Training Education Program (CAATE, 2006).

Board of Certification (BOC). The independent certifying body that ensures all entry-level athletic trainers meet a minimum standard for the public's health and safety.

Commission on Accredited Athletic Training Education (CAATE). The governing body that independently accredits Athletic Training Education Programs.

Clinical Education. The application of knowledge and skills, learned in classroom and laboratory settings, to actual practice on patients under the supervision of an Approved Clinical Instructor or Clinical Instructor (CAATE, 2006).

Clinical Education Experience. Those clinical education experiences for the Athletic Training Student (ATS) that involve patient care and the application of athletic training skills under the supervision of a qualified instructor, such as a physician office, clinical setting, athletic training setting, hospitals, etc.

Clinical Instruction Site. The location in which an ACI or CI interacts with the ATS for clinical experiences, such as a physician office, clinical setting, athletic training setting, hospitals, etc. (CAATE, 2006).

Clinical Instructor (CI). An individual identified to provide supervision of athletic training students during their clinical experience (CAATE, 2006).

Didactic Instruction. Teaching of required competencies and proficiencies with instructional emphasis in structured classroom and laboratory environments (CAATE, 2006).

Mentoring relationship. An interactive relationship between mentor and protégé in order to provide information, role-modeling, wisdom, and emotional support (Strohschein, Hagler & May 2002).

National Athletic Trainers' Association (NATA). The professional membership association for certified athletic trainers and others who support the athletic training profession (NATA, 2013).

Preceptor. A certified/licensed professional who teaches and evaluates students in a clinical setting using an actual patient base (CAATE, 2012).

Limitations and Assumptions of the Study

The scope of this study described the educational background of the entry-level certified athletic trainer. This study examined the correlation between the educational

background of the athletic trainer and the perceived preparedness for the certification examination and the profession.

Limitations

Limited numbers of Certified Athletic Trainers are still working in the profession who studied/trained under the previous Internship and Curriculum models.

Athletic Trainers from the Internship and Curriculum models have been in the profession for many years, potentially biasing their opinions of their preparation versus more recently Certified Athletic Trainers.

With a rapidly evolving profession, standards are often changing quickly; therefore, preparation for the field and the exam are rapidly changing as well.

Assumptions

All subjects in the study are competent Certified Athletic Trainers and are knowledgeable sources of information for the study.

All subjects will be fair and unbiased in their responses to the questions.

Summary

The purpose of the current study was to examine the perceived effectiveness of Accredited Athletic Training Programs clinical education experiences in newly educated Certified Athletic Trainers compared to two older models of clinical education experiences, the Curriculum model and Internship model, respectively. With clinical education in athletic training being such a vital component of a student's education it is imperative to study the educational effectiveness of the current clinical education system with our two previous models. This study helped ensure we provide the best clinical

education model for our students, not only for the certification exam but also for the profession.

CHAPTER TWO

REVIEW OF LITERATURE

Athletic Training (AT) is a multi-faceted and dynamic profession in the allied healthcare field. Among other aspects, it emphasizes critical decision-making abilities that often require both time-tested techniques and the latest medical research (Steadman, 2012). Unlike other healthcare fields, AT involves the full timeline from the athlete's/patient's injury to his/her complete return to participation (Anderson, Parr & Hall, 2009). AT additionally requires the successful practitioner to be a part-time counselor, a role also played at times by other healthcare professionals, but it is rare for those workers to experience much more that a brief snapshot of the daily battle with, and the physiological timeline of, the injury or illness. These aspects make AT quite unique among medical professions, making it paramount that students wishing to pursue a career in AT undergo thorough coursework and hands-on involvement (Jordan, 2006). These experiences (coursework plus involvement) serve as the central tenets of the entry-level Athletic Training Education Program (ATEP), the foundational cornerstone for AT as a profession (Weidner & Henning, 2002). The purpose of this study was to investigate if the clinical education in the current ATEP model prepared students for the profession and/or the certification examination.

With athletic training being such a dynamic profession it was wise to explore how it came into existence, the profession's numerous and integrated dynamics, how the clinical education process compares to other healthcare professions, and how the clinical education component of athletic training was such an integral foundation for the profession. In this chapter the review of literature focuses on several keys areas. They include a history of the profession of athletic training, a history of athletic training

education, a history of the Board of Certification Exam, clinical education in athletic training, and clinical education in other healthcare professions.

History of Athletic Training

Athletic training was viewed by some as a new profession. However, according to Prentice (2006), the roots of the profession have been traced back to the time of the Greek and Roman Civilizations when coaches, trainers and physicians helped athletes reach their optimum performance levels. The first recorded history of the profession in the United States was in 1881 when Harvard University hired the first athletic trainer (Ebel, 1999).

In the early 1900s, President Theodore Roosevelt threatened to eliminate college football due to the high number of injuries and deaths. During this time period athletic training was still much of an unknown profession, as coaches handled most injuries. This threat essentially sparked the profession's explosion throughout the United States. This was also the time period when Dr. S. E. Bilik wrote the first textbook on caring for athletic injuries and athletic training, *The Trainer's Bible*, in 1917 (Ebel, 1999).
The first major leap in athletic training occurred in Gardner, Kansas in the 1920s when brothers Frank and Charles Cramer founded Cramer Chemical Company which made liniments for ankle sprains. Both brothers were pioneers of athletic training, developing techniques and strategies for dealing with injuries and subsequently serving as athletic trainers for the 1932 Olympics. Also in 1932, Cramer Chemical produced the first periodical for the profession called *The First Aider,* which allowed peers to exchange thoughts and ideas for the treatment of athletic injuries. This led Charles Crammer and William Frey to found the National Athletic Trainers Association in 1938 to share ideas and techniques with their peers (Ebel, 1999).

In 1950 the college athletic trainers held the first National Athletic Trainers Association Clinic in Kansas City, Missouri. Attendance for this meeting was roughly 125 members and this pivotal point marked the inception of the modern National Athletic Trainers Association (NATA) (Ebel, 1999; O'Shea, 1980). The primary focus at the time was the establishment of professional practices and the exchange of ideas. This focus on professional practice and exchange of ideas took a new direction in 1956 with the creation and publication of the *Journal of Athletic Training*. In 1957 the NATA established the first code of ethics to standardize the practice of athletic training.

In 1974 the NATA defined what athletic training was for the public and other healthcare professions, thus shaping the profession of today (Ebel, 1999). Compared to 4,500 members in 1974, the NATA now has over 30,000 members (NATA, 2012).

Athletic training has come a long way from its roots in the Greek and Roman arenas. Through the years, a profession was founded on the clinical experiences of the pioneers of the profession, who had no formal training, just the willingness to experiment, to scaffold from other healthcare professions, and to share with others their triumphs and failures (Prentice, 2006).

History of Athletic Training Education

During athletic training's infancy the athletic trainers of the time learned from trial and error and shared what they had learned from each other. This exploratory style of learning and lack of formative structure led to an apprenticeship style of education among the next generations of athletic trainers. In 1956 the National Athletic Trainers Association, determined to further improve the profession, decided education would need to be more formalized to ensure a high standard of care for the athlete and to help the profession be formally recognized. The NATA approved the first curriculum for students

wanting to enter the athletic training profession in 1959 (Delforge & Behnke, 1999; O'Shea, 1980; Schwank &Miller, 1971).

The first curricular model of 1959 had two areas of importance driving the employability of future athletic trainers. The first was the attainment of a secondary teaching certificate. The second was the inclusion of courses that were required prerequisites for physical therapy schools (Delforge & Behnke, 1999; Schwank & Miller, 1971). These two areas were utilized with athletic training majors to provide another type of credential to fall back upon during the infancy of the athletic training profession. The best summarization of the curricular model came from Schwank and Miller (1971).

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 paramedical fields, such as physical therapy as suggested by the NATA, the Teacher-(Athletic) Trainer can provide improved health care not only for the student athletes but for the entire student body (Delforge & Behnke, p. 54).

The 1959 curricular model was the first step of many in the educational process. The model was highlighted by the NATA's selection of appropriate courses, the majority of which are still considered the backbone of the athletic trainers' education today and are found in most athletic training education programs throughout the country. The 1959 courses included anatomy, physiology, physiology of exercise, applied anatomy and kinesiology, physical sciences, psychology, coaching techniques, first aid and safety, nutrition and foods, remedial exercise, organization and administration, personal health

and hygiene, athletic training techniques, and laboratory practices. The curriculum also recommended general physics, pharmacology, histology, and pathology. Biology/zoology, physics and/or chemistry and social sciences were recommended as prerequisites for physical therapy school (Delforge & Behnke, 1999; O'Shea, 1980).

It was not until the late 1960s that the first athletic training education programs began to take hold. Mankato State University, University of New Mexico, Indiana State University and Lamar University are thought to be the first four universities offering degrees in athletic training (Delforge & Behnke, 1999). As athletic training education programs continued to multiply throughout the 1970s, revisions were made to the Curriculum model, deemphasizing the need for teaching certifications and physical therapy prerequisites, as athletic training gained its own identity as a healthcare profession. Instead, the NATA Professional Education Committee developed behavioral objectives identifying learning outcomes for the athletic training student. This became the first endeavor for identifying particular skills and knowledge, broadening the expertise and foundational base of the athletic trainer (Delforge, 1983; Delforge & Behnke, 1999; NATA, 1980).

As many universities developed Curriculum-based athletic training education programs, many more took the avenue of the Internship-based program, focusing the student's education in the identified courses and using the apprenticeship approach. Throughout the 1980s many attempts were made to begin consolidating the educational approaches with little success. By 1990 the American Medical Association reviewed the athletic training profession and determined it met all the qualifications to be an allied healthcare profession (Delforge & Behnke, 1999). With the AMA recognition, the

education of future professionals was on the forefront once again. In the late 1990s the Committee on Allied Health Education and Accreditation (CAHEA) began work for the new accredited athletic training education programs, bringing the two different routes together and combining the strengths of each. "The American Academy of Family Physicians and the American Academy of Pediatrics joined the AMA and the NATA in appointing representatives to form the joint review committee, formally called the Joint Review Commission of Educational Programs in Athletic Training (JRC-AT)" (Delforge & Behnke, p. 59). The committee's first task was to develop the standards and guidelines to govern the review and accreditation of entry-level programs (Delforge & Behnke). This committee became the foundation for the future of accrediting bodies for athletic training. In the fall of 1992 the AMA recommended the establishment of a free standing committee for all allied healthcare professions, including athletic training (Delforge & Behnke). In July 1994 the Commission on Accreditation of Allied Health Education Programs (CAAHEP) was formed, continuing the accreditation of athletic training education programs. The Commission on Accreditation of Athletic Training Education (CAATE) took over accreditation of athletic training education programs in 2006 from CAAHEP. With this switch an even more focused set of academic standards were specific solely to athletic training (Rich, 2008).

History of the BOC Certification Exam

Once the Athletic Training curricular model had been addressed in the 1950s the next priority was developing an entry-level standard for all athletic trainers in the form of a certification exam (Delforge & Behnke, 1999). In the spring of 1969 the National Athletic Trainers Association voted to create the NATA Board of Certification to oversee the certification exam and credentialing. The first examinations began in 1970, consisting

of 150 multiple choice questions and an oral practical portion of the exam during which candidates answered questions and performed essential skills (Grace, 1999). The multiple choice section was designed to evaluate the candidate's knowledge of athletic training. The oral portion of the exam was designed to test the candidate's skills and technique (Grace, 1999).

Initially there were five avenues to earn a certification in athletic training from the National Athletic Trainers Association. The first route to certification was through a NATA approved athletic training program that included two years of clinical education (600-800 hours) under a certified athletic trainer. This route was eventually deemed an approved Curriculum program. The second route to certification was graduating from a physical therapy curriculum program and earning a minor in health or physical education with a valid teaching certificate and two years under a Certified Athletic Trainer for supervised clinical education. The third route to certification was an Internship program. The program consisted of more than two years (1,500-1,800 hours) of clinical education under a Certified Athletic Trainer with completion of any undergraduate degree containing the required core classes. The fourth route was special consideration for those who had completed an athletic training course, who satisfied state teaching requirements with a minor in health or physical education and presented evidence of successful completion of a NATA-approved workshop. The fifth and final route for certification was for those athletic trainers who were actively engaged in the profession and who did not meet any of the other routes (Grace, 1999). Of all the routes to certification, the Internship route is the longest lived, dating back to the beginning of athletic training education.

In the late 1970s the federal government began a push for separation of certifying bodies from an organization's governing body of healthcare profession to ensure there was no conflict in interest for the governing bodies. Thus, in 1982, the NATA Board of Directors voted to create The Board of Certification (BOC), an independent agency to run the certification exam. One of the first tasks of the BOC was to establish a Role Delineation study of athletic training. Conducted in 1982, the Role Delineation Study would help ensure the examination was testing content mirroring that of the professional practice (Grace, 1999). Role delineation studies were conducted again in 1989, 1993, 1999, 2004 and 2010. In 1987 the BOC examination made its first significant change by the addition of the written simulation portion of the exam (BOC, 1996). The written simulation portion was designed to test the clinical decision making abilities of the candidates. As athletic training education continued to advance so did the certification standards. In 2002 the BOC no longer required specific courses being taught in programs. The new criterion for eligibility was based on competencies and proficiencies to be met by the candidate.

In 2006 the latest evolution of the BOC examination began. A computerized test incorporated all aspects of the previous three-part exam. The new exam currently being used consists of 175 questions, 150 multiple choice, with the remaining questions scenario based similar to the earlier written simulation exam and application type questions in the oral exam (BOC, 1996).

Practice Based Education in other Healthcare Professions

When exploring clinical education and clinical learning in any healthcare profession a review of literature would not be complete without a study of other healthcare professions and how clinical education has been implemented. For the purpose

of this study, the clinical education of Physicians, Nurses and Physical Therapists were examined. These three professions were identified specifically on their similarities to athletic training.

Physicians

Physician training has taken a very similar course to that of athletic training. The physicians are taught basic skills in the classroom, immersed into real-world hands-on experience with patients early in their training, progressing to the clerkship type model by the end (Packman & Krackov, 1991). With this model of clinical education there are no clear lines or boundaries defined, as the learning comes from the experience of the participants. In a 2010 study, Stewart Mennin summed up the complex form of medical education best by saying:

> The core process of complexity, self-organization, requires a system that is open and far from equilibrium, with ill-defined boundaries and a large number of non-linear interactions involving short-loop feedback. In such a system, knowledge does not exist objectively 'out there'; rather it exists as a result of the exchange between participants, an action that becomes knowing…Knowledge is not constructed separately in the mind of the knower, but rather, it emerges; it is co-created during the exchange in an authentic recursive transactive process. (p.20)

Mennin went farther by describing this experience in terms of relationships:

> It focuses us more intently on the quality of human relationships and exchanges that affect the quality of learning at all levels. Relationship-centered teaching becomes the focus of learning in a complex curriculum. Teaching, learning and assessing becomes co-evolutionary events framed by fuzzy boundaries in open dynamic systems. (p.27-28)

As athletic training clinical education evolves, the boundaries do become blurred and the interactions of the participants cause the experience to truly become evolutionary as compared to other education programs.

Nurses

Nurses' clinical education differs from physicians and athletic trainers. Nursing tends to spend more time in the classroom during the early phases of the education, and then students are introduced to clinical experience toward the end of the process. While this is different than other systems, some underlining qualities resonate throughout all clinical education. Campbell, et al. (1994) conducted a study examining the clinical education experience of nursing students. Campbell's study highlighted three key themes for maximizing the clinical education experience for the student. These three themes focus on the attributes and abilities of the clinical instructor. The student nurses in the study admired the ability to take theory to a patient centered practice. The study also indicated the ability of the clinical instructor's situation awareness, competence and the ability to provide constructive feedback as important components of their clinical experience. Finally, the instructor's ability to allow students to experience and learn on their own provides an environment for real authentic communication of the student knowledge and feelings regarding their clinical experience (Campbell et al, 1994).

In 2011 Myrick, et al. examined the preceptorship model used in nursing and how nursing, like many other medical professions, is not just about the science, but the art of good healthcare. "Practical wisdom is acquired primarily through the practice and on the basis of practical experience" (p.135). In 1991 Anna Peirce examined the ramifications of clinical experience on nursing educational programs and concluded the following.

> Failure to provide relevant clinical experiences has ramifications not only for the student, but for the program as well. For the student, a poor clinical experience can lead to disillusionment about nursing and failure to integrate and learn. If students are continually dissatisfied with the quality and scope of their clinical experiences the program may suffer. (p.224)

At the heart of this inquiry is the examination of clinical education experiences. As one can see, these experiences run throughout medical education and what is learned from others only improves the education of all medical professions.

Physical Therapy

Clinical Education is an important component of the educational system. However, limited research has been conducted studying the effectiveness of clinical components of physical therapy education. The clinical education experience in physical therapy was determined by each individual program, not unlike athletic training; however, there was no scaffolding for the educational experience a physical therapy student receives. Strohschein, Hagler and May (2002) examined the different types of clinical education experiences used in physical therapy education. The overarching focus of their study was on roles and relationships; as they noted, "Roles and relationships are critical components in successful clinical education" (p. 160). One of the strongest advocates of this concept, Schon, can be found throughout the literature of clinical education. In examination of reflective practice Strahschein (2002) summarized Schon's (1987) beliefs:

> The most important areas of professional practice lie beyond the commonly understood areas of technical competence and stressed the need for artistry as well as technical excellence in practice. He articulated the need to challenge previous assumptions, to embrace uncertainty and ambiguity as opportunities, to deepen and broaden learning and to pursue a holistic grasp of the practice. (p. 162)

Similar thoughts were echoed in an editorial by John Medeiros (2001) entitled *Erosion of the Clinical Education Learning Environment*. "We must remember the problem-solving requires time for the student to think, reflect, listen and discuss patient examination and

treatment procedures with their clinical educators. Conducting clinical education in an environment of inquiry and discovery must be sacrosanct" (p.7).

Strohschein, Hagler and May (2002) examined multiple models of clinical education in Physical Therapy. The most common model used in Physical Therapy was the traditional clinical education model involving one student assigned to one specific clinical educator per assignment. This has been the gold standard in Physical Therapy and remains that way today (Strohschein, Hagler & May, 2002).

The first model examined by Strohschein is the Collaborative model. This model typically involves two or more students to one clinical educator. This type of model was very similar to the model most ATEPs use for clinical education in athletic training. This model tends to yield higher learning outcomes for the students due to the opportunities to discuss theory and practice with their fellow student/s, less perceived stress, and development of more clinical knowledge and management skills (Strohschein, Hagler & May, 2002).

The next model was the multiple Mentoring model. This model was an expansion of the Collaborative model. In this model there are still two or more students, however, there are now two or more clinical educators. This model helps meet the diverse needs of students (Strohschein, Hagler & May, 2002). Strohschein noted:

> These relationships may be developed with clinical educators and other clinicians at the site, as well as with academic faculty and peers. Because we believe one individual cannot effectively fill all of these roles, several individuals share the responsibility of mentoring several students. In this structure, clinicians assume a mentoring role in which they are particularly strong, either coordinating the overall process or sharing expertise in an area of practice or theory. Theoretically, a learner-centered approach helps unify the diverse perspectives and approaches of different clinicians by focusing on the goals and the needs of the student. (p. 166-167)

This model may also be called student-centered role, with clear communication, expectations and consistency among the students and clinical educators.

The next model was similar to the student-centered approach. The student participates in three distinct stages. The experience were divided into the evaluation-feedback stage, the transitional stage, and the self-supervision stage. These three stages define the needs of the students as they progress through the clinical experience (Strohschein, Hagler & May, 2002).

During the evaluation-feedback stage the student shows little competence and the clinical instructor assumes the role of educator while the student becomes the didactic learner. During the transitional stage the clinical student begins to jointly take on the responsibilities of the clinical supervisor in the roles of decision making and patient care. In the final stage of this model the clinical instructor and student relationship becomes one of colleagueship as the student uses the clinical supervisor as an occasional consultant (Strohschein, Hagler & May, 2002). This was similar to how ATEPs progress their students in their clinical experience. Most ATEPs see this pattern as the student progress through the degree cycle as they approach the end of their degree.

The next two models deal directly with the self-directed learner and are a continuation of the previous colleagueship stage of the former model. The two models are called the Educator-Manager and the Coaching model (Strohschein, Hagler & May, 2002). A significant difference in these models was the breakdown of the coaching relationship into five distinct areas, three of which fall within the Educator-Manager model or educator, coach and sponsor. The remaining two, counselor and confronter, deal primarily with students who have not achieved the self-directed abilities. Both of these

models rely on the dynamic individualized relationship between the clinical instructor and the student, much the same as with the colleagueship stage of the student-centered approach (Strohschein, Hagler & May, 2002).

History of Clinical Experience/Education in Athletic Training

By definition Clinical Education was the application of knowledge and skills, learned in classroom and laboratory settings, with actual practice on patients under the supervision of an ACI/CI (CAATE, 2005). Clinical experiences are those clinical education experiences for the Athletic Training Student (ATS) that involve patient care and the application of athletic training skills under the supervision of a qualified instructor. For the purpose of this section, as well as the inquiry, these terms will be addressed congruently as they describe the portion of the educational process of applying skills and knowledge to practice.

Throughout the history of athletic training the one constant has been the clinical education experience. Historically, over 50% of an Athletic Training Student's professional educational preparations have come directly from the clinical education component of their Athletic Training Education Program (Weidner & Henning, 2002). These experiences allow for hands-on education, providing a practical real-world focus. Laurent and Weidner echoed the importance of clinical education in their 2002 paper when they said:

> Clinical education, involving clinicians, students, and patients in a real life environment, provides a realistic component to a student's education and has, therefore, remained a significant component of health care professional preparation. Because improvement in professional health care services depends, to a great degree, on maintaining high-quality clinical education, clinical education appears to also be important to maintaining high-quality athletic training services. (p.S-248)

According to Weidner and Henning (2002), “Clinical practice has always been at the heart of a student’s educational experiences and is of vital importance in the transformation from novice to competent practitioner.” (p.S-223) They went on to state, “Most notably, clinical education is derived through training apprenticeships in which an aspiring student learns many facets of the profession from the ‘master’” (p. S-223). This was the main focus of the old Internship route of certification.

With athletic training education and clinical education in its infancy many lessons were learned from the historical evidence of medical education in America. Early in America, medical schools ran mostly from the apprenticeship model with some classroom education; the primary focus, however, was the hands-on experience with patients. By the early 1900s medical schools became more structured, with more emphasis on the lecture portion of the educational process. The clinical portion became what was known as the section method. This method is described as “groups of students, as small as 8 or 10… would spend 1 or 2 hours a day, 3 to 5 days per week, observing patient care in the hospital following the progress of selected patients” (Weidner & Henning, 2002, p.S-223). There was an “inherent flaw” as it did not incorporate the principle of “learning and doing.” Students were merely passive observers and not active learners, only “witnessing rather than participating in the medical work” (Weidner & Henning, 2002, p.S-223).

The next evolution in medical education addressed the shortcomings for the apprenticeship model and section model. The new model was called the clerk-ship model, where “students not only received instruction in the hospital but became an active part of hospital function” with patient care (Weidner & Henning, 2002, p.S-223). The formal

classroom education and clinical education took more of an equal part in the student's education. This model continued the more uniformed education while allowing medical students to actively learn while providing patient care. These lessons allowed for a great jump in designing the athletic training clinical education platform.

As discussed earlier, in the 1970s, behavioral objectives were established and clinical hours were required. In 1983 the first educational competencies based on the performance domains of the BOC were established, formalizing the future of the athletic training clinical education. By the late 1990s, the educational competencies took center stage and drove the clinical education away from the old apprenticeship model. The focus shifted away from number of hours to the quality of the educational experience,

> clinical education in the allied healthcare professions has become more structured and organized, progressing from somewhat haphazard learning experiences to deliberate and focused learning experiences"…"Socialization is a process whereby a person is accepted into a tradition and acquires the group's values and attitudes, interests, skills and knowledge. (Weidner &Henning, 2002, p.S-224).

As this model continued to evolve with changes in the focus of public accountability in the allied healthcare professions, it became evident that clinical education needed to begin early in the curricula to obtain the necessary clinical education experiences to become competent professionals (Weidner & Henning, 2002).

In 2006 James Searcy, Jr., examined the clinical experience and how it related to the performance on the BOC exam. While this study enlightened and helped inspire this inquiry, Searcy was looking at the older three-part exam structure consisting of Written (multiple choice), Written Simulation, and Oral Practical. Searcy found the greater number and earlier clinical experiences the athletic training student had during their education increased the likelihood of success on the Written Simulation and Oral

Practical portions of the exam. In another study by Shawna Jordan (2006), similar findings about clinical experience were found. However, her focus was on preparing for the profession, not for the BOC exam. In her mixed methods study she found that athletic training students felt more prepared for the workforce with greater amount of clinical experience than ones with less experience.

Studies show the centerpiece of any quality athletic training education program was the clinical education experience (Jordan, 2006; Searcy, 2006). From these inquiries the clinical experience needs to begin earlier in the educational process and allow the student the opportunity to explore and embrace the profession. With ATEP autonomy across the country, the current clinical education system of preparing the next generation of Athletic Trainers is open to scrutiny.

When reflecting on the literature reviewed on athletic training, nursing, physical therapy and medical school models, a few commonalities are noted. First, the relationship between the clinical supervisor and student is critical to the educational success of the experience (Mennin, 2010). Second, the relationship the students develop with their peers was vital to the quality of the clinical experience and the knowledge gained (Mennin, 2010). Third, the earlier the clinical experience can begin, the better the outcomes of the students integrating the knowledge into the profession (Packman & Krackov, 1991). Fourth, having clear communication of the goals and expectations between the clinical instructor and student paves the pathway for success (Mennin, 2010). Finally, not having clearly defined boundaries for the experience allows the clinical experience to focus on the interpersonal skills, relationships and ultimately the success of each individual student (Mennin, 2010).

Athletic Training Clinical Education and Perceived Preparedness for the Profession

Transfer of Learning

In 2008, Radtke conducted a study examining the preparedness of newly Certified Athletic Trainers and the transfer of knowledge into the work place. The Radtke study specifically studied the transfer of learning between the didactic and clinical education, the didactic and workplace, and the clinical and workplace. This study also looked at CAATE concept of learning over time.

The didactic courses were found to provide the foundational information necessary to function in the workplace. This didactic information was also the framework used in student's clinical education experience. When the participants of the study were asked about their preparedness for the profession, almost all referred to their clinical education experience as being the most influential component to their preparation. A respondent in Jordan's 2006 study responded, "We were given a lot of information/skills and were able to transfer that information/skill to the clinic immediately through the clinical experiences. We learned it in the class and then immediately turned around and used it in the clinic" (Jordan, 2006 p. 98).

Many of the participants in Radtke's study were kinesthetic learners, learning more from the hands-on clinical education than from the formal didactic education. The participants describe the clinical education as "working in real-world setting offering real world experience" (Radtke, 2008, p. 137).

Participants in Radtke's study learned to adapt and make decisions dependent upon the situations in which they were placed. They had to deal with every aspect of a patient's injury, including evaluation, initial treatment, rehabilitation, return to play, and

even the psychological aspects of injury. Engagement within the clinical education allowed the participants to integrate knowledge obtained from a variety of courses and make decisions for the patient (Radtke, 2008, p. 137).

Radtke's study also examined influencers for the transfer of learning in either higher education or into the workplace. The two major influencers were the ability to retain knowledge and the participants' confidence in their skills and knowledge of athletic training. A final influencer was documented, however, not at the level of the previous two influencers, but the ability of the participant to be a self-directed learner. "Participant's clearly articulated learning throughout their education, including both the didactic classroom and in the clinical setting. In addition, they discussed at length their continued learning at their current workplace. This study supports the 'learning over time model' utilized in athletic training education" (Radtke, 2008, p. 142).

"Learning over time" model was implemented in athletic training education programs throughout the country. This model was the foundational framework for the athletic training educational experience both in the didactic classroom and in clinical education. This model was defined by several definitions. In 2002, Amato, Konin and Brader defined learning over time as "documented, continuous process of skill acquisition, progression and student reflection" (p. 236). In 2007 Carr, Ploeger and Drummond further defined learning over time as "the logical progression of skill and knowledge acquisition, synthesis, integration, and evaluation, which requires reflection and critical thinking" (p. 25).

The Commission on Accreditation of Athletic Training Education (2007) formally defined learning over time as:

> …the process by which professional knowledge and skills are learned and evaluated. This process involves the initial formal instruction and evaluation of that knowledge and skill, followed by a time of sufficient length to allow for practice and internalization of the information/skill, and then a subsequent reevaluation of that information/skill in a clinical setting. (p.17)

Radtke (2008) discovered the importance of the clinical experience in the transfer of learning process. "Clinical education was critical not only for the participants' knowledge and skill acquisition, but also for the development and refinement of the skills" (2008, p. 143). This was supported by Bjork (1997), who proposed clinical education was the best place for the transfer of learning from the didactic to the work place to occur. Rauk (2003) found similar findings in Physical Therapy students' transfer of learning in the workplace.

Anderson, Reder and Simon (1996) stressed the importance of the clinical education experience's variety of settings as an essential component in healthcare professions. According to Cormier and Hagman (1987), diverse clinical experiences are critical for transfer of learning to occur; however, they must be similar to make a connection to the formal didactic education, to the clinical education and, ultimately, to the work place.

Radtke (2008) data supported the clinical education findings. The participants in the Radtke study endorsed the variety of different clinical experiences, the similarity to the classroom education, to clinical education and the systematic approach to learning of time as a key component to the transfer of learning.

Clinical education

A study by Jordan (2006) looked at the clinical education as a preparer for the professional work environment. The respondents to the study indicated the clinical

education component was the single biggest link between the classroom and the profession (Jordan, 2006). The respondents also viewed clinical education as the most realistic view of the profession. “The most important opportunities were my clinical hours. I feel that the clinical hours better prepare an ATC for the real world” (Jordan, 2006, p. 93). Another respondent said, “The hours we put in and the quality of some of the staff members allowed one-on-one teaching in our clinical experiences and the pressures during our rotation prepared us for real-world pressure as intercollegiate athletic trainers” (Jordan, 2006, p. 93). Multiple participants responded the hands-on clinical education experience was the greatest strength of their education. “The course work is very important in understanding the different aspects of athletic training, but you truly don’t know something for sure until you experience it” (Jordan, 2006, p. 96). Another respondent discussed the transfer of learning that occurs between the class room and the clinical setting.

Jordan (2006) noted another unique finding. Many of the respondents commented the clinical education experience gave the students an opportunity to develop their critical thinking skills. One respondent commented “the amount of clinical opportunities and critical thinking involved are the important parts of the clinical experience. Nothing can really prepare you except being given the opportunity to think critically” (p. 93-94). This critical thinking aspect has been supported by previous research by Donald Fuller, who acknowledged critical thinking comes from application of knowledge and experience (Fuller, 1997).

Jordan’s (2006) findings went further, with evidence of programs needing to place even greater emphasis on the clinical education experiences beyond just learning. A large

number of respondents indicated the clinical education experience provided self confidence in their skills. This theme was found back by earlier research by Peirce in 1991.

Peirce (1991) studied nursing students on clinical rotations and discovered they focused on the parameters of nursing, their own performance and their professional development in the profession. These three ideas resonate from the confidence in one's skills. Jordan's study examined the old educational models of clinical education with the new accredited model. With the new model, less emphasis is being placed on the quantity of clinical experience and more focus is placed on the quality of the clinical experience. In a profession that is focused around the patient and the situation, quality is important; however, a reduction in quantity limits exposure of the student to potential situations encountered to the profession. One respondent who employs Athletic Trainers stated,

> I think that as we moved away from the hour requirements that were a part of the old models, the newer students lost some of the opportunities to gain clinical experiences. As an employer, I am noticing that there is a much longer learning curve as you bring new people on staff because of this lack of practical experience (Jordan, 2006, p. 97).

Another respondent had similar feedback with regards to the reduction of quantity of clinical education. "I know that they are cutting back on the hours athletic training students are allowed in the clinical setting. This is going to hinder the profession. You can read all you want in a book, but until you see it in the clinic you won't really perform well" (Jordan, 2006, p.98). Diefenbeck, Plowfield and Herman (2006) found almost identical finding in the clinical emersion models used in nursing clinicals.

Summary

From the athletic training literature, clinical education/experience was the cornerstone of the athletic training education program curriculum. Those clinical experiences should start as early as possible in the curriculum to allow the athletic training student the most time to develop their skills (Weidner & Henning, 2002). The physician's clinical experience, with its fluid, not-clearly-defined experience, offers the best environment for attaining knowledge to help develop the evolutionary learning process (Mennin, 2010). The nursing model focuses on the quality of good supervision with graduated autonomy, allowed students to learn on their own (Campbell et al, 1994). Along with the benefits of a good peer learning environment, a fluid environment, and early integration of clinical education, helped the clinical experience serve as one of the best teaching tools in the medical professions.

CHAPTER THREE

METHODOLOGY

Based on the review of literature of the history of Athletic Training, Athletic Training Education, Athletic Training Clinical Education and related allied health professions clinical education, the importance of clinical education was paramount to the quality of education for the future of the Athletic Training profession (Weidner & Henning, 2002). The purpose for the current study was to examine the perceived effectiveness of Accredited Athletic Training Programs' clinical education experiences in newly educated Certified Athletic Trainers compared to the two older models of clinical education experiences, the Curriculum and Internship models, respectively. Specifically, was the current model perceived to be as effective as the former models? This inquiry was a multi-leveled examination of the clinical education experiences of four specific groups based on their educational preparation: the Internship Group, the Curriculum Group, the Entry-level Undergraduate Accredited Group, and the Entry-level Masters Accredited Group.

Research Questions

The following research questions have guided this study:

1. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?
2. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters

Programs prepare Athletic Training Students for the Profession of Athletic Training?

3. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?
4. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Profession of Athletic Training?

Research Hypotheses

Throughout the history of Athletic Training Education, considerable research has been conducted concerning the education of Athletic Training Students and their preparation for the profession (Jordan, 2006). However, since the conversion to the accredited models little research had been conducted regarding the effectiveness of the changes to the education system, specifically the clinical education component.

Hypothesis 1. There is a perceived significant difference among the four models in preparation for the BOC exam based on the didactic structure.

Hypothesis 2. There is not a perceived significant difference among the four models in preparation for the profession based on the didactic structure.

Hypothesis 3. There is not a perceived significant difference among the four models in preparation for the BOC based on clinical education.

Hypothesis 4. There is a perceived significant difference among the four models in preparation for the profession based on clinical education.

Conceptual Framework

The conceptual framework for this study was based on constructivist epistemology. Constructivist epistemology revolves around the learner creating their own knowledge from experiences (Crotty, 1998). In the classroom, the constructivist view of learning can point toward a number of different teaching practices. In the most general sense, it usually means encouraging students to use active techniques to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing.

Three theories that form the foundational conceptual strands used in athletic training education today and throughout its history were: cognitive apprenticeship, self-directed learning and clinical education theory (Colburn, 2000, Collins, Brown & Newman, 1989, Myrick & Yonge, 2011). According to Rauk (2003), clinical education's main focus is the integration of didactic knowledge into the clinical setting.

The cognitive apprenticeship theory has been used throughout many allied healthcare professions (Collins, Brown & Newman, 1989). The foundation of the cognitive apprenticeship model transfers specific knowledge, skills, procedures, critical thinking and professional culture to the novice through directly working with the expert in the profession (Collins, Brown & Newman).

> This model [cognitive apprenticeship model] allows for optimal use of the learning experiences in the practical environment. Athletic training students must learn not only the observable procedures and behaviors demonstrated by expert practitioners, but also the decision making processes, values, and culture that guide the selection and implementation of these behaviors. (Jordan, 2006, p.30)

Cognitive apprenticeship theory was ideal for developing the knowledge and skills needed by athletic training students throughout their academic career. The quality

of the experience in theory better prepared the athletic training student for the new and challenging future of the profession. In education this theory may be called acculturation, where the student was socialized into the profession by meeting the traditional expectations of the profession (Joyce, Weil, & Weil, 2000).

Self-directed learning theory was the second major strand in the conceptual framework. Self-directed learning theory deals with the transfer of didactic knowledge into relevancy in practice (Prawat, 1989). The transfer of didactic knowledge contributes to development and reconstruction of meaning in professional practice (Lauder, Reynolds & Angus, 1999). To achieve this transfer, self-directed learning must occur. Grow (1991) developed an instructional model based off Knowles' (1980) model of self-directed learning assumptions. Knowles' primary assumption was all adults move toward self-directed learners through four stages: dependency, interest, involved and, ultimately, self-directed. Grow (1991) added the role of the educator to this model in relationship to the learner and as the learner grows, the role of the educator changes from authority figure, to consultant, and ultimately to delegator. Smith (2001) developed a framework for undergraduate faculty members to develop self-directed learners through three distinct behaviors: increasing professional enthusiasm, modeling appropriate professional behavior, and providing feedback based on the students' abilities.

Clinical education theory was the final strand of the conceptual framework. Clinical education theory was the "practice of assisting a student to acquire the required knowledge and skills and attributes in practice settings to meet the standards as defined by the professional accrediting board" (Rose & Best, 2005, p.3). Myrick and Yonge (2001) viewed clinical education as the vital connection between higher education and

real world practice in allied health care professions. Mannix, Faga, Beale and Jackson (2006) went further to break down this theory into five specific goals: authenticating student knowledge; interpreting theoretical and applied knowledge; developing and refining skills; familiarizing students with the workplace; and developing problem solving and time management skills. One variable remains constant throughout the clinical education theory, the student. The student in this theory must be an active participant in the educational process. This theory only works when the student is engaged, the peers are engaged and the preceptor/mentor is engaged.

The three theories of cognitive apprenticeship theory, self-directed learning theory, and clinical education theory were intertwined together to form the conceptual framework for this study. Without one of the strands described previously the framework fails and the student is left without being fully prepared for the profession.

Significance of the Study

With athletic training being a multi-faceted and dynamic profession, the education of future athletic trainers must be just as dynamic. Athletic training education requires both didactic and clinical education components (CAATE, 2006). The clinical education integrates the didactic components with real-life skills and attributes of the athletic trainer. With the clinical education component being an important component of all athletic trainers' education, it is important to ensure these clinical education experiences are truly fulfilling the needs of students in preparation for the BOC exam, as well as the profession they are entering. This distinctive clinical education experience prepares the athletic training student to become a real world professional. Examining the clinical experiences of athletic trainers from the previous models and those graduating from the

newer model should allow insight into how this clinical experience transfers into the knowledge for the Board of Certification Exam and into practice.

Research Design and Rationale

In examining the significance of the study, and using constructivist epistemology, the researcher concluded the need to use a quantitative design to answer the research questions. With the depth and breadth of the four design models and the autonomy of differing institutional practices, the researcher determined the need for numerous participants' viewpoints into their educational preparedness for the profession and for the Board of Certification Exam. A quantitative study allowed the researcher to examine the relationship, opinions and trends between and among the variables of a sample of the population which is central to the study (Creswell, 2003).

This study was a quantitative study examining the perception of athletic trainers regarding their preparation for the BOC Examination and for the profession based upon the route to Certification both in the didactic classroom and in clinical education. This study also examined the perception of current accredited models.

Instrument

The survey design was a 30 item survey instrument collecting demographic information, perception of the preparedness for the BOC exam, and preparedness for the profession. The survey was designed around the eight areas of practice analyzed based on the BOC's 6th Role Delineation study (BOC, 2010). These areas include evidence-based practice, prevention and health promotion, clinical examination and diagnosis, acute care of injuries and illness, therapeutic interventions, psychosocial strategies and referral, healthcare administration, and professional development and responsibility.

The first six items were demographic information seeking gender, years as a Certified Athletic Trainer, current NATA District, current professional setting, number of times needed to successfully pass the BOC exam, and the route of eligibility for the BOC exam. The middle component of the survey utilized a 1-5 Likert rating scale to rank the participants' perceptions of preparation for the BOC exam and the profession based on the route to eligibility for the BOC exam, both didactically and clinically, in the 8 Role Delineation categories. The last eight questions were open ended questions about the preparedness of recently Certified Athletic Trainers for Undergraduate and Graduate Accredited Athletic Training Programs.

Population and Sample

The population for the study were Certified Athletic Trainers from Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Program's respectively, among the approximately 26,000 members of the National Athletic Trainers Association. The sample was obtained from the NATA Student Research Department through the Survey List Request Form (see Appendix A). Among the sample were members from all 10 NATA districts (see Appendix A), all employment settings, and both genders. The sample included 2,500 Certified Athletic Trainers who were members of the NATA. The survey was administered in the Spring of 2014. The sample size was selected to insure adequate response rate for the statistical analysis. Anecdotal data indicated an average response rate of 8 to 10 percent based on previous surveys conducted by other NATA members.

Data Collection

The data collection was a sample of the National Athletic Trainers' Association membership in a cross sectional survey. An invitation email with an attached link to the survey (Appendix B) was sent to 2,500 Certified Athletic Trainers who were active members of the NATA. A follow up reminder email was sent four weeks after the initial survey. The survey was open for six weeks from the time of the initial contact.
The participants in the survey were informed of the intent of the study. The purpose for the current study was to examine the perceived effectiveness of Accredited Athletic Training Programs' educational experiences.

The survey instrument's first page informed the participants of the intent of the survey and gave the participants the ability to opt-out of the survey. Next the participant gave demographic data including gender, years certified, NATA District, current employment setting, number of times taken to successfully pass the BOC certification exam, and the educational route to BOC eligibility. The answer to the eligibility question sent the participant to the specific section of four rating questions for the route of eligibility. Finally, all participants were directed to the final eight open ended questions. The data collection occurred through SurveyMonkey, an online survey builder. The data were on a secured data base and no personal identifying information was collected.

Data Analysis

Data analysis used Statistical Package for the Social Sciences (SPSS 21) for Windows. A One-way ANOVA was performed on the means of the outcomes of the four levels of independent variables (routes to Certification) preparedness for the BOC Certification eligibility. The Role Delineation Study was being used as the framework for

this inquiry, as the Role Delineation Study was the framework for the educational preparedness and standards by which the profession educates and aligns itself in the healthcare profession. The areas identified by the Role Delineation study as significant categories and serving as the framework of the study are; evidence-based practice, prevention and health promotion, clinical examination and diagnosis, acute care of injuries and illness, therapeutic interventions, psychosocial strategies and referral, healthcare administration, and professional development and responsibility.

As the Role Delineation Studies have been the backbone throughout the history of the profession, the roles of the athletic trainers have not significantly changed, just reorganized throughout history. The means of the measures on preparedness, both for the Board of Certification Exam and the profession of athletic training, for the Internship candidates, Curricular candidates, Undergraduate Accredited candidates and the Master's Level Accredited candidates were compared. A significant F-test at a .05 level indicated a difference among these four groups being compared, with post-hoc comparisons used to determine which group differs from the other groups.

The One-way ANOVA was chosen based on the ability of the test to show significant differences among the four routes to certification. The assumptions met for a One-way ANOVA to be used successfully included having a normally distributed population, variances that are similar across conditions, independent observations, and dependent variables measured on an interval scale. Significant differences were determined by a significant F-test at a .05 level (Field, 2005).

Post Hoc comparisons were conducted to compare the groups on the following preparedness measures: Evidence-based Practice, Prevention and Health Promotion,

Clinical Exam and Diagnosis, Acute Care of Injuries and Illnesses, Therapeutic Interventions, Psychosocial Strategies and Referral, Health Care Administration, and Professional Development and Responsibility, for both the BOC exam and for preparation for the profession. For the Post Hoc comparison and exploratory data analysis, the Bonferroni method was originally selected to be used to further compare the data among the four routes, across the competencies and between preparedness for the profession and the BOC exam. However, the four group Ns were significantly different upon analysis; a different Post Hoc Test was selected to be used to accommodate the uneven groups.

The independent variable was the route to certification: Internship, Curriculum, Accredited Undergraduate or Accredited Graduate. The dependent variables for the study were the preparedness for the BOC and for the profession, based on the didactic and clinical education competencies which were evidence-based practice, prevention and health promotion, clinical examination and diagnosis, acute care of injuries and illnesses, therapeutic interventions, psychosocial strategies and referral, healthcare administration, and professional development and responsibility (see Table 1). The remaining open ended questions provided supplemental data to the quantitative data. These data werer not the primary focus of the study, however they may be helpful to better understand the quantitative piece being ascertained in the study.

Summary

The study examined perceptions of how well the different routes to certification have prepared Certified Athletic Trainers for the BOC exam and for the profession. The study explored their perceptions of preparedness as related to their didactic classroom

experience and the clinical education experience. In exploring the nuances of each different route, the findings helped in the design and development of better educational structure in athletic training education.

CHAPTER FOUR

RESULTS AND RESPONSES

Athletic Training (AT) is a multi-faceted and dynamic profession among the allied healthcare professions. AT emphasizes critical decision-making abilities that often require both time-tested techniques and the latest medical research. Certified Athletic Trainers (ATC) "…are healthcare professionals who collaborate with physicians to optimize activity and participation of patients and clients. Athletic training encompasses the prevention, diagnosis and intervention of emergency, acute and chronic medical conditions involving impairment, functional limitations and disabilities" (Board of Certification, 2012, paragraph 1). Unlike other allied health fields such as emergency medicine, general medicine, physical therapy, and nursing, AT involves the full timeline from the athlete's/patient's injury to his/her complete return to participation (Steadman, 2012). These aspects make AT quite unique among medical professions, making it paramount that students wishing to pursue a career in AT undergo thorough coursework and hands-on involvement (Jordan, 2006). These experiences in coursework plus involvement serve as the central tenets of the entry-level Athletic Training Education Program (ATEP), the foundational cornerstone for AT as a profession.

The purpose for the current study was to examine the effectiveness of ATEPs' clinical education experiences in newly educated Certified Athletic Trainers compared to two older models of clinical education experiences, the Curriculum and Internship models. Specifically, this study examined the perceived effectiveness of the current models as compared to the former models. Since the 2002 education reform in athletic

training, little research has been conducted to study its perceived effectiveness on clinical education.

The following research questions guided this study:

1. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?
2. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Profession of Athletic Training?
3. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?
4. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Profession of Athletic Training?

The following hypotheses grew from the research questions and are based on the combination of the literature review and anecdotal evidence.

Hypothesis 1. There is a perceived significant difference among the four models in preparation for the BOC exam based on the didactic structure.

Hypothesis 2. There is not a perceived significant difference among the four models in preparation for the profession based on the didactic structure.

Hypothesis 3. There is not a perceived significant difference among the four models in preparation for the BOC based on clinical education.

Hypothesis 4. There is a perceived significant difference among the four models in preparation for the profession based on clinical education.

Respondents' Demographics

The survey instrument's first page informed the participants of the intent of the survey and gave the participants the ability to opt-out of the survey. Next the participant gave demographic data including gender, years certified, NATA District, current employment setting, number of times taken to successfully pass the BOC certification exam, and the educational route to BOC eligibility. The answer to the eligibility question sent the participant to the specific section of four rating questions for the route of eligibility. Finally, all participants were directed to the final eight open ended questions. Out of the 2,500 survey invitations, 500 Certified Athletic Trainers responded, but only 400 provided useable data. The number of female respondents, 201 (50.3%), and male respondents, 198 (49.5%), were nearly equal, with one not reporting gender (see Table 2).

Table 2

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	201	50.3	50.4	50.4
	Male	198	49.5	49.6	100.0
	Total	399	99.8	100.0	
Missing	System	1	.3		
Total		400	100.0		

The respondents varied in the number of years Certified: 113 (28.3%) had been Certified between 1-5 years, 82 (20.5%) report being Certified between 6-10 years, 69

(17.3%) respondents report being Certified 11-15 years, 55 (13.8%) respondents report being Certified for 16-20 years, 22 (5.5%) report being Certified 21-25 years and 59 (14.8%) report being Certified greater than 25 years (see Table 3).

Table 3

Years Certified

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 years	113	28.3	28.3	28.3
	6-10	82	20.5	20.5	48.8
	11-15	69	17.3	17.3	66.0
	16-20	55	13.8	13.8	79.8
	21-25	22	5.5	5.5	85.3
	25+	59	14.8	14.8	100.0
	Total	400	100.0	100.0	

The NATA is comprised of 10 Districts, all 10 districts were represented in the data: 29 (7.3%) from District 1, 56 (14%) from District 2, 47 (11.8%) from District 3, 92 (23%) from District 4, 47 (11.8%) from District 5, 26 (6.5%) from District 6, 26 (6.5%) from District 7, 25 (6.3%) from District 8, 35 (8.8%) from District 9, 12 (3.0%) from District 10, and 5 did not report (see Table 4).

Table 4

NATA District

		Frequency	Percent	Valid Percent	Cumulative Percent
	1	29	7.3	7.3	7.3
	2	56	14.0	14.2	21.5
	3	47	11.8	11.9	33.4
	4	92	23.0	23.3	56.7
	5	47	11.8	11.9	68.6
	6	26	6.5	6.6	75.2
	7	26	6.5	6.6	81.8
	8	25	6.3	6.3	88.1
	9	35	8.8	8.9	97.0
	10	12	3.0	3.0	100.0
	Total	395	98.8	100.0	
Missing	System	5	1.3		
Total		400	100.0		

The respondents reported their current primary employment setting: 132 (33%) were at High Schools, 134 (33.5%) were at Colleges, 24 (6%) were in Athletic Training Education, 67 (16.8%) were in Clinical Outreach, 1 (.3%) was in the Military, 17 (4.3%) were Physician Extenders, and 25 (6.3%) were in other settings from administration to professional sports (see Table 5).

Table 5

Current Employment Setting

	Frequency	Percent	Valid Percent	Cumulative Percent
High School	132	33.0	33.0	33.0
College	134	33.5	33.5	66.5
Athletic Training Education	24	6.0	6.0	72.5
Clinical Outreach	67	16.8	16.8	89.3
Military	1	.3	.3	89.5
Physician Extender	17	4.3	4.3	93.8
Other	25	6.3	6.3	100.0
Total	400	100.0	100.0	

Finally, the respondents reported their educational route to BOC eligibility: 120 (30%) were from the Internship route, 52 (13%) were from the Curriculum route, 201 (50.3%) were from Undergraduate Accredited Programs, 26 (6.5%) were from Graduate Accredited Programs, and 1 (.3%) did not report (see Table 6).

Table 6

Educational Route to Certification

	Frequency	Percent	Valid Percent	Cumulative Percent
Internship	120	30.0	30.1	30.1
Curriculum	52	13.0	13.0	43.1
Under Grad Accredited	201	50.3	50.4	93.5
Grad Accredited	26	6.5	6.5	100.0
Total	399	99.8	100.0	
Missing	1	.3		
Total	400	100.0		

The descriptive data results for each educational route to eligibility for BOC certification is broken down into the 32 question format of the survey (see Table 7).

Table 7

Descriptives	Route	N	Mean 0-5	Standard Deviation
Overall Preparation in Evidence-based Practice for the BOC	Internship	120	2.51	1.455
	Curriculum	52	2.75	1.595
	Under Grad Accredited	201	3.36	1.304
	Grad Accredited	26	3.62	1.499
	Total	399	3.04	1.457
Overall Preparation in Prevention and Health Promotion for the BOC	Internship	120	3.83	0.976
	Curriculum	52	4.02	0.828
	Under Grad Accredited	201	3.92	0.853
	Grad Accredited	26	4.12	0.952
	Total	399	3.91	0.895
Overall Preparation in Clinical Exam and Diagnosis for the BOC	Internship	120	4.04	0.999
	Curriculum	52	4.25	0.813
	Under Grad Accredited	201	4.35	0.727
	Grad Accredited	26	4.42	0.809
	Total	399	4.25	0.842
Overall Preparation in Acute Care of Injury and Illness for the BOC	Internship	120	4.31	0.838
	Curriculum	52	4.33	0.81
	Under Grad Accredited	201	4.35	0.728
	Grad Accredited	26	4.42	0.857
	Total	399	4.34	0.779
Overall Preparation in Therapeutic Intervention for the BOC	Internship	120	3.65	0.967
	Curriculum	52	4	0.95
	Under Grad Accredited	201	4.03	0.839
	Grad Accredited	26	4.08	0.845
	Total	399	3.92	0.908
Overall Preparation in Psychosocial Strategies and Referral for the BOC	Internship	118	3.1	1.016
	Curriculum	52	3.25	0.988
	Under Grad Accredited	200	3.27	1.025
	Grad Accredited	26	3.42	0.758
	Total	396	3.22	1.003
Overall Preparation in Healthcare Administration for the BOC	Internship	120	3.36	0.951
	Curriculum	52	3.44	1.037
	Under Grad Accredited	201	3.49	0.985
	Grad Accredited	26	3.54	0.859
	Total	399	3.45	0.973
Overall Preparation in Professional Development for the BOC	Internship	120	3.79	0.969
	Curriculum	51	3.88	0.887
	Under Grad Accredited	199	3.88	0.982
	Grad Accredited	26	4.04	0.824
	Total	396	3.86	0.956

Descriptives-Continued

	Route	N	Mean 0-5	Standard Deviation
Overall Preparation in Evidence-based Practice for the Profession	Internship	119	2.71	1.409
	Curriculum	51	2.82	1.571
	Under Grad Accredited	201	3.35	1.268
	Grad Accredited	26	3.46	1.476
	Total	397	3.1	1.395
Overall Preparation in Prevention and Health Promotion for the Profession	Internship	119	3.87	0.935
	Curriculum	51	3.98	0.787
	Under Grad Accredited	201	3.88	0.877
	Grad Accredited	25	4.2	0.913
	Total	396	3.91	0.887
Overall Preparation in Clinical Exam and Diagnosis for the Profession	Internship	118	4.14	0.886
	Curriculum	51	4.22	0.783
	Under Grad Accredited	201	4.21	0.799
	Grad Accredited	26	4.35	0.892
	Total	396	4.2	0.829
Overall Preparation in Acute Care of Injury and Illness Overall for the Profession	Internship	119	4.28	0.78
	Curriculum	50	4.34	0.772
	Under Grad Accredited	201	4.31	0.739
	Grad Accredited	26	4.35	1.056
	Total	396	4.31	0.777
Overall Preparation in Therapeutic Intervention for the Profession	Internship	116	3.78	0.943
	Curriculum	51	3.96	0.894
	Under Grad Accredited	201	3.89	0.873
	Grad Accredited	26	3.88	0.993
	Total	394	3.86	0.903
Overall Preparation in Psychosocial Strategies and Referral for the Profession	Internship	118	3.25	1.031
	Curriculum	51	3.22	0.966
	Under Grad Accredited	200	3.22	0.973
	Grad Accredited	26	3.35	0.892
	Total	395	3.24	0.982
Overall Preparation in Healthcare Administration for the Profession	Internship	116	3.42	0.97
	Curriculum	50	3.36	1.005
	Under Grad Accredited	201	3.46	0.98
	Grad Accredited	26	3.58	0.945
	Total	393	3.44	0.975
Overall Preparation in Professional Development for the Profession	Internship	119	3.83	0.968
	Curriculum	51	3.98	0.836
	Under Grad Accredited	199	3.88	0.93
	Grad Accredited	26	4.04	0.824
	Total	395	3.89	0.922

Descriptives-Continued

	Route	N	Mean 0-5	Standard Deviation
Clinical Education Preparation in Evidence-based Practice for the BOC	Internship	119	2.74	1.515
	Curriculum	51	2.63	1.562
	Under Grad Accredited	196	3.19	1.285
	Grad Accredited	25	3.44	1.502
	Total	391	2.99	1.429
Clinical Education Preparation in Prevention and Health Promotion for the BOC	Internship	119	3.82	1.071
	Curriculum	51	3.63	0.999
	Under Grad Accredited	197	3.73	0.906
	Grad Accredited	25	4	0.866
	Total	392	3.76	0.969
Clinical Education Preparation in Clinical Exam and Diagnosis for the BOC	Internship	119	4.13	0.956
	Curriculum	51	4.06	0.947
	Under Grad Accredited	197	4.25	0.76
	Grad Accredited	25	4.6	0.577
	Total	392	4.21	0.846
Clinical Education Preparation in Acute Care of Injury and Illness for the BOC	Internship	117	4.2	0.94
	Curriculum	51	4.18	0.91
	Under Grad Accredited	197	4.29	0.739
	Grad Accredited	25	4.52	0.823
	Total	390	4.26	0.833
Clinical Education Preparation in Therapeutic Intervention for the BOC	Internship	119	3.84	0.965
	Curriculum	50	3.86	0.99
	Under Grad Accredited	194	3.93	0.888
	Grad Accredited	25	4.12	0.781
	Total	388	3.91	0.919
Clinical Education Preparation in Psychosocial Strategies and Referral for the BOC	Internship	119	3.33	1.067
	Curriculum	50	3.12	1.081
	Under Grad Accredited	194	3.26	1.037
	Grad Accredited	25	3.68	0.802
	Total	388	3.29	1.042
Clinical Education Preparation in Healthcare Administration for the BOC	Internship	119	3.45	1.079
	Curriculum	51	3.31	1.068
	Under Grad Accredited	196	3.41	0.943
	Grad Accredited	25	3.44	0.768
	Total	391	3.41	0.99
Clinical Education Preparation in Professional Development for the BOC	Internship	118	3.74	1.058
	Curriculum	49	3.69	0.962
	Under Grad Accredited	197	3.72	0.99
	Grad Accredited	25	3.88	0.927
	Total	389	3.73	1.001

Descriptives-Continued

	Route	N	Mean 0-5	Standard Deviation
Clinical Education Preparation in Evidence-based Practice for the Profession	Internship	119	2.9	1.481
	Curriculum	51	2.76	1.544
	Under Grad Accredited	197	3.25	1.231
	Grad Accredited	25	3.48	1.475
	Total	392	3.09	1.381
Clinical Education Preparation in Prevention and Health Promotion for the Profession	Internship	119	3.84	1.041
	Curriculum	51	3.75	1.017
	Under Grad Accredited	198	3.88	0.864
	Grad Accredited	25	4.12	0.833
	Total	393	3.87	0.939
Clinical Education Preparation in Clinical Exam and Diagnosis for the Profession	Internship	117	4.12	0.948
	Curriculum	51	4.14	0.939
	Under Grad Accredited	197	4.26	0.755
	Grad Accredited	25	4.56	0.712
	Total	390	4.22	0.844
Clinical Education Preparation in Acute Care of Injury and Illness for the Profession	Internship	119	4.24	0.909
	Curriculum	50	4.18	0.962
	Under Grad Accredited	196	4.26	0.755
	Grad Accredited	25	4.56	0.768
	Total	390	4.26	0.834
Clinical Education Preparation in Therapeutic Intervention for the Profession	Internship	119	3.88	0.913
	Curriculum	51	3.88	1.013
	Under Grad Accredited	197	3.94	0.846
	Grad Accredited	25	4.12	0.881
	Total	392	3.93	0.89
Clinical Education Preparation in Psychosocial Strategies and Referral for the Profession	Internship	118	3.38	1.062
	Curriculum	51	3.24	1.031
	Under Grad Accredited	196	3.29	1.014
	Grad Accredited	25	3.56	0.961
	Total	390	3.33	1.027
Clinical Education Preparation in Healthcare Administration for the Profession	Internship	118	3.48	1.092
	Curriculum	51	3.35	1.055
	Under Grad Accredited	197	3.44	1.007
	Grad Accredited	25	3.44	0.768
	Total	391	3.44	1.023
Clinical Education Preparation in Professional Development for the Profession	Internship	118	3.86	0.989
	Curriculum	51	3.75	1.017
	Under Grad Accredited	197	3.78	0.978
	Grad Accredited	25	3.96	0.889
	Total	391	3.81	0.979

Survey Results

The main concentration of this inquiry is the perceived preparedness of the Certified Athletic Trainer for the BOC Exam and for the profession based upon the current practice domains in athletic training. The One-way ANOVA found seven areas of significant findings, below .05, among the four educational program routes, Internship, Curriculum, Accredited Undergraduate, and Accredited Graduate, respectively.

The first area of significance was the perceived overall preparation in evidence-based practice for the BOC among the groups, with a. <001 significance level. The Accredited Graduate programs mean was the highest mean score at 3.62 out of 5, followed closely behind by the Accredited Undergraduate programs with 3.36, then followed by the Curriculum programs and Internships program at 2.75 and 2.51, respectively.

The second finding of significance was overall preparation in clinical exam and diagnosis for the BOC among the four groups with a .01 significance level. The Accredited Graduate Program again scored the highest mean score with a 4.42 mean out of 5, followed closely by both Accredited Undergraduate and Curriculum programs with 4.35 and 4.25 respectively. Internship programs were last with a 4.04 mean score.

The third area of significant finding among the four groups was in overall preparation in therapeutic interventions for the BOC with a .002 level. The Accredited Graduate Programs performed the best with a 4.08 out of 5 mean score followed closely behind by Accredited Undergraduate and Curriculum Programs with a 4.03 and 4 respectively. Again, Internship programs were last with 3.65 out of 5 mean score.

The fourth area of significant finding was found in overall preparation in evidence-based practice for the profession with a <.001 significance level. The Accredited Graduate Programs outperformed the other programs with a 3.46 mean score out of 5, followed closely by Accredited Undergraduate programs with a 3.35, and then followed by the Curriculum and Internship programs with a 2.82 and 2.71, respectively.

The fifth finding of significance was clinical education preparation in evidence-based practice for the BOC with a .004 level. Again, the Accredited Graduate and Accredited Undergraduate Programs scored higher with a 3.44 and 3.19 mean score respectively, followed by Curriculum and Internship at 2.63 and 2.74, respectively, out of 5.

The sixth significant finding among the groups was in clinical education preparation in clinical examination and diagnosis for the BOC with a .038 level. This area saw the highest mean scores of the significant findings with Accredited Graduate programs with a mean scoring 4.6 out of 5, Accredited Undergraduate programs scoring 4.25, Internship mean score of 4.13 and, finally, Curriculum mean scoring 4.06 out of 5. This area also represents only one of two areas where Internship was not the lowest scoring program.

Finally the seventh area of significance was found in clinical education preparation in evidence-based practice for the profession at a .021 level. Again Accredited Graduate Programs had the highest means followed by Accredited Undergraduate Programs with a 3.48 and 3.25 out of 5, respectively. Internship again scored better than Curriculum, with a 2.9 mean score compared to the Curriculum's 2.76 mean score. All indicated findings above are included in Table 8.

Table 8

One-way ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Overall Preparation in Evidence-based Practice for the BOC	Between Groups	67.254	3	22.418	11.38	<.001
	Within Groups	778.104	395	1.97		
	Total	845.358	398			
Overall Preparation Clinical Exam and Diagnosis for the BOC	Between Groups	7.926	3	2.642	3.802	0.01
	Within Groups	274.51	395	0.695		
	Total	282.436	398			
Overall Preparation in Therapeutic Intervention for the BOC	Between Groups	12.368	3	4.123	5.155	0.002
	Within Groups	315.902	395	0.8		
	Total	328.271	398			
Overall Preparation in Evidence-based Practice for the Profession	Between Groups	37.388	3	12.463	6.675	<.001
	Within Groups	733.781	393	1.867		
	Total	771.169	396			
Clinical Education Preparation in Evidence-based Practice for the BOC	Between Groups	26.969	3	8.99	4.524	0.004
	Within Groups	769.021	387	1.987		
	Total	795.99	390			
Clinical Education Preparation in Clinical Exam and Diagnosis for the BOC	Between Groups	6.018	3	2.006	2.841	0.038
	Within Groups	273.982	388	0.706		
	Total	280	391			
Clinical Education Preparation in Evidence-based Practice for the Profession	Between Groups	18.489	3	6.163	3.289	0.021
	Within Groups	727.019	388	1.874		
	Total	745.508	391			

Post-Hoc Analysis

Post-Hoc analysis was used in the areas of significance indicated by the One-Way ANOVA to determine the specific significant differences between the four educational routes. Due to the discrepancy in sample sizes of the four groups, a test of homogeneity of variance was performed, rather than Bonferroni method. The homogeneity of variance test allowed for accurate determination of whether the population variances differed, therefore indicating the appropriate post-hoc analysis. (see Table 9). Four areas were determined to have different population variances and different sample sizes thus requiring the use of Games-Howell Post-hoc analysis (see Table 9). The remaining areas of focus showed no difference in population variance, however, they did have different sample sizes thus require the use of Hochberg's GT2 Post-hoc analysis (see Table 9).

Table 9

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Overall Preparation in Evidence-based Practice for the BOC	1.529	3	395	0.207
Overall Preparation in Prevention and Health Promotion for the BOC	1.383	3	395	0.247
Overall Preparation Clinical Exam and Diagnosis for the BOC	6.326	3	395	0
Overall Preparation in Acute Care of Injury and Illness for the BOC	1.015	3	395	0.386
Overall Preparation in Therapeutic Intervention for the BOC	2.853	3	395	0.037
Overall Preparation in Psychosocial Strategies and Referral for the BOC	0.79	3	392	0.5
Overall Preparation in Healthcare Administration for the BOC	0.921	3	395	0.43
Overall Preparation in Evidence-based Practice for the Profession	1.104	3	393	0.347
Overall Preparation in Professional Development for the BOC	1.089	3	392	0.354
Overall Preparation in Prevention and Health Promotion for the Profession	1.689	3	392	0.169
Overall Preparation in Clinical Exam and Diagnosis for the Profession	1.302	3	392	0.273
Overall Preparation in Acute Care of Injury and Illness Overall for the Profession	1.349	3	392	0.258
Overall Preparation in Therapeutic Intervention for the Profession	0.967	3	390	0.408
Overall Preparation in Psychosocial Strategies and Referral for the Profession	0.916	3	391	0.433
Overall Preparation in Healthcare Administration for the Profession	0.065	3	389	0.978
Overall Preparation in Professional Development for the Profession	1.462	3	391	0.224
Clinical Education Preparation in Evidence-based Practice for the BOC	2.517	3	387	0.058
Clinical Education Preparation in Prevention and Health Promotion for the BOC	1.349	3	388	0.258
Clinical Education Preparation in Clinical Exam and Diagnosis for the BOC	3.12	3	388	0.026
Clinical Education Preparation in Acute Care of Injury and Illness for the BOC	2.107	3	386	0.099
Clinical Education Preparation in Therapeutic Intervention for the BOC	1.59	3	384	0.191
Clinical Education Preparation in Psychosocial Strategies and Referral for the BOC	0.774	3	384	0.509
Clinical Education Preparation in Healthcare Administration for the BOC	2.117	3	387	0.098
Clinical Education Preparation in Professional Development for the BOC	0.414	3	385	0.743
Clinical Education Preparation in Evidence-based Practice for the Profession	2.714	3	388	0.045
Clinical Education Preparation in Prevention and Health Promotion for the Profession	2.575	3	389	0.054
Clinical Education Preparation in Clinical Exam and Diagnosis for the Profession	2.612	3	386	0.051
Clinical Education Preparation in Acute Care of Injury and Illness for the Profession	1.952	3	386	0.121
Clinical Education Preparation in Therapeutic Intervention for the Profession	1.74	3	388	0.158
Clinical Education Preparation in Psychosocial Strategies and Referral for the Profession	0.37	3	386	0.775
Clinical Education Preparation in Healthcare Administration for the Profession	1.693	3	387	0.168
Clinical Education Preparation in Professional Development for the Profession	0.468	3	387	0.705

Games-Howell

The four areas identified in the homogeneity of variance test requiring Games-Howell analysis were 1) overall preparation of clinical exam and diagnosis for the BOC, 2) overall preparation in therapeutic intervention for the BOC, 3) clinical education preparation in clinical exam and diagnosis for the BOC, and 4) clinical education preparation in evidence-based practice for the profession (see Table 10).

The overall preparation in Clinical Exam and Diagnosis for the BOC shows a significant difference between the Internship route and the Accredited Undergraduate route at a .020 level. The Accredited Graduate Program again scored the highest mean score with a 4.42 mean out of 5, followed closely by both Accredited Undergraduate and Curriculum programs with 4.35 and 4.25 respectively. Internship programs were last with a 4.04 mean score.

The overall preparation in Therapeutic Intervention for the BOC shows the same significant level of .020 between the same two groups. The Accredited Graduate Programs performed the best with 4.08 out of 5 mean score followed closely behind by Accredited Undergraduate and Curriculum Programs with a 4.03 and 4 respectively. Again, Internship programs were last with 3.65 out of 5 mean score.

The third group, clinical education preparation in clinical exam and diagnosis for the BOC, saw significant findings between Internship and Accredited Graduate programs at a .011 level, Curriculum and Accredited Graduate programs at a .015 level, and Accredited Undergraduate and Accredited Graduate programs at a .048 level. This area saw the highest mean scores of the significant findings with Accredited Graduate programs with a mean scoring 4.6 out of 5, Accredited Undergraduate programs scoring

4.25, Internship mean score of 4.13 and, finally, Curriculum mean scoring 4.06 out of 5. This area also represents only one of two areas where Internship was not the lowest scoring program.

The final area meeting the criteria for the Games-Howell method was the clinical education preparation in Evidence-based Practice for the profession which resulted in no significant findings. Again Accredited Graduate Programs had the highest means followed by Accredited Undergraduate Programs with a 3.48 and 3.25 out of 5, respectively. Internship again scored better than Curriculum, with a 2.9 mean score compared to the Curriculum's 2.76 mean score.

Table 10

Games-Howell

Dependent Variable	(I) Educational Route to Certification	(J) Educational Route to Certification	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Overall Preparation Clinical Exam and Diagnosis for the BOC	Internship	Curriculum	-0.208	0.145	0.48	-0.59	0.17
		Undergrad Accredited	-.307*	0.105	0.02	-0.58	-0.04
		Grad Accredited	-0.381	0.183	0.174	-0.87	0.11
	Curriculum	Internship	0.208	0.145	0.48	-0.17	0.59
		Undergrad Accredited	-0.098	0.124	0.857	-0.42	0.23
		Grad Accredited	-0.173	0.195	0.81	-0.69	0.34
	Undergrad Accredited	Internship	.307*	0.105	0.02	0.04	0.58
		Curriculum	0.098	0.124	0.857	-0.23	0.42
		Grad Accredited	-0.075	0.167	0.969	-0.53	0.38
	Grad Accredited	Internship	0.381	0.183	0.174	-0.11	0.87
		Curriculum	0.173	0.195	0.81	-0.34	0.69
		Undergrad Accredited	0.075	0.167	0.969	-0.38	0.53
Overall Preparation in Therapeutic Intervention for the BOC	Internship	Curriculum	-0.35	0.159	0.128	-0.76	0.06
		Undergrad Accredited	-.385*	0.106	0.002	-0.66	-0.11
		Grad Accredited	-0.427	0.188	0.121	-0.93	0.08
	Curriculum	Internship	0.35	0.159	0.128	-0.06	0.76
		Undergrad Accredited	-0.035	0.144	0.995	-0.41	0.34
		Grad Accredited	-0.077	0.212	0.983	-0.64	0.48
	Undergrad Accredited	Internship	.385*	0.106	0.002	0.11	0.66
		Curriculum	0.035	0.144	0.995	-0.34	0.41
		Grad Accredited	-0.042	0.176	0.995	-0.52	0.43
	Grad Accredited	Internship	0.427	0.188	0.121	-0.08	0.93
		Curriculum	0.077	0.212	0.983	-0.48	0.64
		Undergrad Accredited	0.042	0.176	0.995	-0.43	0.52

*. The mean difference is significant at the 0.05 level.

Games-Howell -Continued

Dependent Variable	(I) Educational Route to Certification	(J) Educational Route to Certification	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Clinical Education Preparation in Clinical Exam and Diagnosis for the BOC	Internship	Curriculum	0.076	0.159	0.964	-0.34	0.49
		Undergrad Accredited	-0.119	0.103	0.654	-0.39	0.15
		Grad Accredited	-.466*	0.145	0.011	-0.85	-0.08
	Curriculum	Internship	-0.076	0.159	0.964	-0.49	0.34
		Undergrad Accredited	-0.195	0.143	0.528	-0.57	0.18
		Grad Accredited	-.541*	0.176	0.015	-1	-0.08
	Undergrad Accredited	Internship	0.119	0.103	0.654	-0.15	0.39
		Curriculum	0.195	0.143	0.528	-0.18	0.57
		Grad Accredited	-.346*	0.128	0.048	-0.69	0
	Grad Accredited	Internship	.466*	0.145	0.011	0.08	0.85
		Curriculum	.541*	0.176	0.015	0.08	1
		Undergrad Accredited	.346*	0.128	0.048	0	0.69
Clinical Education Preparation in Evidence-based Practice for the Profession	Internship	Curriculum	0.134	0.255	0.952	-0.53	0.8
		Undergrad Accredited	-0.35	0.162	0.137	-0.77	0.07
		Grad Accredited	-0.581	0.325	0.296	-1.46	0.3
	Curriculum	Internship	-0.134	0.255	0.952	-0.8	0.53
		Undergrad Accredited	-0.484	0.233	0.172	-1.1	0.13
		Grad Accredited	-0.715	0.366	0.219	-1.69	0.26
	Undergrad Accredited	Internship	0.35	0.162	0.137	-0.07	0.77
		Curriculum	0.484	0.233	0.172	-0.13	1.1
		Grad Accredited	-0.231	0.308	0.875	-1.07	0.61
	Grad Accredited	Internship	0.581	0.325	0.296	-0.3	1.46
		Curriculum	0.715	0.366	0.219	-0.26	1.69
		Undergrad Accredited	0.231	0.308	0.875	-0.61	1.07

*. The mean difference is significant at the 0.05 level.

Hochberg's GT2

The remaining twenty-eight areas of study met the requirements for the Hochberg's method; that is, those areas had unequal sample sizes and equal population variances. No significant findings were discovered in any of the twenty-eight areas.

Open Ended Questions

The remaining data were retrieved from the optional open ended question at the end of the survey. The data are segregated by the question (see Appendix D, Table 11). The following is a summary of the data gathered for each question. As with all open ended data there were varying responses. The following are samples of the comments.

Question #24. How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the BOC exam?

A majority of the feedback received from the respondents indicates recently Certified Athletic Trainers from undergraduate accredited programs are adequately prepared for the BOC exam as evidenced by the following quotes: "…the programs are set up to prepare directly for the BOC and feel they do a good job at that", "With the new curriculum requirements as well as the new testing method (online computer based) I feel recent AT's are more prepared for BOC exam than I was.", and "Given the pass rate of the BOC exam over the past few years, and definitely since the inception of the 'new' format (i.e. no oral practice, taking three distinct portions), I'd say students are being adequately prepared for the exam."

Several respondents indicated similar responses; however, they questioned the relevance of the BOC exam and actual practice of athletic training as evidenced in the following quotes: "I feel most students complete their undergraduate degree well prepared. It becomes a priority but often too big of a focus as the BOC is not a good indicator of future success in the profession of Athletic Training." Another wrote, "It seems professors are now teaching just to prepare kids for the BOC exam which means

the kids are not ready to be qualified and well-rounded LATs (ATCs) if/when they pass the BOC." Another wrote,

> The new national test being on a computer and not involving any actual patient interaction is allowing students who are not adequately prepared to be a practicing athletic trainer to pass the certification test. They do not possess the hands on experience/ability to provide competent care.

Question #25. How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the profession of Athletic Training?

A majority of comments from respondents indicated recently Certified Athletic Trainers from undergraduate accredited programs were not well prepared for the profession and there is discrepancy from the classroom learning to real world practicing as evidenced in the following quotes:

> Mostly. I think the most opportunities that the recently certified ATs are able to work in the profession. We all know the 'textbook' way of doing things- so learning the book methods and passing the exam are not necessarily the same thing as working as an AT. I think more needs to be done as far as mentoring the newly certified AT's to ensure that we are continuing to develop as a profession.

Another responded "With the new supervision requirements and emphasis towards classroom and away from clinical, I believe recent AT's struggle more with some of the daily aspects of the profession than I did." While another wrote,

> I feel that they are missing a huge component with the lack of clinical experience they are getting. I think all clinical rotations should include more than just the college setting. Working with different ATC's in different settings gives a much more in depth experience and gives them some exposure to different settings. Not all ATC's are meant for the college setting and if that is the only experience they have then they may decide to choose another profession.

Another respondent agreed and wrote,

> Having mentored several newly certified athletic trainers, I've noticed a distinct lack of clinical preparedness and evidence-based clinical decision making. Of

> course, hesitation and acclimatization to a new job, job setting, etc. is expected, but I've seen a sharp increase in the referral pattern to physicians and physical therapists from the newer certified, compared to those in my own cohort or those even more experienced.

Another wrote,

"…I feel that most are very good at book work and lack the hands on skills and critical thinking and problem solving. Kids coming out are not prepared for the clinical aspect and importance of paperwork that is involved." Six different respondents concurred and wrote the following statements.

> I feel that recent ATs are ill prepared for the real rigors of Athletic Training and many that I have worked with seem to have a level of entitlement. The hands on skills, time management, and immediate actions are just not there, but would be required as they will need to function independently.
>
> This is the most troubling area as students are often taught everything perfectly from the book in order to pass the BOC. But the profession of Athletic Training is rarely perfect and students need to acquire as much real world experience as possible prior to certification.
>
> Not as well. Having the ability to get 'real time' hands on experience and make decisions without relying on a clinical instructor is hard. It was especially hard for me coming from a large program where there is an ACI and 2 graduate students and then the undergrad.
>
> I think that, overall, new ATCs are more prepared on paper than they are in application. The classroom side of the Education programs has improved greatly, but I believe that the clinical side and application of skills aren't stressed near as much as they need to be.
>
> I feel many ATCs coming out of accredited undergrad programs; especially out of larger schools with less hands-on opportunities are not adequately prepared to be in the field. Many have great book knowledge but lack the ability to apply what they've learned to real life situations.

"Most students these days have a strong grasp of the material but they struggle when it comes to actually working with athletes and putting their skills to use."

Some respondents directly indicated the change in clinical education with accreditation has dramatically impacted the overall preparedness of recently Certified Athletic Trainers as evidenced in the following four quotes from different respondents:

> Not as well as we were, they are no longer able to travel without a certified, I think that stunts their experience a LOT. I have met many undergraduates lately that are not prepared at all to make emergency decisions; they constantly look to more experienced providers for advice. It really is a sad thing.

> Not at all. Limitations in hours, coverage and travel, severely hamper their experience and does not prepare them for working on their own, or making their own decisions. They are not aware of the amount of time it takes during a playing season to do their job appropriately and they have major problems with being responsible for their own team.

> I believe the improved knowledge and educational experiences has come at the loss of early freedom and independence clinically, leading to recent graduates to have plenty of knowledge but little confidence in applying or utilizing skills independently (i.e. decision making and original thinking).

> They are NOT PREPARED for the reality of the profession.....they need more hands on, problem solving time during their education. I was given a team each season and sent out to figure things out and report back to the ATCs with questions, concerns, etc....We learned how to be athletic trainers --- these days they are learning too much from the book and CAATE is waaaay too involved in how they learn it - too many restrictions on great learning possibilities.

Finally, several respondents emphasized the importance of Graduate Assistantships to help combat the lack of preparation for the profession.

> I believe most newly certified are underprepared for the profession of Athletic Training and it is necessary that they gain experience through a graduate program because undergraduate programs no longer provide the hands on opportunities and real-world decision making that they once had.

Another wrote,

> From my experience I do not feel they are very prepared to handle the daily challenges of our profession, unless they are highly motivated students and really tackle the books and clinical. I feel a lot of these students should not work on their own. I try to tell graduating students to find GA positions or internships where there will be light to moderate supervision with someone they can go to with

> questions. I discourage the high school ATC positions because they may be all alone and under-prepared to handle tough situations alone.

Question # 26. How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the BOC exam based on their clinical education?

Most respondents indicated a great dependency on the clinical experience and the ACI/CI/Preceptor for preparation for the BOC exam. The following five comments came from different respondents echoing similar comments.

> Completely depends on the clinical instructor. I think there is much that could be done as far as trying to incorporate the material from the classroom portion into the clinical experience in the application setting. If the clinical instructor takes initiative to review material and incorporate the material- it can be a great rewarding experience in preparation for the BOC exam. If this is not the case, I think many times the students are seen as extra hands and maybe left out of good clinical learning experience due to time, resources, professionalism, etc.

"I think it depends on the ACI. I had ACI's who constantly challenged me and made me think and apply what I have learned. If we didn't have any hands on experience jobs to do, we were quizzed or asked critical thinking/research questions to keep us occupied."

> Overall, this is going to depend on the program they came from. Some new ATCs were able to be on their own and develop skills more than others. Those coming from a bigger D1 university probably weren't able to be in charge as much as those coming from a D2 or smaller program.

> Clinical experiences differ from program to program and student to student. Getting a variety of activities and sports as well as a good representation of both female and male sports was beneficial for me. The BOC exam addressed a lot of knowledge that needed to be learned before clinical experiences, but solidified and honed in those clinical experiences.

> I feel that recently certified athletic trainers from undergraduate accredited programs are generally well prepared for the BOC exam based on their clinical experience. I think this can be attributed to the quality of their clinical sites and their preceptors and this can vary school to school or even within the program.

Many respondents indicated the clinical experience tied directly more to the profession of athletic training than the BOC exam as evidenced with the following quotes. “I think the clinical experience makes or breaks them. If the students are not getting experience with critical thinking skills and hands on they are not going to be prepared.” Another wrote, “I feel like they (for the most part) need more hands on experience as opposed to just watching the Certified Athletic Trainers do everything. If you do not get your hands dirty it’s hard to know what it actually takes to be successful.” The following seven comments from different respondents argued more needs to be done in clinical setting.

> The limits that are placed on what students can and cannot do during their education programs greatly handicaps them moving forward. They are not prepared to work in the real world, but are able to pass a computer based test that doesn't involve any actual interaction. I have seen many students that know the material, but as soon as an actual patient is put in front of them they freeze or have no idea what to do, how to communicate, etc. They have the knowledge to pass the test, but not to perform the actual duties of an athletic trainer.
>
> Very well, but must have good hours and hands on, but some have gone away from the hours. I also felt the practical and simulation exams were better than just a written. I felt that preparation for that part of the exam greatly helped improve clinical skills verses just a written test. Better than physical therapists. I have worked with multiple new graduate PT's and ATs and gone to numerous courses with both and AT have better clinical skills and knowledge.
>
> I think the students are well prepared. The clinical experience exposes the students to what they are learning in the classroom and applying it to real life. However, this is where preparing for the BOC exam can be challenging, since clinicians vary how they approach different injuries.
>
> I don't think the clinical experience is as useful as it used to be when I was a student. Now there are so many restrictions on what students can or can't do, how many hours they can get a week, if they can travel or not, etc. and I feel as though programs with a lot of micromanaging, roadblocks, etc. can really deteriorate the student's experience and they leave their program not truly knowing what it is like to be an athletic trainer in the "real world." In my experience, the students who are present most often get the best experience because sometimes things happen in

> the clinic that you really can't teach or plan to teach ahead of time and the students who are present more often will get more of these experiences.
>
> Clinical experience I feel has been more effective for me in the work place rather than on the test. I noticed going through school that some people were book smart and some were better in live situations. I feel like I am a little bit of both. Being book smart will help prepare you for the BOC but won't necessarily help you to be a very good AT.

"I don't feel the clinical aspects of these programs are as geared towards the BOC exam; however it is hard to separate what one has learned from their clinical undergrad program from what they've learned in the classroom as the two are tightly connected."

Question #27. How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the Profession of Athletic Training based on their clinical experience?

A majority of respondents indicated a lack of preparation for the profession based on clinical experience as evidenced by the following quotes.

> The more clinical experience a student receives, the better off they are prepared for the profession. Also depends on the amount of freedom and supervision the student has with their clinical experiences. The more opportunities they have to take the reins and make decisions, evaluations, etc. on their own the more they are prepared when then are on their own.

Another stated,

> They need more autonomy and not every preceptor aids in that development. Some allow for more autonomy than others. Some students don't get much administrative experience because the Head ATC does it all on their computer. The ATSs lack experience in documentation, filing, phone calls to physicians, insurance and billing, etc.

While another commented,

> They are not given enough autonomy to gain confidence in their athletic training skills. If I am always there to bounce questions and ideas off of, they are not learning to think on their own. I think if we as preceptors are allowed to give the students a little more space it will force them to do more on their own. I feel

> sometimes I could give students more space and still be in direct supervision, but CAATE standards do not give me that luxury.

Another wrote,

> I do not think that they have the hands on experience and independent practical application to be successful as independent practitioners in entry level careers, specifically in the clinical and high school setting. They may be prepared enough to continue on with education as an internship or graduate assistantship to continue to wean them into clinical practice. They have little independent interactions with coaches, parents, physicians, athletes where they are making or suggesting treatment plans, relaying information, etc. They are unprepared for life application of skills and interaction and understanding of the healthcare continuum and realistic health care collaboration.

One Certified Athletic Trainer wrote, "I do not believe current students have the opportunity for enough autonomy clinically and therefore need some other type of experience to be prepared for the profession and independent practitioner."

These five respondents felt similarly to the others.

> I feel some will do fine right out of the gate, but most are going to suffer stress because they are not used to working/thinking on their own without the crutch of another Certified Athletic Trainer looking over their shoulder handing them the right answers and telling them step by step what to do.

> This area should be the focus of education in my opinion. The more real world experience one can acquire the better prepared they will be. Athletic Training is a hands-on profession and students should be given more opportunities to practice their hands on abilities.

> I don't think ATCs coming out of Undergraduate Accredited Programs are as readied by their clinical experience as they should be. It seems like there is quite a gap between what they have learned and how they should apply it, most specifically when needing to travel outside the box for answers. I have seen many that are able to use tools/equipment/supplies for their one specific use and that use only. I don't think most undergraduates are getting the type of hands on experience that they should be in order to be ready to join the work force.

> I think the overall quality of newly certified ATC's has declined. When they accept their first job they don't have enough experience to handle all the challenges that are in front of them. I believe this leads to burnout, frustration, decreased job satisfaction and leads too many new ATCs leaving the profession.

> During my clinical experience, I was given many opportunities to take the lead on injury evaluations, treatments, and rehab protocols. This greatly prepared me for the profession of AT. On the other hand, I thought that the students that came out of the program where I was a GA were prepared educationally, but not so much clinically. They really were not allowed to do much clinically until they were seniors. Even at that point, they didn't do many evaluations and certainly never were allowed to create their own treatment protocol and see it through when an athlete was injured. Those types of things were usually left up to the certified athletic trainers.

Two other respondent felt recently certified athletic trainers were better prepared based on the preceptors involved.

> I feel that recently certified athletic trainers from undergraduate accredited programs are, overall, prepared for the profession based on their clinical experience. I do think this has to do with the quality of the clinical site, the self-motivation of the student, and the preceptor.

> In my opinion this answer truly varies dependent on the preceptors that the student works under. Some preceptors are great with teaching students the profession through the clinic while others use students merely as extra hands. Overall I would say that recently Certified AT's are prepared for the profession but there could be improvements.

Question #28. How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the BOC exam?

A majority of the respondents indicated graduate entry-level masters programs prepared their students didactically at a level for entry-level certification by the BOC, however many questioned the condensed time frame of the education, as evidenced by the following quotes from two respondents:

> I believe that education wise, they are prepared very well. In my educational experience, the first two years were the basic entry level skills that the BOC tests over. The last two years for review and advanced techniques. Since a graduate accredited program is generally two years, the entry level information is likely more fresh in their minds.

"Probably pretty well, but I don't think that 2 years' time is the most effective way to learn all of the necessary amount information." Another commented "They need more specialized training, meaning more time learning the concepts." Finally, "They lack the overall level of experience necessary to perform the job, but are still able to pass a computer based exam."

Question #29. How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the profession of Athletic Training?

A vast majority of respondents indicated graduates from accredited entry-level masters programs had the knowledge for the profession however greatly lacked the clinical experience for the profession as evidenced by the following quotes from different respondents:

> I feel entry level grad programs do not prepare well for the profession of athletic training. More experience than 2 years is required. Non-entry level grad programs where people are already certified are very good in preparing for the profession of athletic training.

"Students coming from a graduate accredited program truly only have 2 years of athletic training education experience. They are not adequately prepared to overcome daily obstacles faced by athletic trainers." Another remarked, "I believe that experience wise, they are not very prepared for the profession. They have only had 2 years to develop their skills before being on their own whereas a 4 year program gives you twice the experience." Another Certified Athletic Trainer stated,

> Entry level graduate athletic trainers have less experience in a clinical setting than undergraduates. They are in 2 year programs that are not focused solely on athletic training compared to a 3 or 4 year undergraduate program. Only being available for 20 hours a week in a clinical setting when reality is 55 hour work weeks. This is why the burnout rate is so high among athletic trainers. They are not being properly prepared for a real world experience.

Yet another stated,

> If the recently certified athletic trainers are from an accredited entry level two year program I do not think they are well prepared for the profession of athletic training. Two years is a much shorter period of time to learn what the average recently certified athletic trainer has learned in four years.

Another wrote, "I think that athletic trainers from graduated accredited programs are well prepared for the profession, although they often have less hands-on experience than those from undergraduate programs, which could be a disservice to them."

Some respondents indicated they may be better prepared because of the maturity level of graduate students and the life experiences they can draw from in the profession as evidenced by the following three quotes from different respondents.

> I think they know the bones of how to do the job, but they still have a lot of learning to do (on the job). Every profession continues to learn throughout the process of getting experience. I do think that graduate students have their life experiences that help them to learn and retain the knowledge that they were taught.

"I feel they are better prepared. They are usually more mature and have decided this is going to be their profession. They also have a lot more time for studies and clinical."

> I feel like I was ready for the profession. I felt like I was on the same level as the other Assistant ATC here. We both graduated the same time however he went the undergrad-GA route and I was in an Entry Level Master's program. We both have the same thing to offer and I don't feel like I'm behind.

Question #30. How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the BOC Exam based on their clinical experience?

A vast majority of respondents indicated graduates from accredited entry-level masters programs were well prepared for the BOC exam based on their clinical experiences as evidenced by the following quotes: "I feel grad programs allow the

student to get more clinical experience due to only taking major courses and have more time to devote to the clinical experience." While another commented, "My clinical experiences were short, however if you didn't try, you wouldn't learn. I felt as though I learned a significant amount of information that could be applied to the BOC." Another wrote, "I feel the clinical experience for Graduate ATS does aid to prepare students for the BOC through re-enforcing what was learned and discussed in the classroom setting." Another wrote,

> I would think that if the recently certified athletic trainers from graduate accredited programs have had two years of clinical experience it should have them well prepared for their exam. Many 4 year programs may offer more possibilities for clinical experience during the four years than a graduate program.

Question #31. How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the Profession of Athletic Training based on their clinical experience?

Most respondents indicated they felt graduates from accredited entry-level masters programs were prepared for the profession of athletic training however varied depending on the involvement of the student at clinicals as evidenced by the following five quotes: "Fairly well depending upon how much time they get at each rotation of their clinical experience." Another echoed similar idea, "Again, they are likely decently prepared. It will depend heavily on the individual and how much effort they put into their two years of clinicals."

> I feel that recently certified athletic trainers from graduate accredited programs may be prepared for the profession of athletic training based on their clinical experience. However, if they did not take full advantage of their two years of experience they may not be prepared.

"I feel they are better prepared because most have some type of experience coming into the program on top of the experience they receive in grad school and they seem to be given more freedom in the evaluations and decision making of their athletes." Finally, "They are more ready for the profession than undergraduates. They are more mature and seek out more responsibility, which allows them to get a better experience."

Summary

The results and responses presented in chapter showed significant findings among the four educational routes on perceived preparedness for the BOC exam and for the profession. Initially these areas were identified by the One-way ANOVA at the .05 significance level. The identified areas were further analyzed with a Test of Homogeneity to examine for population variances. Areas that had population variances were examined using Games-Howell Post-hoc analysis to determine significant differences between groups. The areas identified without population variances were further examined used Hochberg's GT2 Post-hoc analysis.

CHAPTER FIVE

DISCUSSION AND CONCLUSIONS

This study examined the perceived preparedness of Certified Athletic Trainers based on the route to certification eligibility. In this chapter the following sections are included to frame the components of the study: purpose, design, results, discussion, implications and recommendations.

Purpose of the Study

The purpose for the current study was to examine the perceived preparedness of newly educated Certified Athletic Trainers from Accredited Athletic Training Programs' based on clinical education experiences as compared to the two older models of clinical education experiences, the Curriculum and Internship models, respectively. Specifically, is the current model perceived to be as effective as the former models? Since the 2002 educational reform in athletic training, little research has been conducted to study its effectiveness on clinical education. Furthermore, limited research has compared the accredited program model to the previous Internship and Curriculum models for educational preparation. This inquiry is a multi-leveled examination of the clinical education experiences of four specific groups based on their educational preparation: the Internship Group, the Curriculum Group, the Entry-level Undergraduate Accredited Group, and the Entry-level Masters Accredited Group.

This inquiry into athletic training education sought to answer the following research questions:

1. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?
2. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Profession of Athletic Training?
3. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?
4. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Profession of Athletic Training?

The following hypotheses grew from the research questions.

Hypothesis 1. There is a perceived significant difference among the four models in preparation for the BOC exam based on the didactic structure.

Hypothesis 2. There is not a perceived significant difference among the four models in preparation for the profession based on the didactic structure.

Hypothesis 3. There is not a perceived significant difference among the four models in preparation for the BOC based on clinical education.

Hypothesis 4. There is a perceived significant difference among the four models in preparation for the profession based on clinical education.

To answer the research questions for this inquiry 2,500 Certified Athletic Trainers from the NATA were surveyed, spanning across all 10 NATA districts, genders, multiple work settings and all four educational routes to eligibility for certification. Of the 2,500 certified athletic trainers invited to participate in the survey, 500 responded, but only 400 responses provided enough data to contribute to the survey.

Design of the Study

Based on the review of literature of the history of Athletic Training, Athletic Training Education, Athletic Training Clinical Education and related allied health professions clinical education, the importance of clinical education is paramount to the quality of education for the future of the Athletic Training profession (Weidner & Henning, 2002).

The conceptual framework for this study is based on constructivist epistemology. Constructivist epistemology revolves around the learner creating his/her own knowledge from experiences (Crotty, 1998). In the classroom, the constructivist view of learning can point toward a number of different teaching practices. In the most general sense, it usually means encouraging students to use active techniques to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing.

There are three theories that are the foundational conceptual strands used in athletic training education today and throughout its history: cognitive apprenticeship, self-directed learning, and clinical education theory (Colburn, 2000, Collins, Brown & Newman, 1989, Myrick & Yonge, 2011). According to Rauk (2003), clinical education's main focus is the integration of didactic knowledge into the clinical setting.

In examining the significance of the study, and using constructivist epistemology, the researcher concluded the need to use a quantitative design to answer the research questions. With the depth and breadth of the four design models and the autonomy of differing institutional practices, the researcher determined the need for numerous participants' viewpoints into their educational preparedness for the profession and for the Board of Certification Exam. A quantitative study allows the researcher to examine the relationship, opinions and trends between and among the variables of a sample of the population which is central to the study (Creswell, 2003).

The survey design was a 30 item survey instrument collecting demographic information, perception of the preparedness for the BOC exam, and preparedness for the profession. The survey was designed around the eight areas of practice analyzed based on the BOC's 6th Role Delineation study (BOC, 2010). These areas include evidence-based practice, prevention and health promotion, clinical examination and diagnosis, acute care of injuries and illness, therapeutic interventions, psychosocial strategies and referral, healthcare administration, and professional development and responsibility.

The first six items were demographic information seeking gender, years as a Certified Athletic Trainer, current NATA District, current professional setting, number of times needed to successfully pass the BOC exam, and the route of eligibility for the BOC exam. The middle component of the survey utilized a 1-5 Likert rating scale to rank the participants' perceptions of preparation for the BOC exam and the profession based on the route to eligibility for the BOC exam, both didactically and clinically, in the eight Role Delineation categories. The last eight questions were open ended questions about

the preparedness of recently Certified Athletic Trainers for Undergraduate and Graduate Accredited Athletic Training Programs.

The population for the study include Certified Athletic Trainers from Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs, respectively, among the approximately 26,000 members of the National Athletic Trainers Association. The sample was obtained from the NATA Student Research Department through the Survey List Request Form (see Appendix A). Among the sample were members from all the 10 NATA districts (see Appendix A), all employment settings, and both genders. The sample included 2,500 Certified Athletic Trainers who are members of the NATA. The survey was administered in the Spring of 2014. The sample size was selected to insure adequate response rate for the statistical analysis. Anecdotal data indicated an average response rate of 8 to 10 percent based on previous surveys conducted by other NATA members.

Results of the Study

The main concentration of this inquiry is the perceived preparedness of the Certified Athletic Trainer for the BOC Exam and for the profession based upon the current practice domains in athletic training. The One-way ANOVA found seven areas of significant findings, below .05, among the four educational program routes, Internship, Curriculum, Accredited Undergraduate, and Accredited Graduate, respectively. The first area of significant finding was the perceived overall preparation in evidence-based practice for the BOC among the groups, with a <.001 significance level. The Accredited Graduate programs mean was the highest mean score at 3.62 out of 5, followed closely

behind by the Accredited Undergraduate programs with 3.36, then followed by the Curriculum programs and Internships program at 2.75 and 2.51, respectively.

The second finding of significance was overall preparation in clinical exam and diagnosis for the BOC among the four groups with a .01 significance level. The Accredited Graduate Program again scored the highest mean score with a 4.42 mean out of 5, followed closely by both Accredited Undergraduate and Curriculum programs with 4.35 and 4.25 respectively. Internship programs were last with a 4.04 mean score.

The third area of significant finding among the four groups was in overall preparation in therapeutic interventions for the BOC with a .002 level. The Accredited Graduate Programs performed the best with 4.08 out of 5 mean score followed closely behind by Accredited Undergraduate and Curriculum Programs with a 4.03 and 4 respectively. Again, Internship programs were last with 3.65 out of 5 mean score.

The fourth area of significant finding was found in overall preparation in evidence-based practice for the profession with a .000 significance level. The Accredited Graduate programs outperformed the other programs with a 3.46 mean score out of 5, followed closely by Accredited Undergraduate programs with a 3.35, and then followed by the Curriculum and Internship programs with a 2.82 and 2.71, respectively.

The fifth area of significant findings was clinical education preparation in evidence-based practice for the BOC with a .004 level. Again, the Accredited Graduate and Accredited Undergraduate programs scored higher with a 3.44 and 3.19 mean score respectively, followed by Curriculum and Internship at 2.63 and 2.74, respectively, out of 5.

The sixth significant finding among the groups was in clinical education preparation in clinical examination and diagnosis for the BOC with a .038 level. This area saw the highest mean scores of the significant findings with Accredited Graduate programs with a mean scoring 4.6 out of 5, Accredited Undergraduate programs scoring 4.25, Internship mean score of 4.13 and, finally, Curriculum mean scoring 4.06 out of 5. This area also represents only one of two areas where Internship was not the lowest scoring program.

Finally, the seventh area of significance was found in clinical education preparation in evidence-based practice for the profession at a .021 level. Again Accredited Graduate programs had the highest means followed by Accredited Undergraduate programs with a 3.48 and 3.25 out of 5, respectively. Internship again scored better than Curriculum, with a 2.9 mean score compared to the Curriculum's 2.76 mean score.

With the four groups' sample sizes being substantially different, the Bonferroni method was not implemented for data analysis. Instead, a test of homogeneity of variance was performed to determine population variances to determine the correct post-hoc analysis. Four areas were determined to have population variances and different samples sizes, thus requiring the use of Games-Howell Post-hoc analysis with a significance level of .05. Those areas were overall preparation in clinical exam and diagnosis for the BOC, overall preparation in therapeutic intervention for the BOC, clinical education in clinical exam and diagnosis for the BOC, and clinical education in evidence-based practice for the profession of athletic training. The remaining areas of focus show no differences in

population variance; however, these areas did have different sample sizes and thus require the use of Hochberg's GT2 Post-hoc analysis.

Question 1. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?

The One-way ANOVA indicated three areas of significant differences in the preparation of their educational structure for the BOC among the four groups. The first area was the perceived overall preparation in the area of evidence-based practice with a <.001 significance level. The test of homogeneity of variance showed no difference in population variance and was analyzed using Hochberg's GT2 which yielded no significant finding.

The second area was overall preparation in clinical exam and diagnosis for the BOC among the four groups with a .01 significance level. The test of homogeneity of variance showed a population variance of 0.0 and was analyzed with Games-Howell analysis. The Games-Howell analysis indicated a significant finding of .02 at a .05 level indicating undergraduate accredited programs were better preparing student in this area over the old Internship programs.

The third area of significant finding among the four groups was in overall preparation in therapeutic interventions for the BOC with a .002 level. The test of homogeneity of variance showed a population variance of .037 and was analyzed with Games-Howell analysis. The Games-Howell analysis indicated a significant finding of .002 at a .05 level indicating again undergraduate accredited programs were better preparing students in this area as compared to the older Internship programs.

The data suggest the educational structure of the Accredited Undergraduate and Accredited Graduate Programs better prepared Athletic Training Students for the Board of Certification Exam than the older Internship and Curriculum programs.

Question 2. Is there a perceived difference in how well the educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs Athletic Training Students for the Profession of Athletic Training?

The One-way ANOVA indicated one area of significant finding in overall preparation in evidence-based practice for the profession with a <.001 significance level. The test of homogeneity of variance showed no difference in population variance and the data were therefore analyzed using Hochberg's GT2, which yielded no significant finding.

The educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs did show significance among the program types in preparation for the Profession of Athletic Training in one area; however, post-hoc analysis did not indicate a significant difference to determine which type of program was in preparation for the profession.

Question 3. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Board of Certification Exam?

The One-way ANOVA indicated two areas of significant findings regarding the clinical education preparation for the BOC exam. The first area of significant findings was clinical education preparation in evidence-based practice for the BOC, with a .004

level. The test of homogeneity of variance showed no difference in population variance and therefore the data were analyzed using Hochberg's GT2, which yielded no significant finding.

The second area of significant finding among the groups was in clinical education preparation in clinical examination and diagnosis for the BOC with a .038 level. The test of homogeneity of variance showed a significant result of 0.026 and therefore the data were analyzed with Games-Howell analysis. The Games-Howell analysis showed a marginally significant finding among all four groups, with a .08 significance level between Accredited Graduate and Internship. The same significance level was found between Accredited Graduate and Curriculum programs. A significant finding at the <.001 level between Accredited Graduate and Accredited Undergraduate programs was noted. According to the study results, Graduate Accredited program's clinical education better prepared the students than any of the other style of programs: Internship, Curriculum and Undergraduate Accredited, for the Board of Certification Exam.

Question 4. Is there a perceived difference in how well the clinical education experiences of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs prepare Athletic Training Students for the Profession of Athletic Training?

The final area of significance found by the One-way ANOVA was found in clinical education preparation in evidence-based practice for the profession at a .021 level. The test of homogeneity of variance showed a significance level of 0.045 and therefore the data were analyzed with Games-Howell analysis. The Games-Howell analysis yielded no significant findings among the four groups.

The educational structure of the Internship, Curriculum, Accredited Undergraduate, and Accredited Masters Programs did show significance among the program types in preparation for the Profession of Athletic Training in one area. Post-hoc analysis did not indicate a significant difference to determine which type of program was in preparation for the profession.

Hypothesis 1. There is a significant difference among the four models in preparation for the BOC exam based on the didactic structure. This hypothesis was supported. Based on the data from the One-way ANOVA and subsequent post-hoc analysis there were significant difference among the four groups.

Hypothesis 2. There is not a significant difference among the four models in preparation for the profession based on the didactic structure. This hypothesis was rejected. Based on the data from the One-way ANOVA there was a significant difference among the four models.

Hypothesis 3. There is not a significant difference among the four models in preparation for the BOC based on clinical education. This hypothesis was rejected. Based on the data from the One-way ANOVA there were significant findings among the four groups.

Hypothesis 4. There is a significant difference among the four models in preparation for the profession based on clinical education. This hypothesis is supported. Data from the One-way ANOVA indicated a significant difference among the four models.

Discussion

One area explored in this study was evidenced-based practice. This area is not specifically segregated in the current 6th edition Role Delineation (BOC 2011); rather, it is integrated throughout multiple domains. Recently, the emphasis within healthcare professions has been to base treatments directly on evidence-based practice. The growing utilization of EBP in Athletic Training has become apparent with a major emphasis within the new CAATE 2013 accredited programs standards and the BOC's new continuing educations requirements directly relating to the topic. This inquiry did segregate this area from the domains to analyze the perception of preparation

The One-way ANOVA did show significant findings in overall preparation and clinical education for both the BOC and the profession. The post-hoc analysis, however, did not indicate significant findings among the groups. These findings were expected, as this is a newer trend in healthcare that was not emphasized directly in the older Internship and Curriculum models.

A second area of interest in examining the data was the low number of areas of significant findings for preparation for the profession. Only two areas were identified by the One-way ANOVA: overall preparation in evidence-based practice and clinical education preparation in evidence-based practice. The post-hoc analysis of each yielded no significant findings. Again, with this being a newer emphasis area, it was not a surprising discovery; however, the lack of other areas of significant findings in preparation for the profession is of interest. Along the same lines, the large number of findings for preparation for the BOC indicates the newer programs are better preparing

students for the national certification exam but are not any better at preparing our students for the profession of athletic training.

The following comments from the open ended questions support this conclusion: "I feel most students complete their undergraduate degree well prepared. It becomes a priority but often too big of a focus as the BOC is not a good indicator of future success in the profession of Athletic Training." Another writes, "It seems professors are now teaching just to prepare kids for the BOC exam which means the kids are not ready to be qualified and well-rounded LATs (ATC) if/when they pass the BOC." Another ATC wrote,

> This is the most troubling area as students are often taught everything perfectly from the book in order to pass the BOC. But the profession of Athletic Training is rarely perfect and students need to acquire as much real world experience as possible prior to certification.

Finally, "I think that, overall, new ATCs are more prepared on paper than they are in application. The classroom side of the Education programs has improved greatly, but I believe that the clinical side and application of skills aren't stressed near as much as they need to be."

Some different respondents even suggested solutions to help correct the lack of preparation for the profession.

> I believe most newly certified are underprepared for the profession of Athletic Training and it is necessary that they gain experience through a graduate program because undergraduate programs no longer provide the hands on opportunities and real-world decision making that they once had.

Another wrote,

> From my experience I do not feel they are very prepared to handle the daily challenges of our profession, unless they are highly motivated students and really tackle the books and clinical. I feel a lot of these students should not work on their own. I try to tell graduating students to find GA positions or internships where

> there will be light to moderate supervision with someone they can go to with questions. I discourage the high school ATC positions because they may be all alone and under-prepared to handle tough situations alone.

The third area of interest in the study was clinical education preparation in clinical exam and diagnosis. The analysis showed graduate accredited programs did a better job preparing students in the area of clinical exam and diagnosis for the BOC than any other program type. This was the only program type and area of concentration that showed such a significant difference among all programs. The following statements from the open ended question support this finding.

> I believe that education wise, they are prepared very well. In my educational experience, the first two years were the basic entry level skills that the BOC tests over. The last two years for review and advanced techniques. Since a graduate accredited program is generally two years, the entry level information is likely more fresh in their minds.

Another Certified Athletic Trainer commented,

> I think they know the bones of how to do the job, but they still have a lot of learning to do (on the job). Every profession continues to learn throughout the process of getting experience. I do think that graduate students have their life experiences that help them to learn and retain the knowledge that they were taught.

"Well prepared. Would like it if they had to do the first 6 months of certification under a certified athletic trainer, like a residency, as they will be able to do more things since they are certified." Another commented, "I feel they are better prepared. They are usually more mature and have decided this is going to be their profession. They also have a lot more time for studies and clinical." Finally one wrote, "I feel grad programs allow the student to get more clinical experience due to only taking major courses and have more time to devote to the clinical experience."

The fourth area of interest was some of the data from the Hochberg GT2 post-hoc analysis. As indicated earlier, there were no significant differences to report. There were three areas that did not reach the significance level of .05; however, they were extremely close to statistical significance as compared to the other non-significant findings. The first area was overall preparation in evidence-based practice for the profession. This area had a significance level of .081. The second area was clinical education preparation in evidence-based practice for the BOC, at a .057 level. The final area was clinical education in clinical exam and diagnosis for the profession at a .052 level. As mentioned earlier, the result for evidence-based practice was not surprising. The result for clinical education preparation in clinical exam and diagnosis for the profession may be related to the high number of significant findings of the graduate accredited programs being significantly better than the other three types of programs.

What can be learned from this discussion is how well the Undergraduate and Graduate Accredited Programs are better preparing the respective Athletic Training Students, and the Graduate Accredited Programs are better preparing Athletic Training Students than the Undergraduate Accredited Programs for the Board of Certification Exam. With improvements in Athletic Training education and the uniformity of knowledge taught through accreditation, one would expect Athletic Training Students to be better prepared for the Board of Certification exam.

What can be learned, as well, from this discussion is the lack of improvement in preparation for the profession with the Accredited Undergraduate and Graduate Programs. This could be associated with the changes in clinical education with accreditation. With improvements from Accreditation and educational requirements,

more structure has been implemented into the clinical education of the Athletic Training Student. As Weidner and Henning noted in 2002, "clinical education in the allied healthcare professions has become more structured and organized, progressing from somewhat haphazard learning experiences to deliberate and focused learning experiences" (p.S-224).

In the exploration of the literature, clinical education was a centralized focus for connecting the classroom learning to the profession. Laurent and Weidner echoed the importance of clinical education in their 2002 paper when they said:

> Clinical education, involving clinicians, students, and patients in a real life environment, provides a realistic component to a student's education and has, therefore, remained a significant component of health care professional preparation. Because improvement in professional health care services depends, to a great degree, on maintaining high-quality clinical education, clinical education appears to also be important to maintaining high-quality athletic training services. (p.S-248)

According to Weidner and Henning (2002), "Clinical practice has always been at the heart of a student's educational experiences and is of vital importance in the transformation from novice to competent practitioner." (p.S-223) They went on to state, "Most notably, clinical education is derived through training apprenticeships in which an aspiring student learns many facets of the profession from the 'master'" (p. S-223). The literature review examined other healthcare providers and unveiled two important characteristics needed to have successful clinical education: quality clinical instructor and ill defined, fluid clinical experiences. Campbell, et al. (1994) examined what makes quality clinical instructors. He concluded clinical instructors need to have a patient centered focus, situation awareness, competence, and ability to provide constructive feedback.

The changes in the makeup of the Board of Certification Exam away from the three-part exam may have also contributed to the lack of preparation for the profession. The two parts that were eliminated from the exam, written simulation and the oral practical portion, were both designed specifically to test the Athletic Training Students' knowledge and application to the profession. Searcy, in 2006, explored the connection between these two portions of the exams and clinical education. He found the greater the number and the earlier the clinical experience, the greater success the Athletic Training Student had on those portions of the exam. Likewise, in 2006, Jordan found that Athletic Training Students felt better prepared for the workforce with earlier and more clinical education. The lack of improvement found in this study regarding clinical education, both for preparation for the BOC exam and in preparation for the profession, maybe a combined result of the Accreditation changes and changes in the BOC testing format.

Implications/Recommendations for Education

The importance of clinical education throughout the history of athletic training is a foundational cornerstone of an Athletic Trainer's preparation. Athletic training has focused on the clinical experience as the direct link between the educational components to the practice of the profession. As with any healthcare profession the clinical education and direct patient interaction brings the classroom knowledge to real life.

The findings of this study show the importance of high quality education for preparedness for both the BOC exam and for the profession of Athletic Training. The study shows a connection between the classroom didactic education and preparedness for the BOC exam, as well as the relation between the clinical education and preparedness for the profession. The Accredited Undergraduate and Graduate programs have shown

great success in improving the education of the Athletic Training Student based on preparedness for the BOC certification exam through more rigorous structure and regulation. With educational reform, the clinical education side of the equation has not improved and may have even suffered. Rigidity and structure hampered the fluidity of the clinical education experience. Stewart Mennin (2010) stated:

> The core process of complexity, self-organization, requires a system that is open and far from equilibrium, with ill-defined boundaries and a large number of non-linear interactions involving short-loop feedback. In such a system, knowledge does not exist objectively 'out there'; rather it exists as a result of the exchange between participants, an action that becomes knowing…Knowledge is not constructed separately in the mind of the knower, but rather, it emerges; it is co-created during the exchange in an authentic recursive transactive process. (p.20)

Recommendation 1. Reduce the amount of structure within the clinical education experience allowing the Athletic Training Student more autonomy within the clinical experience. Emphasize the relationship aspect between the Preceptor, and between other Athletic Training Students.

The importance of the clinical educator is paramount to the success of the Athletic Training Student. The relationship between the clinical instructor and Athletic Training Student is one of the largest components of the student success in the clinical education environment and, thus, in the profession.

Recommendation 2. More emphasis should be placed on the Preceptor being a mentor to the Athletic Training Student, and selecting quality mentors.

Clinical education in athletic training has always been at the forefront of the educational experience. With the shift in educational priorities due to educational accreditation reform and the importance of programs' success being solely determined by the BOC first-time pass rate, the focus now is solidly on the classroom education of the

Athletic Training Student, thus deemphasizing the clinical components. With the de-emphasis of the clinical component, students believe they are better prepared for the exam; however, they lack the necessary skills and clinical experience to be successful athletic trainers at the end of their educational preparation.

Recommendation 3. Reform in clinical education should emphasize preparation for the profession, autonomy and have performance based expectations and evaluations.

With accredited educational reform, requirements of differing clinical experience have been very positive for the profession and have opened doors to other avenues for athletic training. The defined boundaries of clinical education experiences have directly hampered the critical thinking and decision making skills of Athletic Training Students, as evidenced in this study. Clinical education should have loosely-defined borders and boundaries with highly motivated clinical educators willing to let Athletic Training Students think on their own, make decisions on care for athletes, and learn from their successes and failures in the field. That is the only way a student and a profession can grow.

Recommendation 4. Have specific clinical requirements within clinical education allowing Athletic Training Students multiple opportunities. Within rotations allowing Preceptors the latitude to allow Athletic Training Students to learn from experiences within boundaries set forth by the Preceptor.

With recent discussion among the BOC, NATA and CAATE of transition to an entry-level master's requirement for BOC eligibility, clinical education of the Athletic Training Student must be at the forefront of the discussions. The findings in this study showed the lack of preparedness for the profession, as compared to the classroom. Any

additional changes should focus on improving the clinical education component to athletic training education. Potential areas that could be explored could be an Internship component, similar to a graduate assistantship, which would occur after certification and prior to graduation with a master's degree. This would allow each Certified Athletic Training Student the ability to make critical decisions for the care of athletes and gain valuable hands-on experience while still under the direction of a veteran Certified Athletic Trainer. Similarly, the profession could create a secondary level of Certification for the Athletic Trainer. The first level would be similar to today's BOC exam, testing the knowledge of basic skills. Then after a designated period of time and mentoring through a graduate assistant-like-internship, candidates would be eligible to sit for a hands-on board exam that emphasizes the critical decision making and treatment skills of the Certified Athletic Trainer. Such a path would be akin to the old model of an Oral Practical Exam and Written Simulation, thus creating a Master Certified Athletic Trainer. No matter where the future of athletic training is headed, the three governing bodies of the profession should be focused on what is best for the profession. It is clear clinical education has been an afterthought in all the changes in the profession.

Recommendation 5. Maintain the entry-level certification as it currently exists, then create a secondary "master" level certification that would require hands-on education similar to Graduate Assistant positions require work under a mentor prior to taking a practice based exam to achieve a master-level certification.

Recommendations for Further Research

The findings of this study have implications for the future of athletic training education and raise questions which could prove interesting for future research. The

study looked at the educational preparation of the Athletic Training Student for the BOC exam. It might be interesting looking at the educational preparedness of the Certified Athletic Trainers educators in the Athletic Training Education Programs both on the classroom side and in clinical education. The Certified Athletic Trainers who are educating the future of the profession bring in their own experiences and ideas from their educational background. Exploring the transfer of learning from their backgrounds to today's Athletic Training Students may shed more light onto the research.

With the importance of clinical education for the profession, further research could be done comparing the strengths and weaknesses between undergraduate and graduate accredited athletic training programs. Another area on inquiry could be examining the preparations between a true, two year, Accredited Graduate Programs and a combination of a three year Undergraduate and two year Graduate program. In looking back the study was a great first step in examining this issue, but further research needs to be conducted specifically just in clinical education, specifically a qualitative study may help to further identify nuances to further clinical education in athletic training.

Another area of potential research would be examining the perceived preparedness for the profession based on the employment setting of the Certified Athletic Trainer. Based on the findings of this study more research needs to be done to examination the relationship between the BOC exam and the profession of athletic training. Another interesting study that would be relevant to this discuss would be to examine how currently Certified Athletic Trainers in the profession practicing would perform on the current BOC examination.

Summary

The purpose of this study was to examine the educational preparedness of Certified Athletic Trainers from the four different education routes to certification eligibility, specifically clinical education. Throughout literature in the healthcare professions and specifically athletic training, the importance of quality clinical education is second to none. The education reform in athletic training placed more emphasis on the didactic classroom knowledge and the importance of first time pass rates on the BOC exam. The only significant change within the new accredited program requirements pertaining to clinical education is the requirement of different types of clinical settings throughout the student's educational career.

A significant finding of this study showed how the classroom education of the Certified Athletic Trainer from either ungraduated or graduate accredited programs has improved with educational reform. What the study did not show, at the same level, is improvement in the clinical education of the student. Furthermore, some of the Certified Athletic Trainers in the field responding to the open ended question indicated clinical education had actually gotten worse with the reform. This study confirmed the Certified Athletic Trainers from accredited programs are better prepared for the BOC exam and the importance of clinical education on preparation for the profession. Certainly, more needs to be done in the area of clinical education to better prepare the Certified Athletic Trainer for the profession.

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APPENDIX

Table 1

	Preparedness BOC mean score based on the 8 sections of the Role Delineation	**Preparedness Profession** mean score based on the 8 sections of the Role Delineation
Internship		
Overall (Didactic and Clinical)		
Evidence-based Practice	2.51	2.71
Prevention & Health Promotion	3.83	3.87
Clinical Exam & Diagnosis	4.04	4.14
Acute Care of Injuries & Illness	4.31	4.28
Therapeutic Interventions	3.65	3.78
Psychosocial Strategies & Referral	3.10	3.25
Healthcare Administration	3.36	3.42
Professional Development & Responsibility	3.79	3.83
Clinical		
Evidence-based Practice	2.74	2.90
Prevention & Health Promotion	3.82	3.84
Clinical Exam & Diagnosis	4.13	4.12
Acute Care of Injuries & Illness	4.20	4.24
Therapeutic Interventions	3.84	3.88
Psychosocial Strategies & Referral	3.33	3.38
Healthcare Administration	3.45	3.48
Professional Development & Responsibility	3.74	3.86
Curriculum		
Overall (Didactic and Clinical)		
Evidence-based Practice	2.75	2.82
Prevention & Health Promotion	4.02	3.98
Clinical Exam & Diagnosis	4.25	4.22
Acute Care of Injuries & Illness	4.33	4.34
Therapeutic Interventions	4.00	3.96
Psychosocial Strategies & Referral	3.25	3.22
Healthcare Administration	3.44	3.36
Professional Development & Responsibility	3.88	3.98

Clinical

Evidence-based Practice	2.63	2.76
Prevention & Health Promotion	3.63	3.75
Clinical Exam & Diagnosis	4.06	4.14
Acute Care of Injuries & Illness	4.18	4.18
Therapeutic Interventions	3.96	3.88
Psychosocial Strategies & Referral	3.12	3.24
Healthcare Administration	3.31	3.35
Professional Development & Responsibility	3.69	3.75

Undergraduate Accredited

Overall (Didactic and Clinical)

Evidence-based Practice	3.36	3.35
Prevention & Health Promotion	3.92	3.88
Clinical Exam & Diagnosis	4.35	4.21
Acute Care of Injuries & Illness	4.35	4.31
Therapeutic Interventions	4.03	3.89
Psychosocial Strategies & Referral	3.27	3.22
Healthcare Administration	3.49	3.46
Professional Development & Responsibility	3.88	3.88

Clinical

Evidence-based Practice	3.19	3.25
Prevention & Health Promotion	3.73	3.88
Clinical Exam & Diagnosis	4.25	4.26
Acute Care of Injuries & Illness	4.29	4.26
Therapeutic Interventions	3.93	3.94
Psychosocial Strategies & Referral	3.26	3.29
Healthcare Administration	3.41	3.44
Professional Development & Responsibility	3.72	3.78

Graduate Accredited

Overall (Didactic and Clinical)

Evidence-based Practice	3.62	3.46
Prevention & Health Promotion	4.12	4.20
Clinical Exam & Diagnosis	4.42	4.35
Acute Care of Injuries & Illness	4.42	4.35

Therapeutic Interventions	4.08	3.88
Psychosocial Strategies & Referral	3.42	3.35
Healthcare Administration	3.54	3.58
Professional Development & Responsibility	4.04	4.04

Clinical

Evidence-based Practice	3.44	3.48
Prevention & Health Promotion	4.00	4.12
Clinical Exam & Diagnosis	4.60	4.56
Acute Care of Injuries & Illness	4.52	4.56
Therapeutic Interventions	4.12	4.12
Psychosocial Strategies & Referral	3.68	3.56
Healthcare Administration	3.44	3.44
Professional Development & Responsibility	3.88	3.96

Appendix A

Survey List Request Form

Purpose of Mailing List (check all that apply):

- ☐ Email Survey
  - -Email broadcast service by National Office (max. 1000 recipients available to student members only)
- ☐ Is follow up Email Survey required?
- ☐ Survey (for non students)
  - ☐ email addresses
  - ☐ postal addresses

File format:

- ☐ Comma Delimited Text
- ☐ Excel

Work Settings:

- ☐ College/University
- ☐ Secondary School
- ☐ Clinic
- ☐ Hospital
- ☐ Professional Sports
- ☐ Industrial/Occupational/Corporate
- ☐ Business/Sales/Marketing
- ☐ Heatlh/Fitness/Sports Clubs/ Performance Enhancement Clinics
- ☐ Amateur/Recreational/Youth Sports
- ☐ Military/Law Enforcement/Government
- ☐ Independent Contractor
- ☐ Other
- ☐ Unemployed

- ☐ All Member Types
  - ☐ Certified
  - ☐ Associate
  - ☐ Retired Certified
  - ☐ Certified Students
  - ☐ Non-certified Students
  - ☐ International Non-Certified
  - ☐ Certified International

To select by geographical area, please select one:

- ☐ US only
- ☐ All Districts
- ☐ All members (Canada & International included)

To make a selection by State or District, check/circle below:

	Districts	States
☐	1	CT, ME, MA, NH, RI, VT
☐	2	DE, NJ, NY, PA
☐	3	DC, MD, NC, SC, VA, WV
☐	4	IL, IN, MI, MN, OH, WI
☐	5	IA, KS, MO, NE, ND, OK, SD
☐	6	AR, TX
☐	7	AZ, CO, NM, UT, WY
☐	8	CA, NV, HI, Guam
☐	9	AL, FL, GA, KY, LA, MS, TN
☐	10	AK, ID, MT, OR, WA

SURVEY LIST USE AGREEMENT

I certify that the requested NATA survey list will be utilized only for the study specified above. The list will not be duplicated, copied, or reproduced in any manner, but used one time only.

I agree that any broadcast email will not contain other recipients' email addresses in the "To:" or "Cc:" field, since the email addresses provided are not to be shared among the recipients.

To send a broadcast email from Microsoft Word, we have provided instructions in the members-only section of the NATA Website. Go to: https://cf.nata.org/members1/documents/mass_email_instructions_for_nata.pdf.

Members agree to abide by policies and procedures of the NATA. Failure to abide by these requirements is a violation of such policies and may subject the user to sanctions by the NATA Ethics Committee.

Applicant Signature_____ Date _____

Appendix B

Clinical Education in AT Across the models

1. This study is examining your perception of preparedness for the BOC exam and for the profession of Athletic Training. All data collected will remain anonymous. Do you agree to particpate in the study?

◯ I Agree ◯ I Decline

Page 1

Clinical Education in AT Across the models

2. What is your gender?

- ◯ Female
- ◯ Male

3. Number of Years Certified as an Athletic Trainer?

- ◯ 1-5
- ◯ 6-10
- ◯ 11-15
- ◯ 16-20
- ◯ 21-25
- ◯ 25+

4. What NATA District are you a member?

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5
- ◯ 6
- ◯ 7
- ◯ 8

5. What professional setting are you currently employed?

- ☐ High School
- ☐ College
- ☐ Athletic Training Education
- ☐ Clinical
- ☐ Military
- ☐ Physician Extender

Other (please specify)

6. How many times did you take the BOC exam?

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5
- ◯ More than 5

Clinical Education in AT Across the models

7. What educational route did you take to become a BOC Certified Athletic Trainer?

- ◯ Undergraduate Internship
- ◯ Undergraduate Curriculum
- ◯ Undergraduate Accredited
- ◯ Graduate Accredited

Clinical Education in AT Across the models

8. How well did your Undergraduate Internship model overall prepare you for the BOC exam in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	○	○	○	○	○	○
Prevention and Health Promotion	○	○	○	○	○	○
Clinical Examination and Diagnosis	○	○	○	○	○	○
Acute Care of Injuries and Illnesses	○	○	○	○	○	○
Therapeutic Interventions	○	○	○	○	○	○
Psychosocial Strategies and Referral	○	○	○	○	○	○
Health Care Administration	○	○	○	○	○	○
Professional Development and Responsibility	○	○	○	○	○	○

9. How well did your Undergraduate Internship model overall prepare you for the profession of Athletic Training in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	○	○	○	○	○	○
Prevention and Health Promotion	○	○	○	○	○	○
Clinical Examination and Diagnosis	○	○	○	○	○	○
Acute Care of Injuries and Illnesses	○	○	○	○	○	○
Therapeutic Interventions	○	○	○	○	○	○
Psychosocial Strategies and Referral	○	○	○	○	○	○
Health Care Administration	○	○	○	○	○	○
Professional Development and Responsibility	○	○	○	○	○	○

Clinical Education in AT Across the models

10. How well did your Clinical Experience in your Undergraduate Internship model overall prepare you for the BOC exam in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	◯	◯	◯	◯	◯	◯
Prevention and Health Promotion	◯	◯	◯	◯	◯	◯
Clinical Examination and Diagnosis	◯	◯	◯	◯	◯	◯
Acute Care of Injuries and Illnesses	◯	◯	◯	◯	◯	◯
Therapeutic Interventions	◯	◯	◯	◯	◯	◯
Psychosocial Strategies and Referral	◯	◯	◯	◯	◯	◯
Health Care Administration	◯	◯	◯	◯	◯	◯
Professional Development and Responsibility	◯	◯	◯	◯	◯	◯

11. How well did your Clinical Experience in your Undergraduate Internship model overall prepare you for the profession of Athletic Training in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	◯	◯	◯	◯	◯	◯
Prevention and Health Promotion	◯	◯	◯	◯	◯	◯
Clinical Examination and Diagnosis	◯	◯	◯	◯	◯	◯
Acute Care of Injuries and Illnesses	◯	◯	◯	◯	◯	◯
Therapeutic Interventions	◯	◯	◯	◯	◯	◯
Psychosocial Strategies and Referral	◯	◯	◯	◯	◯	◯
Health Care Administration	◯	◯	◯	◯	◯	◯
Professional Development and Responsibility	◯	◯	◯	◯	◯	◯

Clinical Education in AT Across the models

12. How well did your Undergraduate Curriculum model overall prepare you for the BOC exam in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	○	○	○	○	○	○
Prevention and Health Promotion	○	○	○	○	○	○
Clinical Examination and Diagnosis	○	○	○	○	○	○
Acute Care of Injuries and Illnesses	○	○	○	○	○	○
Therapeutic Interventions	○	○	○	○	○	○
Psychosocial Strategies and Referral	○	○	○	○	○	○
Health Care Administration	○	○	○	○	○	○
Professional Development and Responsibility	○	○	○	○	○	○

13. How well did your Undergraduate Curriculum model overall prepare you for the profession of Athletic Training in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	○	○	○	○	○	○
Prevention and Health Promotion	○	○	○	○	○	○
Clinical Examination and Diagnosis	○	○	○	○	○	○
Acute Care of Injuries and Illnesses	○	○	○	○	○	○
Therapeutic Interventions	○	○	○	○	○	○
Psychosocial Strategies and Referral	○	○	○	○	○	○
Health Care Administration	○	○	○	○	○	○
Professional Development and Responsibility	○	○	○	○	○	○

Clinical Education in AT Across the models

14. How well did your Clinical Experience in your Undergraduate Curriculum model overall prepare you for the BOC exam in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	◯	◯	◯	◯	◯	◯
Prevention and Health Promotion	◯	◯	◯	◯	◯	◯
Clinical Examination and Diagnosis	◯	◯	◯	◯	◯	◯
Acute Care of Injuries and Illnesses	◯	◯	◯	◯	◯	◯
Therapeutic Interventions	◯	◯	◯	◯	◯	◯
Psychosocial Strategies and Referral	◯	◯	◯	◯	◯	◯
Health Care Administration	◯	◯	◯	◯	◯	◯
Professional Development and Responsibility	◯	◯	◯	◯	◯	◯

15. How well did your Clinical Experience in your Undergraduate Curriculum model overall prepare you for the profession of Athletic Training in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	◯	◯	◯	◯	◯	◯
Prevention and Health Promotion	◯	◯	◯	◯	◯	◯
Clinical Examination and Diagnosis	◯	◯	◯	◯	◯	◯
Acute Care of Injuries and Illnesses	◯	◯	◯	◯	◯	◯
Therapeutic Interventions	◯	◯	◯	◯	◯	◯
Psychosocial Strategies and Referral	◯	◯	◯	◯	◯	◯
Health Care Administration	◯	◯	◯	◯	◯	◯
Professional Development and Responsibility	◯	◯	◯	◯	◯	◯

Clinical Education in AT Across the models

16. How well did your Undergraduate Accredited model overall prepare you for the BOC exam in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	○	○	○	○	○	○
Prevention and Health Promotion	○	○	○	○	○	○
Clinical Examination and Diagnosis	○	○	○	○	○	○
Acute Care of Injuries and Illnesses	○	○	○	○	○	○
Therapeutic Interventions	○	○	○	○	○	○
Psychosocial Strategies and Referral	○	○	○	○	○	○
Health Care Administration	○	○	○	○	○	○
Professional Development and Responsibility	○	○	○	○	○	○

17. How well did your Undergraduate Accredited model overall prepare you for the profession of Athletic Training in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	○	○	○	○	○	○
Prevention and Health Promotion	○	○	○	○	○	○
Clinical Examination and Diagnosis	○	○	○	○	○	○
Acute Care of Injuries and Illnesses	○	○	○	○	○	○
Therapeutic Interventions	○	○	○	○	○	○
Psychosocial Strategies and Referral	○	○	○	○	○	○
Health Care Administration	○	○	○	○	○	○
Professional Development and Responsibility	○	○	○	○	○	○

Clinical Education in AT Across the models

18. How well did your Clinical Experience in your Undergraduate Accredited model overall prepare you for the BOC exam in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	◯	◯	◯	◯	◯	◯
Prevention and Health Promotion	◯	◯	◯	◯	◯	◯
Clinical Examination and Diagnosis	◯	◯	◯	◯	◯	◯
Acute Care of Injuries and Illnesses	◯	◯	◯	◯	◯	◯
Therapeutic Interventions	◯	◯	◯	◯	◯	◯
Psychosocial Strategies and Referral	◯	◯	◯	◯	◯	◯
Health Care Administration	◯	◯	◯	◯	◯	◯
Professional Development and Responsibility	◯	◯	◯	◯	◯	◯

19. How well did your Clinical Experience in your Undergraduate Accredited model overall prepare you for the profession of Athletic Training in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	◯	◯	◯	◯	◯	◯
Prevention and Health Promotion	◯	◯	◯	◯	◯	◯
Clinical Examination and Diagnosis	◯	◯	◯	◯	◯	◯
Acute Care of Injuries and Illnesses	◯	◯	◯	◯	◯	◯
Therapeutic Interventions	◯	◯	◯	◯	◯	◯
Psychosocial Strategies and Referral	◯	◯	◯	◯	◯	◯
Health Care Administration	◯	◯	◯	◯	◯	◯
Professional Development and Responsibility	◯	◯	◯	◯	◯	◯

Clinical Education in AT Across the models

20. How well did your Graduate Accredited model overall prepare you for the BOC exam in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	○	○	○	○	○	○
Prevention and Health Promotion	○	○	○	○	○	○
Clinical Examination and Diagnosis	○	○	○	○	○	○
Acute Care of Injuries and Illnesses	○	○	○	○	○	○
Therapeutic Interventions	○	○	○	○	○	○
Psychosocial Strategies and Referral	○	○	○	○	○	○
Health Care Administration	○	○	○	○	○	○
Professional Development and Responsibility	○	○	○	○	○	○

21. How well did your Graduate Accredited model overall prepare you for the profession of Athletic Training in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	○	○	○	○	○	○
Prevention and Health Promotion	○	○	○	○	○	○
Clinical Examination and Diagnosis	○	○	○	○	○	○
Acute Care of Injuries and Illnesses	○	○	○	○	○	○
Therapeutic Interventions	○	○	○	○	○	○
Psychosocial Strategies and Referral	○	○	○	○	○	○
Health Care Administration	○	○	○	○	○	○
Professional Development and Responsibility	○	○	○	○	○	○

Clinical Education in AT Across the models

22. How well did your Clinical Experience in your Graduate Accredited model overall prepare you for the BOC exam in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	◯	◯	◯	◯	◯	◯
Prevention and Health Promotion	◯	◯	◯	◯	◯	◯
Clinical Examination and Diagnosis	◯	◯	◯	◯	◯	◯
Acute Care of Injuries and Illnesses	◯	◯	◯	◯	◯	◯
Therapeutic Interventions	◯	◯	◯	◯	◯	◯
Psychosocial Strategies and Referral	◯	◯	◯	◯	◯	◯
Health Care Administration	◯	◯	◯	◯	◯	◯
Professional Development and Responsibility	◯	◯	◯	◯	◯	◯

23. How well did your Clinical Experience in your Graduate Accredited model overall prepare you for the profession of Athletic Training in the following areas.

	Poor	Below Average	Average	Above Average	Excellent	N/A
Evidence Based Practice	◯	◯	◯	◯	◯	◯
Prevention and Health Promotion	◯	◯	◯	◯	◯	◯
Clinical Examination and Diagnosis	◯	◯	◯	◯	◯	◯
Acute Care of Injuries and Illnesses	◯	◯	◯	◯	◯	◯
Therapeutic Interventions	◯	◯	◯	◯	◯	◯
Psychological Strategies and Referral	◯	◯	◯	◯	◯	◯
Healthcare Administration	◯	◯	◯	◯	◯	◯
Professional Development and Responsibility	◯	◯	◯	◯	◯	◯

Clinical Education in AT Across the models

24. How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the BOC exam?

25. How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the Profession of Athletic Training?

Clinical Education in AT Across the models

26. How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the BOC exam based on the Clinical Experience?

27. How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the Profession of Athletic Training based on their Clinical Experience?

Clinical Education in AT Across the models

28. How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the BOC Exam?

29. How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the Profession of Athletic Training?

Clinical Education in AT Across the models

30. How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the BOC Exam based on their Clinical Experience?

31. How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the Profession of Athletic Training based on their Clinical Experience?

Appendix C

Dear Fellow Certified Athletic Trainer:
I am a Doctoral Candidate at the University of Missouri, requesting your help to complete part of my degree requirements. Please follow the link at the end of this letter to an online survey titled: Clinical Education in Athletic Training: Across the Models. This survey is examining the preparation of the Certified Athletic Trainer based on the educational route to BOC certification. Your responses will be helpful in designing the future of athletic training education preparation.

This student survey is not approved or endorsed by the NATA. It is being sent to you because of the NATA's commitment to athletic training education and research.

The questionnaire consist of 6 demographic question and 32 Likert Scale (1-poor to 5-excellent) questions which will take about ten to fifteen minutes to complete and 8 optional open ended questions at the end of the survey.

Two thousand five hundred randomly selected certified NATA members in all ten districts with a listed email address are being asked to submit this questionnaire; you have the right to choose not to participate. The University of Missouri Institutional Review Board has approved this study for the Protection of Human Subjects.

This is a completely anonymous questionnaire and upon submission, neither your name not email address will be attached to your answers. Your information will be kept strictly confidential.

As a fellow certified athletic trainer, your knowledge and opinions regarding this topic makes your input valuable. Please take a few minutes to fill out the anonymous questionnaire you will find by clicking on this link and submit it by February 15, 2014.

https://www.surveymonkey.com/s/ATClinicalPrepardness

Thank you for your time and consideration.

Sincerely,

James Moore, MS, ATC, LAT
University of Central Missouri
Morrow 141
Warrensburg, Mo 64093
jlmoore@ucmo.edu

Participants for this survey were selected at random from the NATA membership database according to the selection criteria provided by the student doing the survey. This student survey is not approved or endorsed by the NATA. It is being sent to you because of the NATA's commitment to athletic training education and research.

Appendix D
Table 11

How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the BOC exam?
The programs are set up to prepare directly for the BOC and feel they do a good job at that.
Much better than I was in the early 90's. Evidence-based medicine concepts is the area that I think may need the most work.
Mostly prepared. I think the biggest obstacle is the difference in situational reasoning that differs in a profession vs the coursework best method. We all know the "textbook" way of doing things- so learning the book methods and passing the exam are not necessarily
With the new curriculum requirements as well as the new testing method (online computer based) I feel recent AT's are more prepared for BOC exam than I was.
For the exam, I think they are given all we can through the various text books and references. Since the exam is very book oriented, that has seemed to be the best way to prepare them. Getting them back to what the books say compared to what their preceptors may teach according to their own professional philosophy.
I feel that they are very well prepared for the exam.
Much more prepared than I was
I believe they prepare you well for the BOC however I find that a lot of things to prepare for the BOC are not what happens while working in the field. With EBP a lot of what we learn is never what is done, because a lot of other professions abuse things such as ultrasound and stem and message that in order to compete and not lose our athletes to outside care it is found that what we do extends EBP.
Very well
I think most of them do very well for the exam since it is now compute based and is similar to the lines of how they do examinations for standardized testing.
They are being prepared through memorization and through application of theories.
Given the pass rate of the BOC exam over the past few years, and definitely since the inception of the "new" format (i.e. no oral practice, taking three distinct portions), I'd say students are being adequately prepared for the exam.
Exam has become easier, so I feel as though they are more prepared for it in that sense.
Very well prepared. We take many practice tests and our whole senior seminar class is focused around learning how to strategically be prepared for the BOC. We have a high first time rate as well.
I think the BOC is easier now that it is all computer based, so I think the accredited programs are doing a good job preparing for the BOC.
Very well prepared for the exam due to competency-based educational programs
I work mainly with Graduate Accredited Pre-BOC AT's. I feel that as a graduate student myself they are not having enough experience at the schooling level they are at.

I feel that most are prepared for the exam. I do feel as though it is highly dependent on the quality of the school. It seems that when interns come to our clinic from smaller schools, such as colleges, and not universities, they struggle more with hands on and applying knowledge based exercise progression.
Students seem to be well prepared for the BOC exam at most institutions. The exception, I believe, is at institutions where the administration does not allow some selectivity or requirements to remain in the program in the same manner as other medical programs.
Much better than I was, because the standards are much higher now.
I feel that the current classes of Athletic Trainers are more prepared for the test and the test taking skills needed to be successful on paper.
I think they are mostly well prepared.
Excellent. With the combination of classroom and clinical experiences from accredited programs, candidates have to confidence and knowledge to successfully take and pass the BOC exam.
I feel they are pretty well prepared for the BOC exam, but most of it is based on how high of a standard of excellence the Certified Athletic Trainers at the institution set for the students. Low standards will yield lower results.
I am not entirely sure that I can answer this question effectively. I don't know that I have a personal opinion due to lack of knowledge on the subject.
I feel it was so. I did a lot of studying on my own to prepare. But they gave me the foundation of what to know.
Well enough to pass on the first or second try. I've found undergraduate students are more confident in the classroom than the clinical setting.
I feel most students complete their undergraduate degree well prepared. It becomes a priority but often too big of a focus as the BOC is not a good indicator of future success in the profession of Athletic Training.
I feel the accredited programs prepare students very well for the BOC exam.
In my experience, there was a need for outside study of test prep materials. So not well.
They seemed well prepared, but I would say that some better than others depending on the school.
It seems professors are now teaching just to prepare kids for the BOC exam which means the kids are not ready to be qualified and well-rounded LATs if/when they pass the BOC.
Undergrad teaches the test
I feel that I was well prepared academically, I just was not prepared in the manner the exam was offered so I struggled taking academic work and translating it to questions on a test.
I have recently had the privilege of working with three athletic training students that came to observe me in my regular work setting. They seemed very well prepared for the BOC Examination.
I feel that they are adequately prepared although I have not been exposed to a program other than my own since graduation in 2010. Graduate school did not have an undergrad program
Well

Very well prepared for the exam.
I feel additional studying has to be done. Using mock test questions and study guides helped me focus or concentrate on a subject
Well prepared.
I felt that I was very well prepared for the exam and that all of my friends that took the test were prepared as well. I really think it depends on the program that the athletic trainer comes from because my school (University of Wisconsin-Milwaukee) has a great reputation for 1st time pass rate with only 1 person failing their first time in the 4 years I attended their program. Everyone I knew from our program and other programs locally passed their first time. I'm hoping the exam isn't becoming too easy though.
Well prepared.
not sure - some programs do really well and others not as well
I feel as though they are prepared for the exam.
Very well prepared.
I feel that recently Certified Athletic Trainers are better prepared than I was when I took the test.
Well prepared. A lot of programs are gearing their education to the BOC exam.
Above average
I think this depends on the program that the student graduates from. Some programs do really well, others struggle.
The new national test being on a computer and not involving any actual patient interaction is allowing students to be not adequately prepared to be a practicing athletic trainer to pass the certification test. They do not possess the hands on experience/ability to provide competent care.
Depends on the student, the education is there, some don't study well.
Better than 20 years ago.
In some areas not well at all. Practical work is essential but often academics are falling short.
I feel with all the strict competencies from CAATE they are well prepared for the BOC
Well prepared.
Very well
I don't think that the BOC exam properly tests students. We are a hands on field and should be tested in that manner. Also I think that there are a lot of things I do as a Certified Athletic Trainer that I was not tested on during the test.
It seems to me they are well prepared although sometimes limited with experiences
I think they are well prepared. With the change to competencies, I feel students are learning more in the classroom and practicing at clinical settings. It is difficult to study for the test, because the content changes. I9 feel programs are doing a better job to prepare students for the exam, as well as becoming better clinicians.
Much better than I was, but I took the test in 1992.
I believe that there still is a large gap among programs as far being prepared for the BOC. Some programs are doing a better job while others are not. This is evident in the national average still being low.

It seems more people are taking it many times.
Our students are coming out adequately prepared to take the BOC exam I believe. The academic content in our programs is adequate, but could be improved by increasing the foundational bases to the classes.
About 50% of our class passed the BOC exam in one attempt, today I am seeing a much higher percentage passing on their first attempt.
Prepared
They do not seem to get the great hands on experience that we did 25 years ago. Does not seem to have the evaluative skills or confidence.
Very well.
I think they are fairly well prepared if they have an ability to go by the book. Any critical thinking outside of the book will cause them to overthink the BOC questions and possibly get them wrong.
I believe that, classroom wise, new graduates are well prepared for the BOC. They are given 4 years of training geared toward the testing styles of the BOC.
I think they are as prepared as I was for the BOC exam. They seem to learn the same things - but they don't have the life experience to really allow it to sink it.
Very well as long as they are serious about their education.
I feel that today's students are still being prepared just as much as I was.
I think they are prepared well for the test.
Hard to tell since we learn in different ways (hands on for me) and then have to take a computer test that does not have all of the variable nor able to answer questions. I am not a supporter of computerized testing for a hands on profession
I believe that they are well prepared for the test. I am skeptical, however, as to their ability to continue to learn and follow where the profession is headed.
I think they are well prepared, however the lack of students' motivation and independence deters them from passing the exam on the first attempt.
I feel a lot that goes into preparing for the BOC depends how much energy a student puts into their classes and rotations.
I think they are well prepared to take the BOC based on their classes and the information taught.
They are prepared for the current exam. All they have to do is memorize a check list and they can pass. They would not pass the old style of exam as they are not truly being properly prepared, just memorizing.
I feel that the pass rate on the BOC has increased over the last few years. After talking with coworkers and former class mates I have found that not many recent grads are failing.
Currently, I feel the students are taught how to pass the exam, so they are well-prepared... for the exam.
I feel they are prepared for the BOC exam. I am lucky enough to work in an ATP and get to see them as they transition to the exam. From a knowledge standpoint, I think most students are ok. The biggest struggle is the application in the real world.

I went to an Athletic Training Program that had an undergraduate and Graduate program. The undergraduate students were well prepared for the BOC exam if they took the initiative to learn the information given to them.
I think the recently Certified Athletic Trainers are very well prepared for the latest version of the BOC exam and typically do very well on it.
I believe they are prepared much better now. When I took the exam, it was the first year it was offered on the computer and it seemed as though none of my professors or individuals in the athletic training education program knew what to expect from the new computerized test. Therefore, I went into the test the first time getting used to the test, format, questions, etc. and ended up having to take it twice. I remember the second time taking it I felt much more comfortable and confident, and wish I had only had this opportunity to take a "mock test" or practice test questions on a computer to better prepare me for the real test.
I think things have improved - students get a more well-rounded education that what I received almost 20 yrs. ago and more resources out there to help prepare for the BOC exam.
I feel that they are adequately prepared for the BOC exam
I feel recent grads are not getting enough hands on experience prior to the exam.
Pretty well
Being a recent graduate, I was well prepared for the BOC exam. We had all of the information taught to us, and it was our job to learn it and apply it. From my class of 19, we only had one person fail the exam the first time.
I don't feel I can judge. It's been so long since I took the exam. I am not current with the exam after all of the changes that have been done to the exam itself and being at the high school setting and not the collage setting I do not have a grasp of the current educational programs since the change over to the accredited programs. I am not current with the new exam or the new education programs of the athletic training program students.
I feel undergraduate ATS, that I have come in contact with, where very well prepared for the BOC exam; however, I felt they are more taught to take the exam with less focus on being prepared for the profession and independently critically thinking compared to my fellow graduate ATS.
Better than previous years.
I believe that they are prepared enough by their educational programs. It is the student that does not put in the time or being an undergraduate student has to many commitments to school clinical and social activities that distract them from adequately studying/preparing for the exam.
I believe they are well prepared due to competencies.
I know several recent graduates from an undergraduate Accredited Program and some have been very well taught and the school has a 100% passing rate. I also know several students that came from the same program that had to retake their exam.
I feel that it really varies based on the program you went to. Also it depends on how much you take your clinical experiences by the horns and really dive in.
Seems to depend significantly on what program they were part of; overall fairly well
I feel the evolution of the athletic training education has been very beneficial in preparing the students to take the BOC.

I feel they are adequately prepared for the exam
I have not interacted with them in a while so I do not know.
The undergraduate programs I have worked with do a great job of preparing students for the BOC exam. Those programs have had close to, if not exactly, 100% pass rate.
The accredited programs are doing a great job of preparing students for the BOC exam. With curriculum designed to address the domains of knowledge and the clinical experiences to allow students to learn in the field, the accredited programs are doing a fantastic job.
I really believe it depends on the program they are coming from. I've seen multiple undergraduate programs in different states have different success rates. Overall good though, the test should not be easy enough for everyone to pass it on their first time.
I feel as though they are prepared to sit for the exam, the problem I have is with the exam itself. I do not care for the all computerized version.
They are prepared to sit and pass the entry level BOC ATC exam.
I believe that they are extremely well prepared. The knowledge of Certified Athletic Trainers of Undergraduate Accredited Programs eases the fear of taking the exam by teaching specifics that the exam entails.
Clinical skills are lacking but overall knowledge is very good. Knowledge base is vastly improved from by undergraduate experience
They are prepared much better for the written test as the amount of didactic course and requirements have significantly increased over the past 4-5 years.
Not very good, I have heard of multiple people in undergrad programs having to re-take the BOC
I think anyone can prepare for a standardized test by studying and knowing material. I think newly certified athletic trainers lack application of clinical skills.
Well prepared for the exam.
I feel that recently Certified Athletic Trainers are becoming better prepared for the BOC exam do to a curriculum that based upon passing the exam.
Very well
I feel that recent graduate's preparedness for the BOC reflects more so on them as a student than on the undergraduate accredited program. All of the undergraduate programs I have had experience with adequately or more than adequately prepped students for the exam, but if students chose not to engage with material, they did not succeed on the exam.
I felt like I was prepared. The only issue that I had my first time with the exam was the timing. I remember taking it before I graduated. So studying for that along with all of the class hours I was taking may have played a role in how difficult it seemed for me.
Very well.
I believe they are taught in a manner to learn the competencies and be able to pass the exam.
Not as well prepared as I was 10 years ago

I am just getting back into the profession after an 8 year hiatus due to raising a family. I am in the process of learning the new requirements and how the exam works. So with that knowledge, I feel that Programs probably do a pretty good job at preparing for the BOC exam. Like any college class it's somewhat easy to find the knowledge you need to prepare for a written exam.
I feel current ATCs from accredited programs are prepared excellently for the BOC. There are even courses and study sessions focused specifically on just that.
Content and knowledge I believe they are better prepared, which would translate well for the BOC exam
I don't feel that they are very well prepared.
I feel like they are taught to the exam, thus: fairly well.
I believe that our current programs are doing an a above average job to prepare students to take an exam
I do not know, so far I am the only one from my class to attempt it and pass. The other students are Licensed in the state or pursued other careers.
Athletic Trainers that I have met recently have been very well prepared to take the BOC exam.
Not as well as previously. I don't believe the BOC format is beneficial to the profession. You miss out on the hands on practical exam. We are a hands on profession, having a computer only based test is difficult to transition knowledge.
They are more prepared because they are being taught the exam.
I feel that students are more prepared for the BOC exam than I was when I took the exam.
Very well prepared if they are graduating from a well-respected program. I feel there are some programs I our area that I'm not sure how they maintain accreditation. Whereas other programs routinely produce great graduates.
I feel they are well prepared. I think the accredited programs are actually catered more to preparing them for the exam than it does for "real life" practice.
Extremely well depending on their undergraduate program. Their "book" knowledge is far better than it used to be
According to the national pass rate...only fairly well.
Most of them are ready
I feel most students are very well prepared for the exam. Students know the information very well.
I feel that overall recently certified athletic trainers from undergraduate accredited programs are prepared well for the BOC exam. However, it depends on the individual student and sometimes the specific program that they have gone to. In my experiences certain recently certified athletic trainers from certain programs have struggled with the BOC exam.
Much better than I was ever prepared. I wish CAATE was around for my program.
I believe they are well prepared for the BOC. They seem to have strong clinical skill and have obtained the knowledge necessary to succeed on the exam.
They are very well educated several things have been added since I went through the program.

Well Prepared.
I feel they are pretty well prepared for the exam, but I don't feel the exam is as stringent as it used to be.
Currently, undergraduate students are well prepared to take the BOC exam.
It depends on the program.
I feel this is both directly proportional to the institution where the individual is educated and the amount of effort put in by the students in today's educational society
Somewhere between moderately well and very well
I feel they are adequately prepared for the examination as it currently stands. However passing a computer based exam and applying and providing clinical skills in practice are two different things.
Recently graduated athletic trainers are very well prepared for the BOC exam.
I feel that they are fully prepared to take the exam.
I do not feel like the students currently coming out of programs are prepared to take the BOC. I have been an ACI/Preceptor to a number of students in the past 4 years and each has the potential to be an excellent athletic trainer, however they have all had to take the BOC multiple times. They are great on the field and in the athletic training room but are not instructed well on how to take the exam.
I feel that the curriculum in accredited programs today is geared specifically to pass the BOC, but not much consideration is given to assisting them in the profession beyond the exam.
Probably pretty well as they have study guides and the test is completely online with no personal experience - - anyone can study and prepare for a test, but to be put on the spot in front of actual people and perform your skills is another thing.
The exam, they are fine. To practice, very limited skills.
I feel that they are prepared for the exam from an educational standpoint. They are prepared to pass the test.
I feel that the exam itself is easy to prepare for especially with all the training materials out there.
I feel that current AT students are very well prepared for the BOC examination because that is what current AT programs tend to build their program on.
I think that recently Certified AT's are well prepared for the BOC exam. I feel that some programs that I have come into contact with are teaching more towards the BOC than the profession itself.
Well prepared for the exam
Our class was very much prepared!
It seems like the students who shadow me or come on clinicals are taught for the BOC and not to be a competent, well rounded LAT.
I can only base my judgment on my employees that are new to the profession, and I don't question how many times it took them to take the exam.
If they come from a good program then they're very well prepared, but not all programs are strong.
Very well now that program accreditation standards are firmly in place.

They are well prepared for the exam.
Fairly well prepared because they are starting to "teach to the test" it seems.
Extremely well prepared to sit for the certification examination. These students do well taking a test that asks specific requests of acquired knowledge.
I feel they are prepared to take the exam, yet not prepared to practice in the real world. The knowledge is there but there are so many laws on practicing as a student many do not get experience they should if they go to a smaller institution.
I have only been certified for 2 full years. This will be my third. When I took my exam there were parts of the exam that I was 100% ready for. I did very well and I still do well with those things. Then there were parts that I was not at all prepared for and I didn't get enough interaction with those things in my schooling. There are still times even now that I am doing something and I don't ever remember doing it in school. My program did great in some aspects and in other I was not happy with what they didn't teach me.
How well do you feel recently Certified Atletico Trainers from Undergraduate Accredited Programs are prepared for the profession of Athletic Training?
I feel recently certified ATs are moderately prepared for the profession?
Overall very well. From my experience where I work they get great classroom knowledge as well as clinical rotations that they can learn a great deal from.
Mostly. I think the most opportunities that the recently certified ATs are able to work in the profession. We all know the "textbook" way of doing things- so learning the book methods and passing the exam are not necessarily the same thing as working as an AT. I think more needs to be done as far as mentoring the newly certified AT's to ensure that we are continuing to develop as a profession.
With the new supervision requirements and emphasis towards classroom and away from clinical, I believe recent AT's struggle more with some of the daily aspects of the profession than I did.
Not very well. I would not feel confident about any of them taking a high school position right after certification. I believe the first couple years are very difficult when maybe they haven't gained enough autonomy and confident. They need some additional supervision before having to deal with coaches, parents, and athletes all alone.
I feel that they are missing a huge component with the lack of clinical experience they are getting. I think all clinical rotations should include more than just the college setting. Working with different ATC's in different settings gives a much more in depth experience and gives them some exposure to different settings. Not all ATC's are meant for the college setting and if that is the only experience they have then they may decide to choose another profession.
Average
It has its positive points and negative ones. The things that I have struggled with the most after recently coming into the field is talking with the athletes about the injury and then the ability to talk with coaches about injuries and injury reports. That could be looked a little more developed in the clinical setting.
Above average
Okay, I feel there is a lot of on the job training that is necessary and confidence that is built through experience.

They are not prepared. They do not know how to handle stress, hours, coaches, cannot properly preform assessments, and have to use pre-made rehabilitation protocols.
Having mentored several newly certified athletic trainers, I've noticed a distinct lack of clinical preparedness and evidence-based clinical decision making. Of course, hesitation and acclimatization to a new job, job setting, etc. is expected, but I've seen a sharp increase in the referral pattern to physicians and physical therapists from the newer certified, compared to those in my own cohort or those even more experienced.
Lack essential clinical experiences and suffer when they find themselves alone for the first time as certified AT.
I think they are extremely prepared. We are held to high standards. We are given a lot of responsibility and there are high expectations placed upon us.
I think there is some work that needs to be done with programs in helping the future of AT
Honestly I feel like they may be prepared but new Certified Athletic Trainers seem to be a little lazy.
Not as well prepared for practice as they are for the BOC exam
I felt like I needed more experience coming out of my undergrad and passing the BOC
As stated in the above question, I feel that most are very good at book work and lack the hands on skills and critical thinking and problem solving. Kids coming out are not prepared for the clinical aspect and importance of paperwork that is involved
Due to the lack of ability to apply much of the knowledge they have learned I believe new professionals often need some type of internship to be prepared for the profession as an independent practitioner.
I believe they are much more "book smart", but lacking in hands on experience.
I feel that recent ATs are ill prepared for the real rigors of Athletic Training and many that I have worked with seem to have an level of entitlement. The hands on skills, time management, and immediate actions are just not there, but would be required as they will need to function independently.
I think people from undergraduate programs are much better prepared than from entry-level graduate programs. The more clinical experience a person has the better off they seem to be.
They are more than capable for entry level positions.
I feel they need more clinical experience. Most come out and do not understand the time commitment and the stress management skills to not become burnt out. They also seem to lack the confidence needed to gain immediate trust of the athletes/coaches they are working with.
I am not sure they are ready. I think there is too wide of range in preparedness. I do think that a lot students/ recently certified folks need more time to hone their skills. I don't know if a lot of kids in general understand the rigors of the working world.
Ok. The students that I've worked with need more experience in on the field evaluations in order to be comfortable and confident if they are out in the work force.
This is the most troubling area as students are often taught everything perfectly from the book in order to pass the BOC. But the profession of Athletic Training is rarely perfect and students need to acquire as much real world experience as possible prior to certification.

I feel the accredited programs in addition to clinical time prepare students very well to be an ATC.
I personally did not feel ready to take on the sole responsibility of caring for athletes.
Well prepared for the most part, but perhaps lacking some confidence in decision making.
Not as prepared
It is difficult to take classroom to practice, and yet I feel, especially in administration roles, injury evaluation and acute care all I was well prepared for and just had to gain confidence in myself to apply concepts. I feel I was very well prepared, well as much as you can be before you are off on your own to figure it out and no ACI in ear shot to assist.
I do feel that athletic training students are very well prepared clinically for the field of athletic training. I don't feel that we are informing them very well on how to sell the profession of athletic training to hospital administrators. The hospital and clinic outreach setting are the fastest growing sector of employment for certified athletic trainers. We need to do a better job educating our students on how to talk to hospital administration and get them excited and interested in the field of athletic training this is where our future lies as a profession, this is where the majority of our efforts need to be focused.
Not as well. Having the ability to get "real time" hands on experience and make decisions without relying on a clinical instructor is hard. It was especially hard for me coming for a large program where there is an ACI and 2 graduate students an then the undergrad.
Moderately well
Poorly, they lack depiction making skills and hands on experience.
Internships, residency programs, and clinical settings help the most
Moderately prepared.
Once again I think it depends on the program. I felt my program did a good job getting us ready for real world experiences but I think that some programs do not teach the students how to treat the whole athlete and it definitely does not help the quality of treatment.
Well prepared.
In some ways better than I was since they have different clinical experiences as a student, where I was only at a DI college
I feel that there are so many rules as far as what students are allowed to do that it makes them not as prepared as they could be going into the profession on their own.
Very well prepared.
I feel that recently Certified Athletic trainers are well prepared in knowledge but not in practical skills.
Not well. The Clinical experience has been regulated too much. The curriculum does not address administrative duties (insurance, contracts, etc.).
Average
I think this depends on the program that the student graduates from. Some programs do really well, others struggle.

I feel that the overall athletic training education that students receive is below average and does not adequately prepare students to become athletic trainers and provide the level of care that athletic trainers should be recognized for.
I think very well. I work industrial and my training prepared me for this perfectly.
Better than 20 years ago
In many areas not well. Budgeting is a mystery and budgeting for a small school setting is worse. Most programs are in large venues and well-endowed with modalities and resources. Many trainers wind up as "rent-a-trainers" in small school and they have a difficult time finding creative (read cheap) solutions.
I don't feel they get enough "hands-on" experience to prepare them for the profession.
Well prepared, but not aware how well prepared they are. Many lack confidence.
Well
There is a lot of information that has to be learned in 3-4 years of college. In the 4 years I have been certified I have continued to learn on the job. Many situations that I have been put in I was never prepared for during schooling.
It seems to me they are well prepared although sometimes limited with experiences.... they have the knowledge but can use guidance in application and in practice.
Again, I feel the students are doing more as far as internships and finding clinical opportunities outside of the curriculum to know what it is like to be an AT.
Knowledge and skills are much more comprehensive and more effective. Professional skills and "the total package" or perhaps I should just say "globally," about the same level of preparedness as I had in 1992.
Most professionals are not well prepared. There is a large learning curve. I think the structure of the CAATE programs has given less hands on and critical think practice for ATs coming out of undergrad.
They don't seem to want to work hard.
I have concerns with our students coming out and into athletic training. Academics tended to focus on the BOC exam rather than what was beneficial in our clinical environments. I had many times in clinical assignments where I felt lost and remain lost today due to a lack of the academic preparation for that.
I would say about 10% of them aren't as well prepared as the rest of their class.
No enough hands on experience and independent decision making skills
They do not seem to have as much professionalism as we have had in the past
Recent grads need to have more respect for themselves as professionals and be careful not to readily accept positions with low pay and/or poor hours (i.e. Poor entry level positions, high turnover positions, internships).
I believe that it varies widely from one program to another.
I think a student who graduates with an Undergraduate AT degree MUST go on to get an MS in something and serve as a GA. The undergraduate students aren't mature enough to handle the work place. I am an advocate for the MS Entry level program for students are more educated in research, evidence-based practice, and clinical skills compared to BS students.

I think that, overall, new ATCs are more prepared on paper than they are in application. The classroom side of the Education programs has improved greatly, but I believe that the clinical side and application of skills aren't stressed near as much as they need to be.
Not as well as we were, they are no longer able to travel without a certified, I think that stunts their experience a LOT. I have met many undergraduates lately that are not prepared at all to make emergency decisions; they constantly look to more experienced providers for advice. It really is a sad thing.
Very well
I think they are being prepared very well. College is a fine balance, and I think that the burn out rate for ATS is high due to the overwhelming demands from classes and clinical. While in undergrad burn out rate was being assessed for a research project. I hope that with that information they are being more prepared then ever.
I don't believe they are prepared well to be independent. They need more clinical internship training
I think they are prepared as well as possible since the learning in school starts in books and the class room to get a basis of information and then extends to the field and hands on where another aspect is learned.
I believe newly certified athletic trainers are prepared for the basics of the workplace. I do believe that an emphasis on continuing education the idea that we are never finished learning is important.
I think they are well prepared but need to emotionally mature and get used to being on their own.
I feel different University's value the students to have different takes as a professional athletic trainer. At my undergrad our rotations were more of the students focus and the classes were just something that they fit in to their life.
I think there is a lack of preparedness for the overall profession of athletic training. I think that Undergrads are taught one way to do things when in the real world you may have to improvise due to lack of supplies.
Not at all. They lack skill sets. They do not know how to perform special tests properly or how to modify them. They perform every single special test during an assessment to try an impress their knowledge on the person but still cannot give an assessment of the injury. They do not know how to rule out without referring. If ATs are evolving in the direction of always referring, then why should we know how to assess?
I worked with a couple senior AT students last spring and they were prepared. They had plans for their future, they were about to take the BOC which they passed the first time and they were ready to be an ATC.
Not at all. Limitations in hours, coverage and travel severely hamper their experience and does not prepare them for working on their own, or making their own decisions. They are not aware of the amount of time it takes during a playing season to do their job appropriately and they have major problems with being responsible for their own team.
I think that they are prepared but it is a difficult transition from student to professional. There are many situations that don't arise while they are students and some situations, you just cannot prepare for.

As far as being prepared as an Athletic Trainer is concerned, one can see a significant difference between Graduate students who worked in the athletic training room during undergrad (which started a base) and then went on to a Graduate Program. Some undergraduate students need more clinical experience to gain the confidence and ability to provide adequate care for his or her patients.
I believed most newly certified are underprepared for the profession of Athletic Training and it is necessary that the gain experience through a graduate program because undergraduate programs no longer provide the hands on opportunities and real-world decision making that they once had.
They still lack the confidence and 'full' view of injury management when it comes to treating athletes on their own, especially with critical thinking skills dealing with rehab and return to play. Communication with coaches and other admin is sometimes tough to teach during clinical experiences and is something that needs to be enhanced in education.
I think it depends on which program they go to; some programs better prepare than others. Some programs are more "by the book" oriented but fail to recognize other issues in the profession (work life balance, being happy, etc.) other programs are too lax on the professionalism piece and students enter the work force not realizing what the real world is truly like. (Dress code, professional etiquette, communication with coaches and other staff, etc.)
Once again education/clinical experience have evolved to more well-rounded education and clinical experiences to help prepare one for the profession.
I feel that they are fairly prepared, but may lack enough field experience, versus in-class learning.
I feel recent grads are not getting enough hands on/clinical experience to develop their confidence in their skills.
Not as well not as much hands on experience with not being able to travel unless there ACI travels with them
Again being a recent graduate, I feel I was well prepared. I still make some of the 'rookie' mistakes, but those things happen and we learn from them.
Just some observations from one of the old veterans. The new athletic training students seem to have just the basic minimums. The skill level shown in daily skills like taping an ankle and basic injury evaluation on the field or court seem to be poor at best. The new trainers seem to be frustrated that they have to cover practices and events (cramping their social life). Reading a book, on the web - How about watching the event so you are aware of how players are injured and being able to respond quickly to an emergency. What happened to the hospitality - greeting the visiting athletic trainer and making sure that they are welcomed and have what they need? Some schools athletic trainers don't travel with all sports. I feel it's my job to take care of not only my athletes, but the visiting athletes like they are my own. I find if I don't travel my athletes have a tough time getting a bag of ice or even a Band-Aid.
I feel undergraduate ATS, that I have come in contact with, are more taught to take the exam with less focus on being prepared for the profession and independently critically thinking compared to my fellow graduate ATS. I have found undergraduate students are able to recite Athletic Training information, but they were not able to apply that information as well to the clinical setting.

Better than before but only because they are swallowing all EBP (which is a good thing) but they are not receiving the experience in conjunction with the education.
From my experience I do not feel they are very prepared to handle the daily challenges of our profession. Unless they are highly motivated students and really tackle the books and clinical. I feel a lot of these students should not work on their own. I try to tell graduating students to find GA positions or internships where there will be light to moderate supervision with someone they can go to with questions. I discourage the high school ATC positions because they may be all alone and under-prepared to handle tough situations alone.
My recent experience has me believing that academically they are well prepared. Clinically they are ill prepared. Limited experience with direct patient care, interaction with coaches, travel and ability to work independently are just a few examples.
I feel that most students are ready for some type of graduate assistant program. Sometimes it is questionable if they are ready for a full time staff member.
I feel there is a large variance in the preparedness of recently certified ATs from different accredited programs.
Prepared for the most part to jump in for the profession but not prepared for billing and documentation fully.
Moderately well
I feel that the restrictions on hours of contact time and amount of time spent at clinical sites do not give the athletic training students an accurate depiction of the profession of athletic training.
I feel students are not as well prepared for AT practice as their education is based very much on completing competencies rather than 'real life" situations that may not always fit easily into a specific category.
Athletic training students do not get a complete understanding of the profession and a lack of clinical preparation from the way some current undergraduate programs are designed. I believe they can be successful when there is a symbiotic relationship between the academic staff/expectations and clinic staff/expectations.
I feel that recent ATCs are coming out of accredited programs almost over prepared for the profession. This is a good thing because it allows young ATCs to flourish early on in their careers, lead the profession into the future, and provide new avenues for research in the field.
I graduated 2 years ago and I feel like I am very prepared and have little trouble since I became employed on my own. I think you either make it or you don't and usually the BOC will determine that.
The recent graduates that I have seen I feel are very "green" as far as actually "being" an athletic trainer. Programs focus too much on higher education and working in the college setting. I work in the high school setting and we have recently hired 3 new AT's and they were very underprepared to work with high school athletes.
I believe that this depends on the individuals, teachers and staff of each accredited program. Level of athletics, such as NCAA divisions, as well as student involvement with actual care and diagnosis of injured athletes makes a big impact in preparing students.
Above average. The professional development is more defined in a post graduate setting.

While their knowledge base is good their real world application is not strong. The ability to interact with athletes, coaches and parents is not as strong as it has been in the past.
I believe this has not been as successful as ATEPs have to focus more on didactic courses to meet educational competencies and in limits the amount of time students are able to be in clinicals for them to not burn out. I have seen way too many highly qualified students quit an ATEP because of the increased demands placed upon them. Therefore they are not as confident nor do they have the clinical skills necessary to function on their own as they are used to constant supervision.
I do not think they have enough confidence or experience in clinicals
If they made it as far as becoming a certified athletic trainer then they are prepared for this profession
They require more direction and orientation when they begin their career.
I feel that recently Certified Athletic Trainers could be better prepared for the profession of Athletic Training. I feel that more time in the curriculum should be spent on billing and healthcare administration strategies.
Moderately
I feel they are well prepared for the clinical aspect of the job, and not as well prepared for the non-clinical aspects, such as talking to coaches, negotiating contracts with administration, etc.
I feel like there are some things that weren't taught when I was in college that may still not be taught now. More focus on dealing with the high school setting would be beneficial to our profession. I would say that I was completely unprepared for much of the non-injury related things that I have to deal with in the high school setting. Things like contracts, referrals to many different physicians, program and professional relationship development with local medical offices, etc.
Very well.
Seeing/ working with new certified athletic trainers, my impression to them is some of them are smart but "book smart".
Students who enter our program seem knowledgeable in some areas knowing basics. However when they are challenged on a though or asked questions regarding critical decision-making, they seem less confident and less prepared. Taking them through difficult clinical scenarios and asking them to make informed decisions is a weakness.
Not as well as I was. I think that education caters to the student which is not doing our profession any good. Students hardly put in as much effort in as I (and my classmates) did 10-15 years ago. At the same time they expect to be given what should be earned
I am actually very disappointed with the way accredited programs have gone. The experience of the undergraduate student has been so diminished that they really have just become "tools". I understand the protection of the student, but all that protection has bred the type of student that doesn't fully understand what the profession of athletic training is about. It will then take a Graduate program to weed out and show realistic expectations for our field. I feel that it's a waste of time. Graduates should really be given full reign in coverage or responsibilities of a team. I now feel that they have to be "watched" more because the consistency of the undergraduate program just isn't there and as a graduate are not really ready for all the responsibilities.

I feel many ATCs coming out of accredited undergrad programs; especially out of larger schools with less hands on opportunities are not adequately prepared to be in the field. Many have great book knowledge but lack the ability to apply what they've learned to real life situations.
I believe the improved knowledge and educational experiences as come at the loss of early freedom and independence clinically, leading to recent graduates to have plenty of knowledge but little confidence in applying or utilizing skills independently (i.e. decision making and original thinking).
There is not enough hands on experience.
Depends on the setting. I have seen three examples the past three years and all of them were qualified to work in a collaborative setting but I wouldn't put any out on their own.
Not well enough. They to develop autonomy, the ability to communicate with other health care professionals, parents, coaches. They are able to quote theory but not very effective at applying that theory to the clinical setting.
It depends on the mature level of the ATC and willing to take a professional role.
Experience is key
I think they are doing ok considering the BOC does not reflect the current profession of athletic training.
They are lacking self-confidence and judgment because they lack "hands on" time.
I believe that recent graduates do not understand the time commitment that is associated with our profession. Many are only required X amount of hours per week and do not realize that the real world is very different.
Same as the question before. Although there are some programs that teach to the BOC and don't do a very good job of clinical preparation.
I don't think it does as well as it used to. I believe that students need a couple years as a graduate assistant so they can develop some of their own independence as an AT before being truly prepared for the field.
Without the practical portion of the exam I feel that many new grads are inexperienced with much of the hands on / manual portion of the career. Seems much of the schooling is based on book work, which is just a portion of the profession.
Not well at all. Most students have a false understanding of the true profession and believe everything is "text book". We are preparing "book" smart athletic trainers not true clinicians.
Depends on the program they come from. I graduated from an accredited program and felt very prepared for the profession to be an athletic trainer. I was a GA in a different ATEP and I thought the students were prepared educationally but not clinically.
They are well-prepared for the professional practice
Most students these days have a strong grasp of the material but they struggle when it comes to actually working with athletes and putting their skills to use.
I feel that recently certified athletic trainers from undergraduate accredited programs are generally well prepared for the profession of athletic training. The vast majority that I have known have gone on to be successful in the beginning of their careers. There have been a few cases that I have seen where certain recently certified athletic trainers from undergraduate accredited programs did not handle situations appropriately and were

unsure of themselves.
I have no experience in this area
Depends a lot on the person, but as far as the program they are coming from the students seems very well prepared and knowledgeable.
I believe they are well prepared. The have the clinical skills and knowledge base, but may sometimes lack the practical experience in confidence in their own decision making capabilities.
Some programs are producing fantastic students right now.
Well prepared.
I believe in some ways they are much better prepared now than when I graduated. However, I'm not sure they get as much hands on, real-world experience as they should.
I feel recently certified ATC are less prepared for the profession of athletic training than past groups of undergraduates.
It depends on the program they came from.
I feel that undergraduate accredited programs do a good job at preparing future athletic trainers for the actual profession. I have been around quite a few people that went through undergraduate athletic training programs and have found most of them to be knowledgeable and capable of basic athletic training tasks.
I think that recently-certified ATs from undergraduate accredited programs have become less prepared for the profession of athletic training over the past number of years.
I do not think that they have the hands on experience to be successful as independent practitioners in entry level careers, specifically in the clinical and high school setting. They are unprepared for life application of skills and interaction and understanding of the healthcare continuum and realistic health care collaboration.
Recently graduated athletic trainers are moderately well prepared for the profession, although current supervision guidelines make learning autonomy and independent decision making very difficult.
I feel that as long as they are attending a school that puts them through what being an ATC is all about then they should be prepared. These students need to understand that this is not a 9-5 job and schedules change daily. I do not think these students will be prepared if they only go to their "clinical" for a couple of hours a day.
I do not believe that most students are prepared to become full time ATC's coming out of their programs. I do not think that the time spent in the athletic training room in college reflects the time that you spend in your professional setting. I have seen a lot of ATC's come out and change careers immediately because they do not fully understand the profession.
I feel that the curriculum in accredited programs today is geared specifically to pass the BOC, but not much consideration is given to assisting them in the profession beyond the exam.

They are NOT PREPARED for the reality of the profession.....they need more hands on, problem solving time during their education. I was given a team each season and sent out to figure things out and report back to the ATCs with questions, concerns, etc....We learned how to be athletic trainers --- these days they are learning too much from the book and CAATE is waaaay too involved in how they learn it - too many restrictions on great learning possibilities.
Not prepared at all.
I feel like they do not get the appropriate decision making experience or real life experience of dealing with communication with parent's athletes and coaches. They are not as prepared for the intangibles of our profession.
I would like to see that accredited programs are all 4 years long as to gain as much exposure to different settings. For myself I was never exposed to what the role of an industrial athletic trainer is and if I had I would have been more prepared for my first job after my graduate assistantship.
I feel that current programs could do a better job of preparing their students for the profession of Athletic Training. What happens in the classroom is MUCH different than what happens in the clinical setting. It is easy to sit in the classroom and learn from textbooks and lectures but there is no substitute for experience.
The clinical and classroom experiences that I had as a student prepared me very well for the profession itself. Comparing my education against other programs I've seen, I feel many other programs worry more about the student passing the test than they care about how the student performs in the profession itself.
Prepared as entry-level practitioners; not always prepared to work independently as clinicians
I think the accredited programs prepare students very well. It just takes experience to learn everything there is to know.
As I stated above, I think the emphasis is on students passing the BOC. However, being book smart and passing the BOC on the first try doesn't always translate to a good LAT.
They lack some real world skills due to restrictions that are now in place that were not there when I was a student
As stated above, I can only base my judgment on my employees that are new to the profession. I had 1 employee who's clinical skills and professionalism were poor, and quite frankly I wouldn't be likely to hire anyone out of that program again. I had another employee who attended a pretty good program and she had good clinical skills but poor reasoning and critical thinking. From my personal experience, I was most certainly not prepared right out of undergrad. I went to grad school and I always highly recommend it to students who considering going into the profession.
I feel it's starting to decline. We were explicitly told in undergrad to dress professional while attending seminars and conferences and I've seen this level of professionalism decline.
In my opinion as an educator, they are very well prepared, except they are in need of more experience. I believe, therefore, that internships or residencies should be a required component for one year after being certified.
They are poorly prepared for the profession and probably need to do a post-graduate internship or assistantship.

Somewhat well prepared but it very much depends on the person.
Terrible. Athletic training students and entry-level practitioners are not ready to perform independent practice. Something has been lost in the application of theory and acquired knowledge. Further, level of confidence in practice is poor. As a supervisor of many entry level individuals, I have had to provide far more mentoring and support to these individuals than in previous years. This includes athletic trainers that have completed a 2 year GA position in college athletics as well.
I feel they are unprepared. They are very knowledgeable but they are not ready to think on their feet and perform in the stress of the real world clinical experience.
When I was ready to go into the work force I feel like I prepared with the basics to my job. I have learned a lot in the past two years. Things that I probably wouldn't have learned in school. I will say that having great clinical experiences under the supervision of some great Athletic Trainers helped teach me a lot of those things I didn't learn in the classroom.
How well do you feel recently Certified Athletic Trainers from Undergraduate Accredited Programs are prepared for the BOC exam based on their clinical education?
Clinical experience allows the student to actually apply the material they are taught and hope to allow them to actually learn and know the material instead of memorizing it for the BOC.
From my experiences they are very prepared...can only comment on what I know and have seen.
Completely depends on the clinical instructor. I think there is much that could be done as far as trying to incorporate the material from the classroom portion into the clinical experience in the application setting. If the clinical instructor takes initiative to review material and incorporate the material- it can be a great rewarding experience in preparation for the BOC exam. If this is not the case, I think many times the students are seen as extra hands and maybe left out of good clinical learning experience due to time, resources, professionalism, etc.
I believe their experiences are similar to when I was a student.
It can be inconsistent from site to site. For the exam, they need to focus more on the books but often their preceptors want them to do things 'their way' instead of book. It's a bit confusing for them.
Average
The clinical experience did well with rehabilitation, treatment of injuries and illness, just not much of the rest of things.
Above average
Average
They do not need to be prepared based on clinical experience, since there is no practical anymore and they are limited on how many clinical hours they can receive, which in turns limits what may be seen in clinical setting.
I think it depends on the ACI. I had ACI's who constantly challenged me and made me think and apply what I have learned. If we didn't have any hands on experience jobs to do, we were quizzed or asked critical thinking/research questions to keep us occupied.

Clinical experiences help the students put to practice what they are learning. It definitely helps prepare for the BOC
classroom does more to prepare students for the BOC than clinical education does
I think they are prepared well enough
I think the clinical experience makes or breaks them. If the students are not getting experience with critical thinking skills and hands on they are not going to be prepared
Again, at institutions where some selectivity is not allowed I believe the clinical experiences tend to be too highly populated with multiple students and therefore a proper clinical experience is not gained. Without having the opportunity to apply the knowledge students will not grasp enough of the voluminous information presented in the didactic coursework.
I don't believe they are.
This truly depends on the CI and whether they help to integrate all areas.
I don't think the clinical experience does as much to prepare for the BOC as the classroom experience.
The clinical experience is perhaps the most important aspect of ATC programs. The application of knowledge solidifies the learning experience.
I feel like they (for the most part) need more hands on experience as opposed to just watching the Certified Athletic Trainers do everything. If you do not get your hands dirty it's hard to know what it actually takes to be successful.
Depends on the program, and the strength of the clinic instruction at their school
There is not a practical portion of the BOC exam anymore which I feel is wrong. Athletic training is all about your interactions with student-athletes/athletes and even though you get that experience in the clinical setting if it is not tested how do you know the athletic training students are proficient?
The clinical experience helps to reinforce information learned during an accredited program for the BOC exam.
Not well, but it makes you a better ATC
Well prepared and in most cases has had a variety of experience so know where they are well suited to practice.
They aren't as prepared as they could be essentially.
The proficiencies that needed to be completed were the best prep in my clinical experience to prepare for the BOC. But when you are in practicums, you are learning how to be a professional and apply those little check lists and learning tools. So I feel the mix was good, but would not say that clinical would have hurt from not doing BOC proficiencies
Excellent
Very well. It is easy to observe and learn especially since there is no hands on application or test to get certified. I think if there was a hands on part of the test the pass rate would be a lot lower.
Depends on the program. My program's pass rate was 100% my year
Fair. Very knowledgeable in many aspects but lacking in many important variables.
book and hands on skills do differ and I learn better hands on, essentially clinical experiences help with real life scenarios

Moderately prepared.
If they spend the time in a proper environment and take in all the experiences possible I think they can be very well prepared.
Well prepared.
I think this depends on the student and their willingness to implement what they learned in class to their clinical experience.
Very.
Somewhat prepared.
They are better prepared for the BOC exam.
The Clinical Experience does not provide enough scenarios to prepare an individual for the BOC exam.
Above average
I think this depends on the program that the student graduates from. Some programs do really well, others struggle.
The limits that are placed on what students can and cannot do during their education programs greatly handicap them moving forward. They are not prepared to work in the real world, but are able to pass a computer based test that doesn't involve any actual interaction. I have seen many students that know the material, but as soon as an actual patient is put in front of them they freeze or have no idea what to do, how to communicate, etc. They have the knowledge to pass the test, but not to perform the actual duties of an athletic trainer.
Very well, but must have good hours and hands on, but some have gone away from the hours. I also felt the practical and simulation exams were better than just a written. I felt that preparation for that part of the exam greatly helped improve clinical skills verses just a written test. Better than physical therapists. I have worked with multiple new graduate PT's and ATs and gone to numerous courses with both and AT have better clinical skills and knowledge.
Better than 20 years ago.
I feel it’s biased on the preceptor they are working with and how much knowledge he/she wants to provide.
I really think it is dependent on the student. Some students learn more from doing, others from the didactic portion
Very well
My clinical experiences prepared me better for my current job than the BOC exam. In order to pass the BOC exam you need to memorize information and spit it back out.
I think the students are well prepared. The clinical experience exposes the students to what they are learning in the classroom and applying it to real life. However, this is where preparing for the BOC exam can be challenging, since clinicians vary how they approach different injuries.
Very well.
Clinical experience does not help that much for the BOC as you are learning what you need to know for your setting. While the BOC tests for the broad spectrum and this is often forgotten in test takers.
Depends where they were.

Clinical experiences are where a large chunk of my learning took place.
I enjoy being a preceptor for the athletic training students. I see motivated students and students who are not so motivated. I make sure they have an open invitation to ask questions, do proficiencies, etc... I think the students who want to learn from their clinical experience are the ones better prepared.
Depends on the clinical experience and what they were allowed to see
Again, I do not think the hands on experience is as good as it once was.
I feel ATEPs need to focus on developing decision making skills and self-confidence when making clinical decisions.
I feel it varies depending on the program you graduate from
I think they aren't so prepared after clinical experiences. It is a matter of answering the questions correctly.
Overall, this is going to depend on the program they came from. Some new ATCs were able to be on their own and develop skills more than others. Those coming from a bigger D1 university probably weren't able to be in charge as much as those coming from a D2 or smaller program.
I think that clinical experience is very important but due to not having much autonomy, they are not as prepared as they could be if their ACI allowed for more independence.
Well prepared, however the clinical experience itself isn't as important as the classroom learning in my opinion when it comes to the BOC.
I think that more focus is on clinical management and less on the exam, but honestly I think that is better. An exam can only test what you can immediately recall in a stressful environment. I think it's better for someone to be clinically smart vs book smart.
Not well enough to be independent.
I believe they are prepared.
I think they are prepared but need to have more opportunities to perform skills independently.
My clinical experience was hard and I dreaded it each day but I feel when taking the BOC I looked back at my clinical experience more for information. Some students I see now are there to get their hours and leave, they try not to do the busy work because they do not see the value in what having clean towels can do.
I think the students are very well prepared for the BOC when dealing with clinicals. They are able to see different sides of things and work with different people that will help them with the BOC.
Again. All they have to do is memorize a checklist sheet. They are not prepared a real life experience of a clinical practical exam. They can tell you how it should be done, but they cannot actually perform it accurately on their own.
I think this depends on where they went to school. I have had students that need observation hours and some are getting a wide variety of experience and some are very limited.
As I said before, since the exam tests online knowledge with no practical section, clinicians can teach students how to pass the exam through examples.
I think this aids in their overall understanding of the entry level knowledge.
Because the BOC does not test skills or situations outside of a computer clinical

experience is not as important.
Difficult to say because of the different techniques and mindsets for all clinical educators due to difference in BOC standards versus what it seen and done clinically.
I don't think the clinical experience is as useful as it used to be when I was a student. Now there are so many restrictions on what students can or can't do, how many hours they can get a week, if they can travel or not, etc. and I feel as though programs with a lot of micromanaging, roadblocks, etc. can really deteriorate the student's experience and they leave their program not truly knowing what it is like to be an athletic trainer in the "real world." In my experience, the students who are present most often get the best experience because sometimes things happen in the clinic that you really can't teach or plan to teach ahead of time and the students who are present more often will get more of these experiences.
Clinical experiences are tough as there is no control over what happens so you may not have experienced something to help prepare you for the exam - I feel the education/classroom helps prepare students the most for BOC exam.
I feel that they are adequately prepared for the BOC exam based on clinical experience.
I feel that the exam is much easier now being all computer based. In the past when it was a three part test and you had to demonstrate your skills in the oral practical exam. I also feel that the students are limited to way too little freedom to practice hands on skills while in undergrad clinical rotations.
Not very well at all
In a clinical experience is where you athletic training in action. It is a very important part of the educations of new ATs. I feel that without the clinical experience all of the book smarts wouldn't be enough to be a good ATC.
Again, I personally believe undergraduate students are more prepared for the BOC and the is the main goal, the classroom and clinical setting both serve to accomplish this goal.
Not well prepared.
It depends on which site they come from. Some clinical sites prepare the students more than others
They are well prepared to answer questions.
I feel that our clinical experience prepares us for the BOC exam.
moderately well
I feel that they are adequately prepared. I feel that we could do better to prepare them from a clinical standpoint. I think the CAATE rules are too restrictive in terms of what the preceptor can allow the properly supervised student to perform.
I feel they are adequately prepared for the exam
I have not interacted with them in a while so I do not know
Clinical experience is not nearly as important or necessary to prepare for the BOC as it used to be.
Clinical experiences differ from program to program and student to student. Getting a variety of activities and sports as well as a good representation of both female and male sports was beneficial for me. The BOC exam addressed a lot of knowledge that needed to be learned before clinical experiences, but solidified and honed in those clinical experiences.

Clinical experience I feel has been more effective for me in the work place rather than on the test. I noticed going through school that some people were book smart and some were better in live situations. I feel like I am a little bit of both. Being book smart will help prepare you for the BOC but won't necessarily help you to be a very good AT.
Athletic training student are well prepared to sit and pass the exam.
Excellent. You are placed in different areas such so to prepare you for the topics that the test is based on. Clinical, practicums, and team coverage are areas that Undergraduate Programs provide.
I do not feel the clinical experience is as helpful in passing the exam as classroom work is.
I think this can be a poor area.
I feel as though they programs are teaching to the exam.
I feel that recently Certified Athletic Trainers are very well prepared for the BOC exam.
Moderately
I think this depends greatly on the program and the CIs involvement in the education program.
Very well.
Clinical experiences need to model EBP and clinical decision making skills to a greater extent.
Some students are well prepared, others not so much.... I think it depends on the undergrad program and the individual student... if the student works hard, they should be prepared for the BOC exam.
I don't feel the clinical aspect of these programs are as geared towards the BOC exam, however it is hard to separate what one has learned from their clinical undergrad program from what they've learned in the classroom as the two are tightly connected
Clinical experiences serve students well for BOC exam
I feel they know the material, but not the athlete.
Again they are excellent test takers. Clinically I spend too much time covering very basic skills that are necessary to be an entry level ATC. Not refining any of those skills.
Depends on placement. When placed in the professional setting you don't get much hands on experience due to high profile athletes
I think clinical experiences prepare students more for real-life situations. I did not take the BOC under the current computer based model, so it's difficult for me as a clinical instructor to help the students when they have specific questions regarding the test.
Students experiences are all individualized but overall they gain valuable knowledge for general backgrounds.
Again there are some programs that I'm not sure how they maintain accreditation based on their limited clinical experience options.
I think the didactic portion of the program better prepares them for the exam than the clinical education.
I feel that the clinical experience is a great supplement to the courses that those students are required to take; however, I don't feel that a student could pass the BOC exam solely through clinical experience.

Very well
I think clinical experience is a good supplement to the students taking the exam.
I feel that recently certified athletic trainers from undergraduate accredited programs are generally well prepared for the BOC exam based on their clinical experience. I think this can be attributed to the quality of their clinical sites and their preceptors and this can vary school to school or even within the program.
EXCELLENT!
The wide variety of clinical experiences that undergraduates undergo prepares them well for the BOC exam.
They are passing Ag high rates aren't they?
Well prepared. Would like it if they had to do the first 6 months of certification under a certified athletic trainer, like a residency. As they will be able to do more things since they are certified.
Again, I feel they are well prepared for the exam based upon clinical experience, but I don't believe the exam tests for that hands on experience like it should.
It depends on their clinical experiences.
I think the variety of clinical experience opportunities that are provided during an accredited undergraduate program prepare future athletic trainers for both the BOC exam and the actual profession.
I think that the changes to clinical experience requirements have resulted in students being well-prepared for the BOC exam.
Very prepared.
They need to get much more clinical experience
I don't know - I don't think the questions deal with REAL LIFE situations --- only what gets presented in the books. I had an ATS who would not reduce a simple finger dislocation because "they didn't teach me that" - so the kid sat there with his distal phalange dislocated for over half an hour until I reduced it. That is not acceptable.
They are moderately prepared.
I feel that they are not as prepared for the exam through clinical experience as much as they are through class work. Part of the reason is the students are not engaged enough in their clinical rotations.
I don't think you clinical experience has a very small impact as to how well you do on your exam. If there was more emphasis on the hybrid portion of the exam then I believe more students would be able to utilize what they learn in their clinical rotations.
Based on the clinical experience, I would say that some recently Certified AT's are well prepared for the exam but not as well prepared for the hands-on and interactive aspects of the test.
In most cases, the clinical preparation is adequate for success
Prepared very well.
Good for the book smarts, average for practical
Very well prepared.

Fair. In my experience as an educator, there is a disconnect between what the clinicians know and what the students are taught in the classroom. That is, educators are on the cutting edge trying to infuse evidence into the classroom, yet our students go to a clinical site only to see a treatment plan or health care practice that is outdated.
They are well prepared for the exam.
Fairly well prepared because they are starting to "teach to the test" it seems.
Preparation is coming less from practical experience and more from the classroom.
Very poor. There is a large learning curve when they get out of school, even in their senior year where they should be able to discuss options with their preceptors and make protected decisions about athletes with their preceptors. I feel they are scared to fail and are worried that there is a right and wrong answer when mainly there is a gray area.
Clinically I was prepared when I took mine. I always liked the clinical aspect of athletic training and I feel like my program did a great job pairing me and my classmates with some great clinical settings and preparing us in the classroom to be able to use some of the things we were learning in our clinical settings.
How well do you feel recently Certified Athletic Trainers form Undergraduate Accredited Programs are prepared for the Profession of Athletic Training based on their clinical experience?
The more clinical experience a student receives, the better off they are prepared for the profession. Also depends on the amount of freedom and supervision the student has with their clinical experiences. The more opportunities they have to take the reins and make decisions, evaluations, etc. on their own the more they are prepared when then are on their own.
As mentioned earlier....they cannot travel by themselves as we did back in the 90's from time to time with some sports but when we can we allow as much autonomy as possible. I feel that here where I work the clinical rotations definitely prepare them well for the profession.
Depends on the clinical experience instructor and how the experience is set up to encourage preparation for the field.
I believe their experiences are similar to when I was a student.
They need more autonomy and not every preceptor aids in that development. Some allow for more autonomy than others. Some students don't get much administrative experience because the Head ATC does it all on their computer. The ATSs lack experience in documentation, filing, phone calls to physicians, insurance and billing, etc.
I feel that they are missing a huge component with the lack of clinical experience they are getting. I think all clinical rotations should include more than just the college setting. Working with different ATC's in different settings gives a much more in depth experience and gives them some exposure to different settings. Not all ATC's are meant for the college setting and if that is the only experience they have then they may decide to choose another profession.
Average
This is what tells most student athletic trainers what the life is going to be like, pretty realistic.
Average

I think it definitely has provided a solid basis, but continuing in the profession and getting as much practice helps.
They are not prepared. I have hired them in the past and had to teach them their senior year over again.
It depends on the ACI's dependency on the student.
Clinical experiences help a lot. That is where students get their hands on experience and learn how to work under adversity.
clinical education prepares students for practice better than classroom, also better prepares them for BOC vs. actual practice
I feel like they need more experiences
I feel pretty confident about most students coming out of their internships well informed. I do have concerns for the mentors and those individuals that take on interns. I feel as though the Mentors need to have to complete the CPI training that is similar to the PT/PTA criteria.
I do not believe current students have the opportunity for enough autonomy clinically and therefore need some other type of experience to be prepared for the profession an independent practitioner.
I don't believe they are.
I feel that those with more initial time in the field with a person that challenges them to think independently yet provides constructive criticism and helpful guidance.
I believe clinical experience is the most important thing to prepare people for the profession of AT.
The clinical experience is perhaps the most important aspect of ATC programs. The application of knowledge solidifies the learning experience.
I feel some will do fine right out of the gate, but most are going to suffer stress because they are not used to working/thinking on their own without the crutch of another Certified Athletic Trainer looking over their shoulder handing them the right answers and telling them step by step what to do.
Yes and no. They need more time.
From what I have seen, it depends on the program.
They are not given enough autonomy to gain confidence in their athletic training skills. If I am always there to bounce questions and ideas off of, they are not learning to think on their own. I think if we as preceptors are allowed to give the students a little more space it will force them to do more on their own. I feel sometimes I could give students more space and still be in direct supervision, but CAATE standards do not give me that luxury.
This area should be the focus of education in my opinion. The more real world experience one can acquire the better prepared they will be. Athletic Training is a hands on profession and students should be given more opportunities to practice their hands on abilities.
The clinical experience is very helpful to put information learned into real situations to prepare students to be an ATC in the real world.
Very well
Well trained over all.

Very.
I learned the most in my hands on undergrad clinical experience, so I would say this is the most valuable for applicable skill for ATC
My clinical experiences were fantastic in putting me out there and throwing me in the fire to the level I needed to be thrown in. My first clinical experience, dealing with first aid was the biggest challenge and I had to rise up. And each time after, my ACI's put me in the heat of the moment and assigned to deal with new challenges with them to assist if I was very lost or not doing thing properly, but letting me learn by taking my lumps.
Excellent
I think it depends on the clinical rotation. Overall, average. Dealing with insurances, no. Documenting, yes. In my opinion, nothing but independent experience can prepare you for making decisions with confidence clinically in athletic training.
Well
Again, poorly lacking in hands on and decision making skills.
Poor to moderately prepared.
There is no clear answer here, it depends on the program. I think programs in general should be reviewed for this type of answer.
Well prepared.
This helps more but still, there are so many rules for students.
Very well prepared.
Clinical experience is not up to par.
The Clinical Experience is where the student's skills and knowledge is implemented. If they cannot succeed at their Clinical Experience, they are more likely to fail in the professional world.
average
I think this depends on the program that the student graduates from. Some programs do really well, others struggle.
The limits that are placed on what students can and cannot do during their education programs greatly handicap them moving forward. They are not prepared to work in the real world, but are able to pass a computer based test that doesn't involve any actual interaction. I have seen many students that know the material, but as soon as an actual patient is put in front of them they freeze or have no idea what to do, how to communicate, etc. They have the knowledge to pass the test, but not to perform the actual duties of an athletic trainer.
Very well, see above. I don't think they need a masters, course I don't think PTs do either. The education doesn't change just the title. Better than physical therapists. I have worked with multiple new graduate PT's and ATs and gone to numerous courses with both and AT have better clinical skills and knowledge.
Better than 20 years ago.
I don't feel students are allowed to do enough hands-on experience clinically to prepare them for the profession.
Very well prepared.
Well

Clinical experiences better prepare athletic trainers for futures careers. We are a hands-on profession so getting all the hands-on, on the job training is important.
It's a weak point that can only be strengthened with time and experience.
I think the students are well prepared. The clinical experience exposes the students to what they are learning in the classroom and applying it to real life. The students are exposed to a variety of skills and are able to learn from a larger network of ATs
About average. We need a residency program to help in this area
Clinical experience is being too limited as discussed previously. This is not setting up most ATs for success in the profession.
The clinical experiences were the most important aspect of my education. I felt like the academic side of things left many things to be desired and so the clinical experiences had to pick up that gap. I had excellent clinical experiences that have benefited me in my job as an athletic trainer.
I see some undergrads who are more confident and prepared than grad students.
Depends on how hands on the CI allows the student to be
I really think it could be improved.
Well prepared, but preceptors that are younger (i.e. grad students, or recent graduates) need to encourage an amount of independence rather than controlling situations.
I feel like it depends on the clinical experience you have as a student.
They are very prepared for the profession if they truly got an opportunity to get their hands dirty in their clinical experience.
Again, I really believe that it depends on the size of school/program they came from. During grad school, I worked with someone who came from a big D1 university who passed his BOC first time, but struggled the entire two years to be on his own. I also worked with someone from a D3 university and was good to do day 1.
I don't think they really are, due to the fact that they never get autonomy. They have to learn things the hard way, unfortunately.
Very well. Clinicals are an invaluable asset to AT students especially since many programs have clinicals take priority.
I think they are being prepared very well. I think many people learn by doing and that is exactly what clinical is for. Now working as an athletic trainer I always think back to my clinical experiences as to how to act professionally , how to deal with difficult cases, and how best to be prepared for any situation.
They need more clinical experience
Again, I think they are prepared but need to be on their own more before they are truly prepared.
I felt coming out of my clinical experience I knew what being an athletic trainer was like and what I had in my future career.
I think clinical experience prepares the students well for the profession. They have to work long hours and their schedule has to be the same as the athletes. You cannot get that kind of real world experience in the classroom. It shows that you have to be flexibility and ready for things to change at the last minute.
They are not prepared for the small college experience of assessing and developing a rehabilitation protocol without always referring and using premade protocols.

Again I think it depends on where they went to school.
They are not ready. They do not have enough experience to handle making their own decisions, they do not know how to travel appropriately, and they have a difficult time discerning when to treat and when to refer to a physician.
I think that clinical experience is invaluable for athletic training students. Without it, they would not be able to practice at the entry level. I believe s strong preceptor greatly aids in the preparation of young professionals.
Undergraduates lack in the clinical experience to help gain confidence and skills.
I believe that clinical experience has been diminishing over the years and that recently certified athletic trainers are not exposed to enough real world experiences to prepare them for the profession of athletic training.
For the most part they are prepared enough, but still comes back to having that 'one' incident that takes the coaches and other administration to help with the newly ATC confidence.
The curriculum is so tight that there fails to be a class on this issue. I have many new grads asking me questions, which is exactly what I did when I was in their shoes. Unfortunately this is a problem but still is not addressed. Of course, sometimes experience is the best teacher and you can't really teach a student some of these things without them actually going through it themselves.
There are typically more opportunities in multiple settings that helps prepare students for where they may work in the future. Not having as much freedom/independence does hinder students today which makes the students less prepared to work on their own.
I feel that they need more clinical experience to be better prepared for the profession of Athletic Training.
I think so much is based on the individual programs and how involved they allow the students to be during their clinicals.
Decently
I feel that a clinical experience is all about what the student takes away from it. If the invest 100% into it they will be well prepared. But that all depends on the student. I also understand the whole having to have a Certified AT with the students all of the time, but there are times when a student may learn more by being on their own. In that situation the student has to apply I what they have learned and gain some confidence in themselves. This helps in the 'real' world because one they become an ATC they will most likely be on their own.
I think they last some of the creative thinking qualities as the programs condense everything into 4 years and focus on passing rates for the BOC and teaching the ATS what to do, but not to think about how and why they are doing something and how they can support it with EBP.
Not prepared at all. With hearing that they are not allowed to touch athletes and just watch an ATC, it does not give them hands on experience that is needed within this field. Also the changes in not allowed to travel with a team without an ATC with them is complete utter BS. You get the most random things that happen on the road. I feel that it prepares better than being at a home practice/game every day.
My recent experience has me believing that academically they are well prepared. Clinically they are ill prepared. Limited experience with direct patient care, interaction

with coaches, travel and ability to work independently are just a few examples.
I think it greatly depends on the school. Some programs have excellent clinical experiences and some schools are limited to primarily high school setting with minimal experience in the college setting.
Again, I feel there is a large variance in the preparedness of newly certified ATs from accredited programs.
out of all of these, I would say clinical experience best prepares recently certified athletic trainers for their profession
I feel that the restrictions on hours of contact time and amount of time spent at clinical sites do not give the athletic training students an accurate depiction of the profession of athletic training.
I feel students are adequately prepared for practice as an AT
Most students are lacking preparation for the profession
Clinical experiences differ from program to program and student to student. Getting a variety of activities and sports as well as a good representation of both female and male sports was beneficial for me.
Again, I really think it depends on the program they went to and how much experience and freedom they were given. Guidance from professors and higher level students also affects this. My program was pretty good about it.
Above Average
They are lacking in interpersonal and hands on skills. They need additional clinical time through graduate assistantships or internships.
Clinical experiences have been reduced due to extreme loads of coursework and time management techniques. Students are not as confident in the clinical experiences.
I do not feel like they are given enough hands on experience
I feel they are usually well prepared.
They have a variety of experiences, not allowed as much autonomy as when I was in undergraduate curriculum program.
I feel that recently Certified Athletic Trainers are very well prepared for the profession in areas the curriculum covers. I feel that more time needs to be spent on administration, billing practices, and healthcare administration policies. I know that when I was a recent graduate that the most difficult transition was the administrative aspect. I do not feel that I was well prepared for healthcare administrative duties.
Moderately
I think this depends greatly on the program and the CIs involvement in the education program.
Very well.
They often model what they see without fully understanding the "why" behind decisions. They struggle to make educated decisions on their own. They need more work on clinical decision-making and justifying their practices.
I have mixed feelings on this..... some are better prepared than others, some only have collegiate experience which doesn't help if they end up working in a high school or different level college

I feel similar to question 13. The Clinical Experience is very diminished.
I don't think ATCs coming out of Undergraduate Accredited Programs are as readied by their clinical experience as they should be. It seems like there is quite a gap between what they have learned and how they should apply it, most specifically when needing to travel outside the box for answers. I have seen many that are able to use tools/equipment/supplies for their one specific use and that use only. I don't think most undergraduates are getting the type of hands on experience that they should be in order to be ready to join the work force.
I believe clinical experiences do a good job preparing students for the profession
They're not able to apply what they've learned. They cannot improvise when needed.
Well enough. Too bad it's so short.
I think the overall quality of newly certified ATC's has declined. When they accept their first job they don't have enough experience to handle all the challenges that are on front of them. I believe this leads to burnout, frustration. Decreased job satisfaction and leads too many new ATCs leaving the profession.
Clinical experiences are what saves the students transitioning into the profession. Without the hands on learning, they would not be able to accurately and effectively work in the athletic training profession.
That has always been hit or miss with me. You can only see so many injuries during the clinical experience. You cannot plan to have an ACL rehab or spondy veal. All things that individual. The goal should be to expose the ATS to as much as possible; however, inconvenient to the supervising ATC.
Some programs do a great job and some don't
I think it is a balance between the clinical experience and curriculum that prepares them for the field.
I feel that many new grads could use more practical and hands on experience. Many lacking clinical experience.
During my clinical experience, I was given many opportunities to take the lead on injury evaluations, treatments, and rehab protocols. This greatly prepared me for the profession of AT. On the other hand, I thought that the students that came out of the program where I was a GA were prepared educationally, but not so much clinically. They really were not allowed to do much clinically until they were seniors. Even at that point, they didn't do many evaluations and certainly never were allowed to create their own treatment protocol and see it through when an athlete was injured. Those types of things were usually left up to the certified athletic trainers.
Average
I think some students these days still struggle to put everything together when it comes to actually evaluating an athlete. They seem to be able to handle the acute care and treatment of an athlete but really struggle in the evaluation process.
I feel that recently certified athletic trainers from undergraduate accredited programs are, overall, prepared for the profession based on their clinical experience. I do think this has to do with the quality of the clinical site, the self-motivation of the student, and the preceptor.
I think my students and their experience at the secondary level helps tremendously, assuming they have some continuity in obtaining their hours.

I think they are well prepared, but again perhaps lack the confidence in decision making because they do not have as much practical experience.
Good experiences are rounding out the strong programs.
Well prepared. Would like it if they had to do the first 6 months of certification under a certified athletic trainer, like a residency. As they will be able to do more things since they are certified
I believe their clinical (hands-on experience) could be better.
It depends on their clinical experiences.
I think that recently-certified ATs from undergraduate accredited programs are less well-prepared for the profession of athletic training than previous generations, because these students have more supervision and less autonomy. They tend to be more hesitant to take control of a situation.
I do not think that they have the hands on experience and independent practical application to be successful as independent practitioners in entry level careers, specifically in the clinical and high school setting. They may be prepared enough to continue on with education as an internship or graduate assistantship to continue to wean them into clinical practice. They have little independent interactions with coaches, parents, physicians, athletes where they are making or suggesting treatment plans, relaying information, etc. They are unprepared for life application of skills and interaction and understanding of the healthcare continuum and realistic health care collaboration.
Prepared... as long as they have put in their time in the clinical rotation.
probably better than their in class experience as they are put in real-life situations, but you can't be with them ALL the time during multiple practices and they need to be able to do what they know how to do with you within a "reasonable distance".
Not well at all.
I feel like we could do more as clinical instructors in helping to share our experiences and let them engage in the setting. I feel we need to engage ourselves and our students more in evidence-based practice.
Clinical experience is extremely important, but again I think accredited programs need to be 4 years long in order to really see all sides of Athletic Training.
In my opinion this answer truly varies dependent on the preceptors that the student works under. Some preceptors are great with teaching students the profession through the clinic while others use students merely as extra hands. Overall I would say that recently Certified AT's are prepared for the profession but there could be improvements.
In most cases, students receive adequate but not excellent clinical preparation
This also comes from experience.
I think that the more clinical experience a student has, the better LAT they will be.
They have a better idea of the clinical side. I had no clinical training in school
It depends on the student. You get what you take. Motivated students get a lot out of their clinical experience and make it valuable. Others just go through the motions and don't get anything, thereby not leaving them prepared at all.
Very well
They are poorly prepared for the profession and probably need to do a post-graduate

internship or assistantship.
Not very well prepared because I believe the strict hour limitations and lack of good, long-term, intense experience with sports is unrealistic. I think students need more experience as students and should work longer hours and work harder!
Clinical experience is very protected now so I feel the experience is not as good as it once was.
I don't know that school can really prepare you for everything you are going to encounter in the real world. Like I said before I have learned and grown as a professional a lot in the last two years and there are so many things you just can't really learn without doing it and getting involved. My program did a good job telling us what the real world of athletic training was but you don't truly understand it until you are out here day in and day out working with your teams and doing what we do.
How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the BOC exam?
The graduate programs prepare the students for the BOC very well
Yes, very well prepared.
Well
Same as Undergraduates, only the receive less information due to having extra classes on research.
I have not had any personal experience working with those that have graduated from a Graduate program.
They need more specialized training, meaning more time learning the concepts
Good
I feel like in 2012 there were a lot of passes. This was with my class. The next class around (from my school) significantly lowered our pass/fail rate of the BOC. I know the curriculum didn't change however, the BOC may have.
I feel entry level grad programs do not prepare well for the BOC.
Above avg. but the exam is flawed in that those who are great in the field may not be great at a computer test. Nothing in this field is textbook, but the exam tries to make it that way.
Fine
Students from an graduate program should be learning the same information and should be well prepared for the BOC exam.
Well.
Excellent
Depends on the program
Very well prepared.
Based on recent data, better prepared than undergraduate students.
Very well prepared.
Above average
They lack the overall level of experience necessary to perform the job, but are still able to pass a computer based exam.

Very well
Academically not as well as they should be.
Well prepared, same as undergrad.
Very well
I don't. The exam doesn't properly test our graduates.
Some programs and educational components are producing outstanding young professionals
Graduate students are already certified when they are admitted to graduate school, so the education they receive does not prepare them for the exam, since they have already taken it.
I would say about 90% of grad students are prepared for the exam.
Better than the undergraduate programs.
Well prepared.
I feel they are very well prepared
More prepared because the focus lies in an ability to critically think
I believe that education wise, they are prepared very well. In my educational experience, the first two years were the basic entry level skills that the BOC tests over. The last two years for review and advanced techniques. Since a graduate accredited program is generally two years, the entry level information is likely more fresh in their minds.
If they are recently certified, they were clearly prepared for the BOC exam because they passed it.
Well enough but a lot of information that they may have studied can definitely be lost.
Entry level graduates are worse off than the undergraduates. I believe this could be due to eliminating some undergraduate courses in lieu of research based courses at the graduate level.
I only know one person who did a graduate program and did not have an under grad degree in AT and she was well prepared. She passed the BOC her first time.
They are prepared to teach students how to pass the online exam.
Graduate students who received an emphasis in athletic training and did clinical observation at their undergrad are well prepared for the BOC exam.
I believe they have acquired enough knowledge to successfully pass the BOC exam.
Graduate level courses I feel get students more prepared for evidence-based practice and research which can help them prepare for BOC exam.
Graduate school definitely helps solidify the knowledge from undergrad and would make it much easier to be prepared for the exam if they took the certification exam after graduate school.
I think they are prepared for the BOC exam, but are more prepared to critically think through problems using more EPB because there is more time to process and critique the information.
I feel they are better off than the undergrads because of less distractions and these students have chosen this as a career after experiencing so much out of the profession
I feel for the most part that most of the programs are prepared for the exam.

ATCs from graduate programs are pretty well prepared, especially if there is a significant research component to their program. Using evidence-based practices is what makes a good ATC.
I would have to guess they are just as prepared as they wouldn't be accredited programs if they couldn't prove their worth.
Excellent
Their knowledge base is not as great but additional maturity does help.
Very well
Very well.
Improving
Better than undergrad
I think graduate school helps recently certified ATC's transition into the profession easier.
I feel like it's a lot of information to take in in just two years and am not certain that this will lead to successful exam attempts.
Probably on average slightly better than the Average undergrad graduate, but not necessarily better than the good undergrad programs
I think that recently certified athletic trainers from graduate accredited programs are well prepared for the BOC exam.
I think I was well prepared, but I did a lot of studying on my own. I think my education could have been a little more thorough, especially in the areas of rehabilitation and organization/administration.
EXCELLENT
They are passing and doing well in the field.
Well prepared.
Probably pretty well, but I don't think that 2 years' time is the most effective way to learn all of the necessary amount information.
Having gone through an accredited graduate program myself, I felt that I was very adequately prepared for the BOC exam. In fact, the program I went through (Texas Tech University Health Sciences Center Master of Athletic Training) has had a 100% pass rate for the BOC exam for the past few years.
Recently graduated athletic trainers from graduate programs are very well prepared for the BOC exam.
I don't know.....but I can't imagine squishing a 4 year curriculum into an 18 month grad program can possibly give them what they need to know nor provide the experiences they need.
Not well.
I feel that most students from graduate accredited programs are already certified and are just fine tuning their skills in grad school. Graduate curriculum should be more advanced and more in depth than just the basics to pass the exam.
Adequately
I would assume well, however it probably depends on the program. My program didn't reiterate from entire undergraduate degree... it took a focus to EBP and advanced our knowledge based on the core knowledge we received in undergrad.

Somewhat well prepared but it very much depends on the person.
How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the profession of Athletic Training?
Very well
While having a graduate assistant position it really helped. Having people that can help guide you but give you full reign to work and develop a person's own style and beliefs in the athletic training world.
Very well
No difference from undergraduates.
I don't think it is good for ATS's to go the Graduate Accredited route.
Good
I feel like I was ready for the profession. I felt like I was on the same level as the other Assistant ATC here. We both graduated the same time however he went the undergrad-GA route and I was in an Entry Level Master's program. We both have the same thing to offer and I don't feel like I'm behind.
I feel entry level grad programs do not prepare well for the profession of athletic training. More experience than 2 years is required. Non-entry level grad programs where people are already certified are very good in preparing for the profession of athletic training.
Above avg., but they need to be tested more by having them use their skills without a Certified always giving them the answers.
Not ready. Kids in general aren't ready for this world.
I believe ATC's from a graduate program are very well prepared as long as they get a lot of exposure to the working environment of an ATC.
Somewhat.
Well
Very well prepared, due to an extra year of experience.
They are well prepared because they have spent the past 6 years in the allied health environment
Above average
Students coming from a graduate accredited program truly only have 2 years of athletic training education experience. They are not adequately prepared to overcome daily obstacles faced by athletic trainers.
Better than physical therapists. I have worked with multiple new graduate PT's and ATs and gone to numerous courses with both and AT have better clinical skills and knowledge.
Well prepared, maturity level higher, probably makes them more well prepared than UG
Very well
Fantastic entry level grad programs have a top notch product.
I feel that a graduate degree from an accredited grad program enhances a specific set of skills and provides the student with more autonomy and confidence being an AT.
Advanced masters prepared students now have a head full of research, which sometimes they use to practice EBM, but sometimes they don't, or can't.

Time will tell
About 90%
Not as prepared as undergraduate atcs
Better than the undergraduate programs.
There could be more info taught relating toward mentoring.
I feel they are very well prepared although the level of preparedness varies from one program to another.
Very prepared
I believe that experience wise, they are not very prepared for the profession. They have only had 2 years to develop their skills before being on their own whereas a 4 year program gives you twice the experience.
I think they know the bones of how to do the job, but they still have a lot of learning to do (on the job). Every profession continues to learn throughout the process of getting experience. I do think that graduate students have their life experiences that help them to learn and retain the knowledge that they were taught.
Very well based on the amount of clinical hours completed.
Fine I guess
Entry level graduate athletic trainers have less experience in a clinical setting than undergraduates. They are in 2 year programs that are not focused solely on athletic training compared to a 3 or 4 year undergraduate program. Only being available for 20 hours a week in a clinical setting when reality is 55 hour work weeks. This is why the burnout rate is so high among athletic trainers. They are not being properly prepared for a real world experience.
From my experience they are well prepared.
I feel they are ready more so than undergrads. Since they have already been through 4 years of school, I think they are more willing to put in more hours than the 20 to gain additional experience. Maturity issues are also less than in undergrads.
Graduate students who received an emphasis in athletic training and did clinical observation at their undergrad are well prepared for the Profession of Athletic Training.
I believe that clinical experience in graduate accredited programs emphasizes research and that recently certified athletic trainers are not exposed to enough real world experiences to prepare them for the profession of athletic training.
Once again as EBP clinicians I feel these students are stronger - help them make clinical decisions.
I think the more committed individuals will attend grad school and therefore will also be better prepared for the profession.
I feel they are very well prepared from the profession of AT because they have increased time to learn, then break down, evaluate, and critique the information they have learned to better apply it to the AT profession using EBP. I feel they (we) are more prepared to be professionals and have an increased confident level to discuss and implement ideas because the graduate school approach to discussing things you have learned, not just learning them.
I feel they are better prepared. They are usually more mature and have decided this is going to be their profession. They also have a lot more time for studies and clinical.

I think fewer students are ready for the profession than compared to the students prepared for the exam.
I feel that newly certified ATs from graduate accredited programs are much more prepared for the profession of athletic training.
Concerned that they are not prepared fully for documentation requirements in clinical practice and insurance/billing requirements.
Most athletic trainers that I have worked with professionally that went through a graduate program are adequately prepared.
ATCs from graduate programs are pretty well prepared, especially if there is a significant research component to their program. Using evidence-based practices is what makes a good ATC.
Excellent
Knowledge base and clinical skills are lacking but they are more mature and have advanced interpersonal skills
Well prepared.
Very well.
Declining in some aspects I feel, especially original thinking/decision making/confidence in applying skills and knowledge
Better than undergrad
I think graduate school helps recently certified ATC's transition into the profession easier.
More prepared because they have been exposed to more cases
If the recently certified athletic trainers are from an accredited entry level two year program I do not think they are well prepared for the profession of athletic training. Two years is a much shorter period of time to learn what the average recently certified athletic trainer has learned in four years.
I felt well prepared for working in the field of athletic training.
They need some guidance but I can't refute the knowledge of recent grads.
I feel most would do pretty well, but I don't believe a typical 2-year masters' program is enough time to adequately learn and retain that amount of information, or gain enough clinical/hand-on experience.
I think that athletic trainers from graduated accredited programs well prepared for the profession, although they often have less hands on experience than those from undergraduate programs, which could be a disservice to them.
Worse than undergrad students.
I feel that most students coming from a graduate program are more prepared for the profession because they are getting more experience as a certified athletic trainer while still taking classes.
Adequate for entry-level positions, usually better prepared the UG students but I believe that is a factor of individual maturity rather than educational programming
Much more prepared than a grad from an undergrad program.
Very well
Somewhat well prepared but it very much depends on the person.

How well do you feel recently Certified Athletic Trainers from Graduate Accredited Programs are prepared for the BOC Exam based on their clinical experience?
I feel grad programs allow the student to get more clinical experience due to only taking major courses and have more time to devote to the clinical experience.
It seems as if they are prepared according to stats from BOC.
Pretty well
No difference for undergraduates
Some take it well, others are still not prepared because of the short time of study/experience
Its dependent on their mentor and clinical location
My clinical experiences were short, however if you didn't try, you wouldn't learn. I felt as though I learned a significant amount of information that could be applied to the BOC.
Well enough to pass the test.
Just like undergraduate students, the clinical experience should be very helpful to reinforce information learned.
Clinical is more practical.
Well
Very well prepared.
Above average
No better than undergraduate.
Better than 20 years ago.
Not as well as they should be.
I really think it is dependent on the student. Some students learn more from doing, others from the didactic portion
Very well
They are prepared and have some diverse experiences depending on the program.
About 70%
They do get to have more hands on experience through their graduate programs and I believe that is of benefit
Well prepared.
I feel like that depends on the clinical experience you have and varies from program to program and within programs.
Well prepared but it goes back to their ability to reason through scenarios differently because they are Graduate students.
I believe that they are decently prepared. I believe there may be a disadvantage due to not having as many clinical experiences to draw from.
I guess I don't attribute the BOC exam with clinical experiences as the BOC exam is based primarily on classwork.
Not very well. Too little time to accumulate enough clinical experience.
Fine I assume
Again, it is the same as undergraduate levels. Pure memorization of a check list.
From my experience they are well prepared.

Since they are willing to put more hours in, they are more prepared and have seen more injuries/rehabs/etc. to prepare them for the exam.
Graduate students who received an emphasis in athletic training and did clinical observation at their undergrad as well as their graduate program are well prepared, but there is very little skill and confidence tested in the BOC exam.
They have attained enough knowledge to be proficient at the BOC exam.
Clinical and hands on experience out ways any classroom teachings, hands down!
I feel the clinical experience for Graduate ATS does aid to prepare students for the BOC through re-enforcing what was learned and discussed in the classroom setting.
Clinical experiences for graduate programs are similar to those of accredited undergrad programs. Getting a variety of experiences with different athletes and sports is most beneficial.
Excellent. You are prepared by being the "head" athletic trainer of a high school, clinical setting, or collegiate setting. You develop skills that give you a head start against those who are not in Graduate programs.
Very well.
Fine
Much better than undergrad
A little more prepared due to more experiences
I would think that if the recently certified athletic trainers from graduate accredited programs have had two years of clinical experience it should have them well prepared for their exam. Many 4 year programs may offer more possibilities for clinical experience during the four years than a graduate program.
I think my clinical experience was very helpful.
Depends on the program but overall well prepared
Probably pretty well, but I'm not sure the exam adequately tests your clinical/hands-on knowledge and experience.
Not well.
I feel they may be more prepared than undergraduate students.
Adequately
Fairly well prepared because they are starting to "teach to the test" it seems.
How well do you feel recently Certified Atletico Trainers from Graduate Accredited Programs are prepared for the Profession of Athletic Training based on their clinical experience?
I feel they are better prepared because most have some type of experience coming into the program on top of the experience they receive in grad school and they seem to be given more freedom in the evaluations and decision making of their athletes.
Average
A great deal.
Very well due to their continued experience in the field with grad assistant programs.
No difference from undergraduates
They need more experience

Good
Fairly well depending upon how much time they get at each rotation of their clinical experience.
Needs improvement, but the profession is getting there.
Just like undergraduate students, the clinical experience should be very helpful to prepare students for the real world of an ATC.
Very!
Extra year of experience helps with preparation.
They have a good grasp on knowledge but have not had the experience in making independent decisions.
Above average
No better than undergraduate Better than physical therapists. I have worked with multiple new graduate PT's and ATs and gone to numerous courses with both and AT have better clinical skills and knowledge.
Better than 20 years ago.
Well prepared to enter practice
Very well
They are prepared; usually more mature and can still benefit from a constructive mentoring relationship.
Because master's students tend to be 2 years older than UG students, there is more maturity and therefore an overall increase in competence as an athletic trainer. it seems a matter of experience
About 60%
The more experience they get in the clinic the better they do for the profession.
Well prepared.
I feel like they are prepared although it varies depending on your clinical experiences.
Very prepared.
Again, they are likely decently prepared. It will depend heavily on the individual and how much effort they put into their two years of clinicals.
I think they are prepared, but will still learn more.
I think it will depend on what they're able to do in their clinicals.
Fine
They are not prepared. In fact, I have hired both undergraduate and entry-level graduate athletic trainers in the past 5 years. Neither are prepared for the clinical experience, I end up have to provide on the job education. My time is already limited with all the other functions of running a small college facility. I will never hire another undergraduate or entry-level graduate AT again, as they are not properly prepared to work in the clinical settings.
From my experience they are well prepared.
They are more ready for the profession than undergraduates. They are more mature and seek out more responsibility, which allows them to get a better experience.

Graduate students who received an emphasis in athletic training and did clinical observation at their undergrad and their graduate program are well prepared as far as confidence and skills are concerned.
Not very well. Many recently certified athletic trainers would do well to find a position where they have a mentor or supervisory AT to help them better prepare for the profession.
Much better prepared than the undergraduate students.
Not prepared very well at all
I think they are prepared because they develop strategies and methods of ways to react and treat to different injuries. With the added time and knowledge base to the graduate program AT are able to have a more in-depth base they can build upon.
I feel recently certified ATs are well prepared based on their clinical experience.
Most athletic trainers that I have worked with professionally that went through a graduate program are adequately prepared.
Very well.
I'm not sure what kind of experience they get in those programs.
Excellent
Lack clinical skills.
They should have gained the confidence and preparation needed from clinical experience.
Very well.
Fine
As long as they aren't limited to the college/collaborative setting only - well.
Better than what we currently accept as the entry level degrees of a bachelors. In graduate school, a newly certified ATC can develop under the supervision of mentors.
I think graduate school helps recently certified ATC's transition into the profession easier.
More prepared
I feel that recently certified athletic trainers from graduate accredited programs may be prepared for the profession of athletic training based on their clinical experience. However, if they did not take full advantage of their two years of experience they may not be prepared.
Prepared fully and able to learn or adapt on the fly also.
Well prepared. Would like it if they had to do the first 6 months of certification under a certified athletic trainer, like a residency. As they will be able to do more things since they are certified
I just don't feel that 2 years is enough time to gain an adequate amount of clinical/hands-on experience. I feel that entry-level master's graduates would struggle for the first few years until they gained more experience.
Not well.
I feel they are more prepared.
Prepared but still have a lot to learn
Significantly more prepared.
Not very well prepared because I believe the strict hour limitations and lack of good, long-term, intense experience with sports is unrealistic. I think students need more

experience as students and should work longer hours and work harder!

VITA

James L. Moore was born and raised in Warrensburg, Missouri. During his time at Warrensburg High School, James met Dr. Ron "Doc" VanDam who taught him the beginnings of Athletic Training. After graduation from Warrensburg High School, James enrolled at Central Missouri State University in the fall of 1992 to continue his studies under Dr. VanDam. During those years James had many great opportunities including summer internships in the NFL. Upon completion of his undergraduate degree, James became a Certified Athletic Trainer and continued his studies at the Central Missouri State University.

At the completion of his Master's degree, James sought to broaden his career path in clinical outreach and high school athletic training in Lebanon, Missouri. After two, years James returned to the collegiate setting and discovered his passion to teach in 2000 at Park University in Parkville, Missouri, at the same time James also began covering professional rodeo with Justin Sports Medicine. James left Park University athletics program in 2003, however continued in the educational capacity while returning to the high school setting at Truman High School in Independence, Missouri. In the fall of 2005 James took the Clinical Education Coordinator position at his alma mater, the University of Central Missouri.