

PROFESSIONAL INVOLVEMENT: REQUIREMENTS AS STUDENTS AND
TRENDS FOLLOWING CERTIFICATION

A DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY
IN THE GRADUATE SCHOOL OF THE
TEXAS WOMAN'S UNIVERSITY

DEPARTMENT OF KINESIOLOGY
COLLEGE OF HEALTH SCIENCES

BY

JENNIFER NICOLE LANCASTER

DENTON, TEXAS

DECEMBER 2011

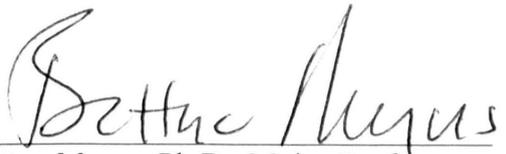
TEXAS WOMAN'S UNIVERSITY LIBRARY

TEXAS WOMAN'S UNIVERSITY
DENTON, TEXAS

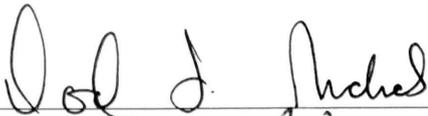
November 9, 2011

To the Dean of the Graduate School:

I am submitting herewith a dissertation written by Jennifer Nicole Lancaster entitled "Professional Involvement: Requirements as Students and Trends Following Certification." I have examined the dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy with a major in Kinesiology.


Bettye Myers, Ph.D., Major Professor

We have read this dissertation and recommend its acceptance:




Department Chair

Accepted:


Dean of the Graduate School

DEDICATION

This dissertation is dedicated to my amazing family. All of you are my roots and the sunshine that have allowed me to bloom. You all mean the world to me. To my late Granny, thank you for being a woman of such faith and strength. You are loved and missed.

ACKNOWLEDGEMENTS

First, I would like to acknowledge that with God, nothing is impossible. I give thanks for the gifts and blessings He has given me. Next, I thank my committee, Dr. Myers, Dr. Nichols, and Dr. Webb. You have offered positive insight to my growth throughout my educational experience at TWU. Each of you has contributed in your own way to this achievement and to my growth as a person. I cannot thank you enough. Also, I want to thank the incredible friends that I met along this journey, especially Cory Pack, David Powell, and Margie Williamson. Your understanding, encouragement, and support continued to drive me forward. Next, I want to acknowledge Jonathan Wilk for helping at work so that I could finish this endeavor. Thank you for staying after me to get this done. Finally for you, Dr. Myers, maybe someday in my own little way, I will change the world.

ABSTRACT

JENNIFER NICOLE LANCASTER

PROFESSIONAL INVOLVEMENT: REQUIREMENTS AS STUDENTS AND TRENDS FOLLOWING CERTIFICATION

DECEMBER 2011

The field of athletic training needs young engaged professionals to help continue the progress being made in allied healthcare. Requirements for students during their entry-level education could potentially impact the decisions and directions these students choose to pursue as young professionals. By recognizing and understanding this possible influence, athletic training education programs (ATEP) can better construct their curriculum requirements or opportunities to significantly impact the development of students within their institutions. The potential outcome would be producing athletic training graduates who are more actively engaged within the profession.

The purpose of this study was to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level ATEP. The sample consisted of 120 Certified Athletic Trainers (ATC) and 91 Program Directors (PD) from across the United States who completed on-line surveys. All ATC participants graduated within the 2004-2005 academic year and obtained certification within 2005 testing year.

Based on the results of this study, neither requiring nor participating as a student in the professional activities of research, organization memberships, and mentoring by a healthcare professional had little influence on participation in these activities within the first 5 years as a professional. However, student participation in community service and mentoring other students did influence participation in these activities as a professional. Additionally, students submitting proposals for presentations (both required and participation in) influences submission of proposals as professionals. The perceptions of PDs varied, but more than half agree that student participation in at least 2 professional activities will lead to more active professionals upon graduation.

It is up to each ATEP to implement methods that best envelope students in real-world, applicable experiences. This experiential learning can ultimately influence (without technically requiring) students to develop the skills and attitudes, which builds graduates' interests and desires to be actively engaged as professionals.

TABLE OF CONTENTS

	Page
DEDICATION	iii
ACKNOWLEDGEMENTS	iv
ABSTRACT	v
LIST OF TABLES	x
LIST OF FIGURE	xi
Chapter	
I. INTRODUCTION	1
Purpose of Study	4
Research Questions	4
Definition of Terms	5
Limitations	6
Delimitations	6
Significance of Study	7
Summary	9
II. REVIEW OF LITERATURE	10
Athletic Training Education	10
Theories of Human Development	12
Community Service and Service Learning	14
Effects of Community Service and Service Learning Participation	14
Service Learning in Specific Settings	20
Factors Affecting Commitment to Community Service and Service Learning	22
Students Conducting Research	25
Development of Professionalism	32
Mentoring	36
Summary	40

III. METHODS.....	42
Participants.....	42
Instrument.....	43
Data Collection.....	44
Data Analysis.....	45
Human Subjects Considerations.....	46
IV. RESULTS.....	47
Participant Demographics.....	47
Presentation Proposals.....	52
Organization Membership.....	52
Research.....	54
Community Service.....	55
Mentoring.....	56
Reasons for Professionals' Participation.....	57
Participants' Thoughts.....	58
Program Directors' Perceptions.....	60
Memory Recall.....	62
V. SUMMARY, FINDINGS, DISCUSSION, CONCLUSION, AND RECOMMENDATIONS FOR FURTHER STUDY.....	63
Summary.....	63
Findings.....	66
Discussion.....	68
Participant Demographics.....	69
Presentation Proposals.....	69
Organization Membership.....	70
Research.....	73
Community Service.....	75
Mentoring.....	77
Participants' Thoughts.....	79
Memory Recall.....	82
Program Directors' Perceptions.....	82
Conclusions.....	86
Recommendations for Future Studies.....	87
REFERENCES.....	89

APPENDICES	102
A. Online Survey for Certified Athletic Trainers.....	102
B. Solicitation Email for Certified Athletic Trainers	111
C. Online Survey for Program Directors	113
D. Solicitation Email for Program Directors	119
E. Approval Letter from Institutional Review Board.....	121

LIST OF TABLES

Table	Page
1. Demographics of ATC Participants.....	49
2. Demographics of Program Directors' ATEPs.....	51
3. Presentation Proposals.....	52
4. Student Organization Memberships to Professional Organization Memberships.....	53
5. Professional Organization Memberships.....	54
6. Research	55
7. Community Service.....	55
8. Mentoring Athletic Training Students.....	56
9. Being Mentored.....	57
10. Reasons for Participation as a Professional in Five Areas	58
11. Student Perceptions About Professional Involvement	60
12. Perceptions of ATEP Program Directors	61
13. Agreement Level of Student and Program Director Recall of ATEP Requirements	62

LIST OF FIGURE

Figure	Page
1. Reasons for limited professional involvement	59

CHAPTER I

INTRODUCTION

Since 2005, a large increase in accredited athletic training education programs (ATEPs) has been seen (CAATE, n.d.), which is a result of the change in requirements for eligibility to take the national Board of Certification (BOC) exam for athletic training. Since January 1, 2004, all candidates wishing to take the national BOC exam must obtain a degree from a university with an ATEP accredited by the Commission on Accreditation of Athletic Training Education (CAATE), (Dodge & Mensch, 2004). The goal in requiring programs to become CAATE accredited is to set a minimum standard for quality education programs in order to develop more competent professionals in the field of athletic training (CAATE, 2008). This competence includes being actively involved with the profession beyond the realms of an individual's specific job responsibilities.

One of the standards for CAATE accredited programs is that the programs will instruct and evaluate all content within the *Athletic Training Educational Competencies* developed by the National Athletic Trainers' Association (NATA), (CAATE, 2008). In the fourth and current edition of these competencies, the affective domain skills were removed and replaced by basic behaviors of professional practice. These behaviors include "(a) primacy of the patient, (b) teamed approach to practice, (c) legal practices, (d) ethical practice, (e) advancing knowledge, (f) cultural competence, and (g) professionalism" (Peer & Schlabach, 2007, p.2). The question remains: by teaching these

basic behaviors of professional practice, are we doing enough to develop new professionals who will be active members within the professional field of athletic training?

Since its beginning in 1974, the NATA has shown an increase in total membership every year, except for 2006, and has a current total of 34,956 members (NATA, n.d.b). As of May 2010, a total of 8,520 (23.76%) certified athletic trainers were not registered members of the NATA. Also, to coincide with the decline in total members during 2006, the NATA Membership Task Force found that 75% of certified nonmembers were less than 35 years old (NATA, 2008). In the totals for 2009, certified and noncertified students represented 17% of the NATA membership (NATA, n.d.b). While this percentage of student members may seem encouraging, students and young professionals are not remaining members over the long-term (NATA, n.d.a).

Is being a member of a professional organization enough to consider someone as an active participant in the profession? While simply being a member may not be deemed active participation, it is often the beginning of developing one's interest in being involved. One nursing student reflected upon her experience at a conference for a national organization. She describes her awe in seeing people whose research she has read and seeing nurses from all over the world coming together. The nursing student indicated that this experience provided a connection for her to the organization as well as to the field of nursing. For this student, being a member of an organization and attending

their conference was a big step in beginning her professional involvement in a healthcare field (Pomerleau, 2008).

As new professionals, individuals may not realize that opportunities for involvement outside of their respective job responsibilities exist. Not obtaining the help of new professionals could be considered a loss for professional organizations because these new professionals could bring creativity and energy to the attainment of an organization's goals. Education programs prepare students for practicing their skill sets, but perhaps could improve upon teaching students about the need to be involved as professionals (Foster et al., 2008). Lopopolo, Schafer, and Nosse (2004) found that professional involvement and ethical practice were among the top skills desired in entry-level physical therapy professionals. Physical therapy clinical managers felt strongly about the need for these skills to be taught in education programs so that new professionals would possess these skills when they begin their first job.

A lack of professional involvement has been noticed in the field of nursing in the United Kingdom. Castledine (2008) states that a desire to be involved with the profession beyond an individual's job responsibilities has declined, which is affecting professional development within nursing. Additionally, a lack of commitment to professional organizations is adding to the problem. Corwin and Taves (1962) describe professionalization as "the maintenance of educational and professional standards through increased reading of professional literature, committee work, and participation in

national and local professional associations” (p. 223). Involvement by the membership is needed to sustain the profession.

In order to protect the future of the athletic training profession, it is vital that young professionals become active participants in the further development of athletic training as a profession. Attracting the efforts of young professionals has been a goal of the NATA, as they have demonstrated through their Involve and Evolve initiative, as well as the development of Young Professionals Committees at the national and regional levels (NATA, n.d.a). The NATA is working to provide members with more opportunities for participation and is utilizing technology and branding to target the younger population. They have incorporated ideas such as blogs, think tanks (on-line forums focusing on various subgroups or ideas), leadership development, and even shorter time commitments for easier participation on projects (NATA, 2008, n.d.a).

Purpose of Study

The purpose of this study is to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level athletic training education program.

Research Questions

1. Do athletic trainers who submitted presentation proposals as students continue to submit professional presentation proposals following certification?

2. At what level do athletic trainers who were active participants in organizations as students continue to be active participants in professional organizations following certification?
3. What percentage of athletic trainers who completed research projects as students continue to do research projects following certification?
4. At what level do athletic trainers who participated in mentoring as students continue to be involved with mentoring following certification?
5. What percentage of athletic trainers who participated in community service related to athletic training continue to be involved in community service related to athletic training following certification?

Definition of Terms

1. Athletic Trainer (ATC) for this study refers only to athletic trainers who have passed the national Board of Certification (BOC) exam and hold the ATC credential.
2. Athletic Training Education Program (ATEP) is any collegiate program that is accredited by the Commission on Accreditation of Athletic Training Education Programs, thereby granting its graduates the eligibility to take the national BOC exam for athletic training.
3. Professional involvement for the purpose of this study is defined as giving professional presentations, maintaining membership in and serving on committees of professional organizations, completing research, being involved with

mentoring, and participating in community service. Furthermore, these activities must relate to the athletic training profession.

Limitations

This study will be subject to the following limitations:

1. The findings of this study will rely upon the ability of participants to recall requirements placed upon them during their time within an ATEP as well as their ability to recall professional experiences over the past 5 years.
2. This study makes the assumption that all ATEPs will provide the same content knowledge, as required by CAATE standards, but will have variations that exist in the actual professional experiences of students.
3. Some individuals are more inclined to seek out service activities prior to beginning their ATEP experiences. These initial differences are not accounted for within this study.
4. The findings of this study will depend on the truthfulness and cooperation of participants as they complete their surveys.

Delimitations

The following delimitations were associated with this study:

Participants are limited to those who graduated during the 2004-2005 academic year and passed the BOC exam in 2005. This might not include a representation of students who take the BOC exam multiple times before passing.

Participants were randomly chosen from individuals who are actively maintaining their ATC credential. This excludes individuals who obtained certification and then chose to not renew those credentials.

Requirements for professional involvement of participants, when they were students, may not be representative of requirements currently placed upon athletic training students.

Participants are volunteers.

Significance of Study

Since the beginning of the athletic training profession, athletic trainers have made countless efforts to bring recognition and respect to their field, but the battle continues for athletic training to be viewed as a legitimate position and to be accepted among allied healthcare professions (Dodge & Mensch, 2004). This struggle is demonstrated by the Fair Practice Lawsuit that the NATA filed against the American Physical Therapy Association (APTA) in 2008 in an effort to be recognized for services that athletic trainers – not just physical therapists – are qualified to provide. Through the hard work of several members in the NATA, an out of court settlement was reached. In the settlement, the APTA recognizes that overlap does exist between the scopes of practice for athletic trainers and physical therapists. The settlement specifically acknowledges manual therapy as an area of overlap, and an agreement that athletic trainers will not be denied access to continuing education in manual therapy is stated. Further, the APTA agrees that they will not make misleading statements about athletic trainers to their

patients, employers, or others (NATA, n.d.c). In order for the athletic training profession to continue making progress, the involvement of young professionals, who will represent and protect the future of athletic training, is vital (NATA, n.d.a).

Athletic training needs individuals who take pride in their work and who will be actively engaged in further developing the profession. Being actively engaged involves more than simply registering as a member of an organization. It means voting within organizations, pursuing research and sharing findings, being a part of projects and committees, encouraging others to be involved and mentoring them, participating in political efforts, and being a positive representation of the athletic training profession at work and in the community. The NATA has launched a large-scale effort to get the young professionals involved (NATA, 2008, n.d.a). However, could athletic trainers do more in ATEPs to develop this type of engaged professional? Can we better influence active participation of young professionals through their entry-level education in order to focus NATA efforts and money toward other initiatives? What connections, if any, exist between professional engagement as students and continued active engagement as professionals?

The findings of this study could potentially demonstrate the need to adapt required experiences of athletic training students in entry-level ATEPs in order to create an early awareness and interest in professional involvement resulting in an increase of new professionals who are more active and involved in the profession.

Summary

The field of athletic training needs young engaged professionals to help continue the progress being made in allied healthcare. Requirements that students experience during their entry-level education could potentially impact the decisions and directions these students choose to pursue as young professionals. By recognizing and understanding the possible influence that could be created, ATEPs can better construct their curriculum requirements or opportunities to more greatly impact the growth and development of students within their institutions. The potential outcome would be producing athletic training graduates who are more actively engaged within the profession of athletic training.

The purpose of this study is to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level athletic training education program.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this study was to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level athletic training education program. This review of literature will discuss a background of athletic training education as well as components of developing young professionals, which includes theories of human development, community service and service learning, students conducting research, development of professionalism, and mentoring.

Athletic Training Education

Beginning in January 2004, all graduates intending to sit for the national BOC exam had to obtain a degree from a university with a CAATE accredited ATEP (Dodge & Mensch, 2004). Accredited entry-level ATEPs exist at both the bachelors and masters degree levels. The goal in requiring programs to become CAATE accredited was to set a minimum standard for quality education programs in order to develop more competent professionals in the field of athletic training (CAATE, n.d.). Prior to these changes when athletic training degrees were not available, students had to complete a related bachelors degree in addition to a list of specific courses and 1500 internship hours in order to qualify for the BOC exam. Successfully passing the BOC exam is how one obtains the ATC credentials.

Accredited athletic training education programs must meet all standards published by CAATE. These standards include that programs will instruct and evaluate all content within the *Athletic Training Educational Competencies* developed by the NATA (CAATE, 2008). These competencies and proficiencies include the following areas: risk management and injury prevention, pathology of injuries and illnesses, orthopedic clinical examination and diagnosis, acute care of injury and illness, pharmacology, therapeutic modalities, conditioning and rehabilitative exercise, medical conditions and disabilities, nutritional aspects of injury and illness, psychosocial intervention and referral, health care administration, and professional development and responsibility. Through the effort of addressing these specific competencies and proficiencies, a consistency of content and skills being taught to entry-level athletic trainers is developed among all programs. Freedom is given in how the content is instructed and evaluated, and this allows for some variation from one program to the next. Due to this freedom, ATEPs can develop their unique characteristics that might attract a particular type of student to the program.

Another CAATE standard requires that students complete clinical rotations in a number of different settings. To diversify the clinical learning experiences, students must participate in rotations that deal with both genders, various levels of risk, protective equipment, and general medical experiences. Typically, rotations will occur on the university campus, in sports rehabilitation clinics, at orthopedic facilities, in hospitals, and at family practice settings. These rotations must span the length of at least two

academic years, and students must be under the direct supervision of a qualified approved clinical instructor or clinical instructor at all times. The clinical instructors are present to guide learning, to provide feedback, and to evaluate the students' progress throughout their clinical experience (CAATE, 2008).

Theories of Human Development

Emerging adulthood is a theory developed by Arnett (2000) that represents a period of exploring and changing of one's self prior to becoming an adult. This stage of development occurs around the ages of 18-25, with characteristics that set it apart from both adolescence and early adulthood. During this time, most individuals become more independent and begin investigating a variety of directions that their lives could take. This investigating is most notable in the areas of work, love, and world views.

Within the stage of emerging adulthood, individuals are transitioning into self-sufficient adults by becoming accountable for themselves and making their own decisions (Arnett, 1997; Greene, Wheatley, & Aldava, 1992). This is the time when potential outcomes for the future are the most diverse for the majority of people, and they have the freedom to explore those possibilities. In the college setting, students take course work or complete volunteer work that influences their career choices, and they are exposed to a number of different world views that will make them question and reconsider their personal views (Arnett, 2000). Studies also demonstrate that during emerging adulthood people feel it is important to re-evaluate the religious beliefs that they grew up with in

order to form their current religious ideals based upon their own thoughts (Arnett, 1997; Hoge, Johnson, & Luidens, 1993).

Other well-known theories describe developmental stages similar to emerging adulthood, during which individuals will try new things in order to determine who they want to become and what roles they want to fill as adults. Erikson (1950, 1968) uses the stages of adolescence and young adulthood in his model of development. Even though Erickson does not distinguish a separate stage for emerging adults, he discusses how adolescence is a lengthy stage and how young people in industrialized countries get to delay the responsibilities of adulthood. Due to this delay in acquiring obligations as an adult, the young adults have time to explore options and find the area of society to which they want to be connected.

In another theory, Kenneth Keniston (1971) proposes the theory or stage of youth, which includes the ages of late teens through the twenties. Keniston describes this stage as a time when youth do not want to simply accept what society is telling them. They want to explore and scrutinize ideals on their own and then make decisions based upon what they have experienced.

All of the theories presented by Arnett (2000), Erikson (1950, 1968), and Keniston (1971) have similar ideals about human development from the late teens through the twenties. This represents a time of transition to adulthood during which individuals are trying out new things and analyzing ideals and beliefs that they were taught as a child. This time allows for freedom from some adult responsibilities and

provides opportunities for venturing into unknown areas to develop the personal characteristics that will shape the rest of their adult lives.

Community Service and Service Learning

Effects of Community Service and Service Learning Participation

The interest in utilizing service as a means of learning appears to be cyclical and dates back to as early as the 1910s when William Kilpatrick believed education should take place beyond the boundaries of the classroom and should meet the needs of the community. Every 20 to 30 years since that time, other ideas or projects have emerged to bring light to the value of service as a tool for learning. Even President George H. W. Bush was a part of these efforts when he signed the National and Community Service Act in 1990, which granted funding for several service programs in schools and communities (Conrad & Hedin, 1991). Extensive research has been conducted on various aspects of community service and service learning, which demonstrates the value of its use.

During the high school years, many students are either required or offered opportunities to participate in community service, and some studies suggest that engaging in service at an early age can lead to continued participation throughout life (Oesterle, Johnson, & Mortimer, 2004; Planty, Bozick, & Regnier, 2006; Youniss, McLellan, & Yates, 1997). One study reports that requiring high school community service only produces short-term effects on participation of those who would otherwise not volunteer, but utilizing educational and religious connections seems to be the best way to prolong youth community service participation into the young adult years. This is based on the

continued service of youth who enroll in college or who are active in religious groups beyond their high school years. The initial idea of civic responsibility is introduced in high school, but the enriching relevance of the service is deepened through education or religious organizations (Planty, Bozick, & Regnier).

Studies, which find requiring community service does not in itself lead to long-term participation, emphasize the need for reflection. It is important that students develop a sense of charity or selflessness and personal accountability (Cene, Peek, Jacobs, & Horowitz, 2009; Planty, Bozick, & Regnier, 2006). This reflection and personal, internal evaluation are key parts of service learning. While assisting the community, students are connecting their roles to their coursework and realizing their responsibilities as citizens. It is enriching when students make these connections and obtain a sense of fulfilling purpose, which moves them toward a deeper sense of social responsibility and civic engagement (Bringle & Hatcher, 1996; Cene, Peek, Jacobs, & Horowitz, 2009; Ngai, 2006).

Service learning allows students to gain knowledge and skills through actual experience. Service learning places students in real situations and allows practical and immediate application of information to give it more meaning. In turn, this is stimulating to the students, who are more likely to retain the information for later use because they see the direct consequences of their actions. A vivid example of this is a student in a healthcare field seeing that what they know or how they problem-solve can mean the difference in someone living or dying (Conrad & Hedin, 1991).

Several important benefits of service learning at the collegiate level are noted in a study by Sax and Astin (1997). They surveyed students attending institutions that were part of the Learn and Serve American Higher Education program, which was created to support institutions in developing service learning opportunities. In their study, Sax and Astin reported the affects of service learning on the development of students' civic responsibility, academic progress, and life skills.

Civic responsibility was the area most impacted by service learning. Two times as many service participants, as compared to non-participants, stated they were either stronger or much stronger in their commitment to participate in community service than they were when beginning college. More than four times as many participants intended to complete volunteer work in the following semester. Additionally, service participants tend to strengthen their desire to be involved in the community and to impact social values (Sax & Astin, 1997).

The findings of Sax and Astin (1997) are supported by a longitudinal study that reported undergraduate students who took part in volunteer service fostered a deeper commitment to civic responsibilities after finishing college (Astin, Sax, & Avalos, 1999). This is true even after controlling for an inclination to participate in service before beginning college. Other studies have also shown that participating in service programs leads to an increased sense of social responsibility (Bentley & Ellison, 2005; Conrad & Hedin, 1982; Eyster, Giles, & Braxton, 1997; Hamilton & Fenzel, 1988; Klink & Athaide, 2004).

Further support of service learning increasing civic responsibility can be found in the following two studies. Peacock, Flythe, and Jones (2006) presented the case that service learning provides the opportunity for students to work with community members to identify and address problems in the community. Then the students are involved in efforts to create change and possibly affect policy changes on a larger scale. Eyler, Giles, and Braxton (1997) found that service participants have a stronger understanding of the need to be active in policy processes and have a systematic perspective rather than an individual focus, which draws them toward serving the community. It is important to note that this positive effect was found not to be predicted by faculty-student interactions or previous service experience, demonstrating that this could be an area of impact that is unique to service learning.

In the area of academic development, Sax and Astin (1997) noted significant and positive effects. Participants in service learning were able to maintain or increase their grade point averages in college compared to what they earned while in high school. After taking part in service learning during college, individuals reported a greater sense of knowledge acquisition and career preparation. Finally, the biggest effect of service learning on academic development was that participants were much more likely to engage in extra interactions with faculty. This finding is supported by Eyler, Giles, and Braxton (1997) who also found increased interactions with faculty among service learning participants, which led participants to perceive increases in their own skills.

Other studies also found positive academic benefits from service learning, stating that taking information from the classroom to the service learning experience allows for integration and analysis of the information, creating a deeper, clearer appreciation of the knowledge. Learning and experiencing through action enlivens the knowledge, making it more enriching and inspiring than learning through reading or listening (Klink & Athaide, 2004; Ngai, 2006). This is further supported by Dupre and Goodgold (2007) who describe service learning as a way for students to observe professionals modeling skills and then be able to practice the skills themselves. Students can transfer their knowledge to actual technique and experience. In contrast, Eyler, Giles, and Braxton (1997) found that service learning did not significantly impact participants' perceptions of their critical thinking skills, but they believed this could be due to participants not understanding what was meant by the term critical thinking.

Sax and Astin (1997) show that engaging in service learning shows positive effects in all eight investigated areas of life skills, with the greatest impact being on understanding community problems, accepting differences in race and culture, and interpersonal skills. As a result of service learning, students display more satisfaction in leadership opportunities, relevance of class work to daily living, and career development. In college, participants also experience more growth in social self-confidence and leadership skills while non-participants display minor declines in these same areas (Sax & Astin).

Additional studies support the findings of Sax and Astin that are related to life skills. Newmann and Rutter (as cited in Conrad & Hedin, 1991) show that participation in community service projects helps individuals develop better interpersonal skills such as how to communicate with groups, begin a conversation with someone they do not know, and convince others to agree with their perspective. Dupre and Goodgold (2007) indicated that participation in service learning leads to gains in cultural competency, showing that physical therapy students progressed from cultural blindness to cultural pre-competence. Bentley and Ellison (2005) and Osborne, Hammerich, and Hensley (1998) also found that service learning increased social awareness and cultural competence. Through service learning, students increased empathy and developed networking and career opportunities, while also gaining awareness of community programs and agencies (Peacock, Flythe, & Jones, 2006). Finally, studies found that service learning participants possessed a pronounced sense of empowerment, leading them to the realization that they can impact change in the community and society as a whole (Astin, Sax, & Avalos, 1999, Bentley & Ellison, 2005; Eyer, Giles, & Braxton, 1997; Peacock, Flythe, & Jones).

From their survey of 3,450 students at institutions participating in the Learn and Serve American Higher Education program, Sax and Astin (1997) conclude that:

service work encourages students to become more socially responsible, more committed to serving their communities, more empowered, and more committed

to education. Further, the effects of volunteer service participation during the undergraduate years continue to persist in the years after college (p. 32).

Other reports have shown similar results, indicating that service learning participants build stronger bonds with their schools, peers, and communities and perform better in school (Conrad & Hedin, 1982; Nolin, Chaney, & Chapman, 1997). Additionally, research indicates that building service learning into a curriculum creates a greater impact on participants than community service alone (Conrad & Hedin, 1991).

Service Learning in Specific Settings

In the field of gerontology, Murakami, Lund, Wright, and Stephenson (2002) discuss five positive outcomes derived from service learning in higher education. First, students linked theory to practice by using information from the classroom in their daily service. Students increased empathy towards older adults and enhanced career skills such as networking. A fourth benefit is the ability to educate people outside of the university about the field of gerontology, and finally additional universities were given the ability to efficiently and successfully implement service learning by using the guidelines defined by those programs that are already established .

In the education of students in healthcare majors, professors want to admit students who have potential to serve the needs of the public and the underserved. Knowing the factors that lead to a service-oriented graduate would be helpful to use during admission processes. In their study, Blue et al. (2005) compared pre-admission community service with the community service completed by students during medical

school. They found that serving a larger variety of service organizations and providing over two years of service prior to admission to medical school were significantly related to higher numbers of community service hours completed during medical school. Being female was another predictor of community service involvement. Blue et al. (2005) caution that this service during medical school may be due to a desire to strengthen resumes for residency programs and that without knowing the motivations of students, the participation in community service during medical school may not carry over to the students' professional lives.

Rogers (2010) looked at service learning in Black Studies from a historical perspective, and showed that service-learning is the most effective way to create socially responsible professionals. The founders of Black Studies emphasized the need for service learning in order to help students develop skills to connect to their communities, serve them, and build them. In 1973, the successful Black Studies programs all seemed to contain service-learning elements and stressed the importance of involvement in the black community. This was key to the mission of the founders of Black Studies.

Currently the focus has shifted more to academics, and the civic responsibility has become overshadowed. Rogers found that in 185 Black Studies programs or departments, only 22 require at least one service-learning course. Rogers describes this as a dying of the soul of Black Studies, as the connection to the community is being lost.

Ngai (2006) indicates a similar feeling of disconnect of education from the real world among educators and students in Hong Kong. In his study, Ngai surveyed college

students following their participation in a service learning course and found results similar to studies previously mentioned. Over 90% of participants indicated that classroom reflection enhanced their learning and that the service learning increased their personal growth and commitment to society. Through open-ended questions, students described obtaining broader perspectives while working with students from other disciplines and with disadvantaged groups in the community. Participants felt they became more self-confident and more concerned about the needs of others. Also, participants stated that service learning had made a direct impact on their career and educational goals, and they planned to continue in service positions in the future.

Factors Affecting Commitment to Community Service and Service Learning

Another area of community service to consider is the intention of participants and the factors that influence their commitment to community service. It has been shown that a person with stronger intentions is more likely to be a part of a given activity (Chu & Chiu, 2003; Harrison, 1995; Okun & Sloane, 2002). To develop stronger intentions for participating in service, it is important to understand the values that students already possess. Utilizing these values will allow curriculum programs to provide students with service learning experiences that will be more meaningful, and in turn, will help develop stronger intentions for future participation (Hellman, Hoppes, & Ellison, 2006).

A number of factors influence an individual's commitment to community service. Studies indicate that having a parent, coach, teacher, or mentor who is service-oriented is a strong influence for the development of a stronger commitment to service in the student

(Fitch, 1987; Hodgkinson, 1995; Seider, 2007). Prior participation in service is a predictor of future involvement (Hodgkinson, 1995; Sax & Astin, 1997). In fact, Johnson, Beebe, Mortimer, and Snyder (1998) noted that completing community service in high school was the best predictor for participating in community service during college. Another influential factor is participation in community organizations such as Girl Scouts or Boys and Girls' Clubs (Fitch, 1987; Serow 1991), and being religious can lead a person to further participation in community service as well (Hodgkinson, 1995; Seider, 2007). Other influential factors include peer groups, early experiences of hardship, and triggering experiences (Seider, 2007).

In a study of 20 college students who completed 10-20 hr of community service per week, Seider (2007) found that three fourths of the students credited a single academic experience as the reason for their commitment to community service. Examples of some of these experiences include college courses on religion or health, Bible study groups, independent reading, and freshmen-week orientation activities. Typical influences such as service-oriented parents, strong religious background, early participation in service, and experiencing early hardship were all relevant to one or more of these students, but for the majority of them, one academic experience is what sticks out in their minds as the reason they are so committed to community service.

Eyler, Giles, and Braxton (1997) found that significant differences existed in students who chose to participate in service learning compared to those who chose not to participate at the start of a single semester service course. Students who voluntarily

participate score higher in areas of citizenship confidence, skills, and values; personal values; and perceptions of social justice. The only area in which participants scored lower was in their value of being very wealthy. After tracking the changes in college students over a semester of exposure to service learning, Eyer, Giles, and Braxton felt that the differences between participants and non-participants at the beginning of the semester were more significant than the changes seen in participants during the brief service experience. They believed this showed that students who will benefit or develop the most by participating in service learning are those who will not benefit from strictly voluntary activities because they will simply choose to not participate. The exception to this would be in situations such as a required course that offered service learning as an option in replacement of another assignment. In this case, students, who normally would not participate, might choose service learning because of peer influence or because they would rather not write a research paper.

In their study of college students pursuing health-care related degrees, Hellman, Hoppes, and Ellison (2006) used the Community Service Attitudes Survey (Shiarella, McCarthy, & Tucker, 2000) to assess the values that students related to their intent to complete community service. The most significant factor was the connection or sense of responsibility to the community, followed by costs, seriousness, and benefits. Factors that were not significant included ability, empathy, general awareness and moral obligation. These findings show the importance of discussing the community in class and showing students the significance of what they are doing for the community. Also,

noting that ability is not an issue indicates that beginning students would be just as intent on serving the community and should be included in service learning as well (Hellman, Hoppes, and Ellison).

It has been shown that a number of factors can influence a person's decision to participate in community service or not. Ngai (2006) states that "service learning has the capacity to transform lives, to touch the heart as well as the mind, and to teach many valuable lessons beyond those provided within the confines of the classroom" (p. 174). In order to capitalize on these benefits of service learning, influential factors should be noted and utilized in productive ways.

Students Conducting Research

In the field of athletic training, it is becoming more necessary to utilize outcome-based research in determining the appropriate care for patients (Ingersoll, 2006). This is an area in which athletic training is behind when compared to other health care fields, and steps need to be made to change this. The need for more thorough education on research and participation from new professionals in research may be required for athletic training to continue its forward progress (Steves & Hootman, 2004). This is supported by McCoy (2008) who indicates the lack of historical research and increased demand for evidence-based practice will affect fields in allied health as well as alternative medicine. A culture change is needed that supports and encourages research.

Two accredited athletic training programs have worked over ten years to implement and revise a research engagement model that has demonstrated positive

results. Beginning early in their studies, students develop a case report and are assisted by a mentor who is assigned to them. Later students work in small groups to develop a research prospectus, which allows for peer-assisted learning and encourages collaboration. Key parts of the case report and research prospectus are required for certain courses to ensure accountability. If students chose to do so, they can carry out the research developed in their prospectus and will receive a one hour independent study credit for doing so (Martin, Myer, Kreiswirth, & Kahanov, 2009).

At the conclusion of their research engagement experience, athletic training students complete a reflective summary. Based upon responses in these summaries, students improve their written and oral communication, use research evidence more frequently in clinical settings, and are more confident in questioning why things are done the way that they are in the clinical setting. Faculty agree that this experience develops more critical thinking in group discussions and encourages students to read more research (Martin, Myer, Kreiswirth, & Kahanov, 2009).

Allied health programs are often required to include research courses as part of their curriculum. One study tracked changes in attitudes and perceptions of physical therapy students as they completed two required research courses and their first year as professionals. The researchers found that over time the students gained knowledge in the research process, felt more confident in being able to read and critique journal articles, and understood the need to stay informed by reading current professional articles. Additionally, students saw the need to connect research findings to clinical practice, but

in their first year of practice, this perceived need decreased. Finally, students showed no change in their perception of being responsible themselves for conducting research or in their perceived value of research to the profession of physical therapy (Connolly, Lupinnaci, & Bush, 2001).

In the field of nursing, a study of 54 students completing an undergraduate research course showed changes in attitudes. Students were more positive towards research at the conclusion of the course. These students also showed significant increases in research knowledge scores at the end of the course, but they decreased at the end of the program, indicating that little retention of knowledge was achieved. This raises questions about the format of instruction in the research course (Harrison, Lowery, & Bailey, 1991).

Another survey of allied health care fields was completed by Suter, Vanderheyden, Trojan, Verhoef, and Armitage (2007), who evaluated the attitudes of chiropractors and massage therapists who had been in practice for less than 10 years. In this study, participants indicated attitudes that were positive towards research and understanding of the need for research to validate their profession. At the same time, these professionals were not confident in their own research skills and utilized research rarely in their clinical practice. Although chiropractors use of research was limited, it was significantly higher than the massage therapists, and this could be due to chiropractors being part of a more research-oriented culture and education.

Many college students do not participate in authentic research until graduate school, but it is becoming more common for students in science disciplines to be engaged in this type of research as undergraduates (Evans, 2010; Sadler & McKinney, 2010). Authentic research is actual research being conducted by professionals and is intended to produce results for publishing. Having students take part in authentic research is a very different approach than the typical lab projects that are completed in one or two days of class (Sadler & McKinney, 2010).

In their review of literature on authentic research, Sadler and McKinney (2010) found three points of significance. First, the participation in research must span a length of time sufficient enough that the student becomes comfortable in the research environment and comprehends the science being tested. Next, in order for the student to utilize higher levels of thinking, the student must be involved with the various research steps. They need to assist with developing the hypotheses, constructing procedures, collecting and analyzing data, and orchestrating the conclusions. If students only complete the routine of collecting data, then the amount of learning will not be as great. Finally, Sadler and McKinney (2010) found that instructional support should be given in order to meet specific learning goals. Overall, authentic research can enhance student learning and further develop individuals who plan to pursue science careers.

One of the studies from this review of literature compared perceptions of students with perceptions of the faculty following an authentic research experience. Both students and faculty believed that students did benefit from authentic research. This was indicated

by at least 90% of their remarks being related to positive gains. Additionally, faculty and students saw the same benefits for the students, which included areas such as developing attitudes and behaviors needed for a future in research and growth as new professionals. Students were utilizing their knowledge, thinking critically, and seeing how their decisions affected the process and potential outcomes of their respective studies. Following this experience, students can see themselves completing research and being scientists (Hunter, Laursen, & Seymour, 2007).

In preliminary findings from this same study, students reported that the most valuable part of their summer research experience was increasing their communication skills. The most prevalent skill being “their ability to explain, present, discuss, and defend their work to peers, advisors, and other faculty, whether within their institutions or in professional conferences” (Seymour, Hunter, Laursen, & Deantoni, 2004, p. 529). This skill was more pronounced in those who presented at professional conferences as compared to those presenting at the respective institution. For undergraduate students, these communication skills were viewed as more important at this point in their education than formal writing skills, and students also believed them to be more pertinent to their professional preparation.

A cross-discipline study was completed with 314 students who participated in a 10-week summer research program. At the completion of the program, 99% of participants indicated they would recommend the experience to other students. When asked about what they valued most from this program, the top response, which far

exceeded any other, was the development of specific technical skills and the job experience. Other frequent responses were the developed relationships, improved resumes, and gained references. Some variations occurred across the disciplines. Science students had a higher value of gaining technical skills, while the social science and humanities students placed both technical skills and publications and papers around the same level of importance. Participants from all disciplines indicated that the research program had increased their interest in graduate school and enhanced their communication and problem-solving abilities. Additionally, any students who participated in the research program for more than one year had a more positive outlook on pursuing research as a career. Few or no differences in responses were found among ethnic groups, academic classes, or grade point average groups (Craney et al., 2011).

Undergraduate students' perceptions of their summer research program experiences have also been studied by Falconer and Holcomb (2008) through their evaluation of student journals. During this summer program, students were conducting research while also attending weekly group meetings in various locations to discuss research related topics. Several themes emerged from this study. First, students recognized their successes, and while they appreciated being recognized by others, they gained even more internal satisfaction from their research successfully progressing forward. Another theme was relevance. Students who were able to connect their knowledge from coursework and the weekly meetings to the research experience had more interest in the project and meetings, while also perceiving these things as more

worthwhile. A sense of community was created across disciplines through the weekly meetings, and this established a support system and a heightened sense of enthusiasm for one's own research project as well as for others' projects. Other themes found in this study included creating a sense of ownership, participating in valuable scholarly experiences, and valuing mentor interactions.

Studies have shown that undergraduate students do benefit from participating in research (Craney et al., 2011; Falconer & Holcomb, 2008; Hunter, Laursen, & Seymour, 2007; Russell, Hancock, & McCullough, 2007). Students will begin to think like a researcher and develop a more defined career plan (Hunter, Laursen, & Seymour, 2007). Undergraduate students participating in research are more likely to attend graduate school (Bauer & Bennett, 2003; Lopatto, 2004). Kardash (2000) found that students improved in areas of communicating results, interpreting data, and formulating hypotheses by participating in research internships. Other studies have suggested that students increase in analytical abilities and research specific skills (Ishiyama, 2002; Landrum & Nelson, 2002). Overall, students who participate in authentic research and presentation experiences will strengthen various skills and be better prepared for their future professional experiences (Craney et al., 2011; Falconer & Holcomb, 2008; Kardash; Martin, Myer, Kreiswirth, & Kahanov, 2009; Seymour, Hunter, Laursen, & Deantoni, 2004).

Development of Professionalism

Due to the increased amount of knowledge that must be taught, it seems that professionalism or professional behavior has become overshadowed in healthcare curriculums (Feeg, 2001; Lang, Smith, & Ross, 2009). Additionally, the difficult nature of evaluating attitudes and beliefs has led to changes for ATEPs in curriculum requirements related to professionalism (Peer & Schlabach, 2007). Since individuals typically develop their professional attitudes during their educational years, it is vital that educators are willing and able to instill positive insights and behaviors to their students. A focus needs to be given to this area of development for healthcare students (Cohen, 2006).

The Polk-Lepson Research Group (2010) conducted a study of both students' and employers' beliefs about professionalism. When looking at overall responses of both groups combined, the top qualities used to describe a professional included communication skills, appearance, interpersonal skills, and work ethic. Students and employers tended to report the same qualities when describing professionalism, with the exception of communication and time management. Employers (40.6%) were much more likely than students (20.4%) to indicate communication as a necessary quality, and less likely to list time management (16.9% and 38.9% respectively). The top three qualities of an individual who is not professional were poor work ethic, appearance (dress, tattoos, and piercings), and poor communication and grammar skills. It is

noteworthy that in 2009 only 6.1% indicated being unfocused as a quality of unprofessionalism, but in 2010, this jumped to 20.5%.

Also within this study, participants were given a list of qualities and asked to rate how important each quality was to being a professional. Accepts personal responsibility for actions and decisions, displays sense of ethics, competent written and verbal communication, takes initiative, and projects a professional image were among the highest rated qualities. Then participants indicated if they felt new employees displayed these qualities. On a scale of five, the only quality that came close to a four was a concern for opportunities for advancement. Students rated themselves higher on all but three qualities when compared to the rating of employers, but even the students' ratings for possessing these desired qualities were considered low. In the areas of flexibility, competence in verbal and written communication, and completing the job within the required time, students rated themselves much higher than employers. When considering how employers rate the importance of qualities compared to the presence of those qualities in new professionals, the largest gaps are seen in accepts personal responsibility for actions and decisions and being open to criticism (Polk-Lepson Research Group, 2010).

In a study by Lang, Smith, and Ross (2009), pediatric residency program directors participating in the study indicated that 35% of programs did not have any professionalism instruction as part of their curriculum. This is after the Accreditation Council for Graduate Medical Education began requiring both the teaching and

evaluating of professionalism within programs in 2007. The majority of respondents indicated that less than 10 hr/year were given to ethics and professionalism instruction, and only 61% of programs indicated using real-world experiences to teach professionalism. Faculty expertise and overcrowded curriculum content were listed as problems for implementation. This demonstrates that simply requiring a professionalism component in curriculums is not necessarily sufficient enough to create successful and valuable development of these skills in new professionals.

A study in the field of counseling revealed that programs accredited by the American Association for Marriage and Family Therapy were teaching content related to ethics, legal issues, and professional issues as required. Further investigation revealed that these three curricular areas were only a piece of a course, and often the additional content of the course was influenced by the world view of the professor. Concerns are expressed that even though therapists were receiving some exposure to the required material, it may be more of a reflection of the professor's world view than of what the accrediting body had intended (Harris, 1995).

It is acknowledged by accrediting bodies and through research that educating future healthcare professionals about professionalism is important (Cohen, 2006; Harris, 1995; Jotkowitz, Glick, & Porath, 2004; Lang, Smith, & Ross, 2009; Stark, Korenstein, & Karani, 2008). Developing methods of instruction and evaluation seems to be the area of biggest need in order to further the value of curriculum in this area. Some studies have offered ideas for teaching professionalism that go beyond the simple lecture format.

Maudsley and Strivens (2000) suggest using small group case-based discussions, developing and discussing a student code of conduct, and discussing the evolution of professionalism. Using small-group learning groups over a long-term is also supported by Benbassat and Baomal (2005). An idea given by O'Toole, Navneet, Mishra, and Schukart (2005) is to incorporate community service projects that emphasize professional accountability.

For evaluation purposes, Stark, Korenstein, and Karani (2008) used a 360° professionalism assessment with faculty who were supervising internal medicine residents. They surveyed faculty before and after using this evaluation method and found that the 360° evaluation tool did increase the faculty comfort and skill in giving feedback related to professionalism. It also had a nonsignificant but increased influence on the frequency of providing feedback to the resident students about their professionalism. This pilot study provides a possible solution for evaluating professional behaviors of students.

Other potential methods for evaluating professionalism of students could be beneficial. One example is the professionalism mini-evaluation exercise, which includes 21 specific behaviors that are assessed following a 20 min observation of the student (Cruess, McIlroy, Cruess, Steinert, & Ginsburg, 2006). Additionally, peer assessments, faculty observations, incident reports, and portfolios can be used to assess professionalism of students (Cohen, 2006).

Mentoring

Mentor is a term with roots that can be traced back to Greek mythology and is used today to indicate someone who is a teacher or advisor guiding a protégé towards career development (Cronan-Hillix, Gensheimer, Cronan-Hillix, & Davidson, 1986). In athletic training, mentoring has been shown to be important in the development of expert athletic training professionals (Malasarn, Bloom, & Crumpton, 2002). Also, mentoring is believed to be important to the development of young professionals in athletic training as well as other healthcare fields (Castiglioni, Bellini, & Shea, 2004; Howard & Smith-Goodwin, 2010; Ramanan, Taylor, Davis, & Phillips, 2006; Weidner & Popp, 2007).

In a qualitative study of athletic training students and their mentors, three categories necessary for successful mentoring were discovered and then used to develop a model for mentoring experiences. The first category is mentoring prerequisites, which includes accessibility, approachability, and protégé initiative. Then interpersonal foundations incorporate the qualities of equal values, trust, and personal relationships, and finally, the educational dimension involves assisting knowledge and skill growth, individualizing learning, and promoting professional views. These components are all important to the success of a mentoring experience (Pitney & Ehlers, 2004).

Additional studies are supportive of the findings of Pitney and Ehlers (Cameron-Jones & O'Hara, 1996; Curtis, Helion, & Domsohn, 1998; Dolaz, 1986; Weidner & Henning, 2002; Weidner, Trethewey, & August, 1997). For example, Williams, Levine, Malhotra, and Holtzheimer (2004) found that quality mentors were active listeners,

determined strengths of the protégé, and helped develop and obtain goals. They also noted that a sense of cohesiveness must be present between the mentor and protégé. In a study by Malasarn, Bloom, and Crumpton (2002), male collegiate athletic trainers believed that part of why they became experts in the field was a result of their experiences with mentors who guided their learning and promoted their professional integration. Their mentors were approachable and shared their passions, which created a sense of connection between the respective pairs. Mentoring is a positive, building experience when the right components are present.

If the right components are not in place during a mentoring experience, the benefits may not be as great. Campbell and Campbell (2000) reported that in faculty-student mentoring situations, the faculty indicated problems with commitment from students. Students would miss appointments or not communicate effectively with the mentor. The only downside to the mentoring experience perceived by the students was the time needed for meeting with their mentor. This supports the finding of Pitney and Ehlers (2004) that protégé initiative is important for the success of the experience.

Research on mentoring of medical students has shown positive findings. Studies indicate that at least 90% of medical students agree that mentoring is important for them (Aagaard & Hauer, 2003; Levy et al., 2004; Ricer, Fox, & Miller, 1995; Ramanan, Taylor, Davis, & Phillips, 2006). Medical students who were mentored during their residency are almost twice as likely to characterize their career development as excellent when compared to residents who were not mentored (Ramanan, Taylor, Davis, &

Phillips). Additionally, program directors feel that having a mentor is a valuable piece of a resident student's professional growth (Castiglioni, Bellini, & Shea, 2004).

Mentoring can also occur among students and even among groups of students rather than a one-on-one situation. Howard and Smith-Goodwin (2010) present a mentoring cohort model that has demonstrated success for one undergraduate ATEP. Students are assigned to a cohort that consists of about 10 people, including students from each level within the ATEP. Upper classmen are group leaders and ensure that all guidelines are met by the mentoring cohort group. Surveys indicated that students felt the group mentoring was a great success and that they felt it was much better than having an individual student mentor. Students reported that their mentoring groups helped them with tutoring, learning of clinical skills through practice, and adjusting to the university environment. Additionally, the ATEP saw benefits from the group mentoring such as better retention, faster integration of students into the program, and better organization and communication.

Mentoring among students is sometimes referred to as peer assisted learning (PAL). As with most situations, pros and cons do exist with using PAL in athletic training and the medical field. Pros include development of communication skills, earlier feedback, more confidence, building collaborative skills, providing relevant perspectives, and creating a reflective, meaningful dialogue (Giordana & Wedin, 2010; Parkison & Bartek, 2010; Weidner & Popp, 2007). In a clinical setting, PAL can also lead students to be more engaged in the experience in order to provide feedback and reflection to the

partner (Parkison & Bartek, 2010). Some of the cons associated with PAL include peers who take over too much of the skill or activity, students feeling instructor feedback is more valuable than peer feedback, peers who are less supportive during skill practice, and peers being more confident in receiving correct answers from an instructor than their peer (Giordana & Wedin, 2010; Weidner & Popp, 2007).

The benefits are positive enough to implement PAL into ATEPs for increased development of skills and learning (Weidner & Popp, 2007). Through their study of students attending a student seminar at the National Athletic Trainers' Association meeting, Henning, Weidner, and Jones (2006) have shown that PAL is being utilized across the United States. Their study revealed that 91% of student participants enrolled in accredited ATEPs were learning at least a small amount of their clinical skills from their peers, and 66% of participants reported practicing a moderate to large amount of their skills with fellow students. Peer assisted learning is a part of many ATEPs and needs to be utilized appropriately.

Most research focuses on the benefits of being mentored, but positive outcomes are possible for the individual who does the mentoring as well. Stenfors-Hayes, et al. (2010) gathered information through questionnaires and interviews of mentors in the medical field in Sweden. In their results, mentors indicated that while being a mentor they improved their relationships with students and better developed their teaching skills. Also, the mentors stated that they reflected more upon their own values and practices at work, especially in response to ethical dilemmas and cultural differences mentioned by

the mentees. Giordana and Wedin (2010) reported benefits for peers who mentored students, including increased knowledge, seeing multiple perspectives, and improving communication, teaching, and leadership skills.

Mentoring can be an effective supplement to a curriculum program.

Characteristics need to be present within the mentoring situation to ensure a positive experience for each person involved (Malasarn, Bloom, & Crumpton, 2002; Pitney & Ehlers, 2004; Williams, Levine, Malhotra, & Holtzheimer, 2004). In an education program, mentoring can occur among peers, between faculty and students, or even between other professionals and students. Further, the experiences can be one-on-one or small-group based. Within the right framework, mentoring can be a positive influence on the future careers of students (Giordana & Wedin, 2010; Parkison & Bartek, 2010; Weidner & Popp, 2007).

Summary

Even with the similarities in content, ATEPs will vary in the types of instruction and evaluation it utilizes to educate students. In order to enhance the quality of athletic training graduates and new professionals, it is important for ATEPs to understand how to best implement the instruction of these components into the curriculum. Is exposure to professional development and responsibility as students enough to create engaged professionals, or do students need to be immersed within the application of these components to more fully integrate themselves into the profession once they begin their careers?

This review of literature has discussed several aspects of professional development and responsibility. Research within allied health and medical fields has demonstrated the value of these components for students' professional growth, while also suggesting methods for effectively building these skills in students. Through this study, the researcher hopes to determine if these components are being included in athletic training curriculums and if the components carry over into the professional setting once a student has graduated.

CHAPTER III

METHODS

The purpose of this study is to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level athletic training education program. In this chapter, the development of this study is described in the following sections: (a) participants, (b) instrument, (c) data collection, (d) data analysis, and (e) human subjects considerations.

Participants

For this study, 800 randomly-selected athletic trainers who became certified during the 2004-2005 academic year were invited to participate in a survey. By utilizing the first question on the survey, the pool of participants was then narrowed further to include only those who graduated during the 2004-2005 academic year. These participants were chosen because they have had at least 5 years to potentially become involved as professionals. Utilizing participants from earlier years may negatively affect abilities to recall requirements that they had as students. When obtaining a contact list from the BOC, the participant pool was limited to only those who are actively maintaining their ATC credentials. This did not include individuals who became certified and at some time following their certification chose to not renew their credentials.

In order to obtain more consistent responses, Program Directors at all 368 CAATE accredited entry-level ATEPs listed on the CAATE website and located in the United States were invited to provide information with respect to requirements for professional involvement of students who graduated from their programs during the 2004-2005 academic year. An attempt was made to match the responses from participating Program Directors with those of athletic trainers who graduated from their respective ATEPs. However, the number of ATEPs being identified was limited, and only 5 Program Director responses were able to be matched to the responses of the ATC participants.

Instrument

An online survey was used for both the ATC participants and the Program Directors. The initial instruments were read and edited by athletic training colleagues for clarity and relevance and were then distributed to selected nonaccredited athletic training programs and their recent graduates in the state of Texas in the form of a pilot study. The final edition of the instrument was approved by the dissertation committee.

The ATC participant survey consisted of 48 questions. It began with eight demographic questions followed by 20 questions about requirements and involvement of the participants in professional activities during their ATEP experience. Next were 16 questions regarding the participants' completion of professional activities since the time of their certification as athletic trainers. Finally, the survey had four questions asking for

participants' personal perceptions about professional involvement with the last question being open-ended to allow for comments.

In the Program Director survey, 26 questions were utilized. The first six questions were demographic questions related to the specific ATEP. Next, 10 questions were asked related to ATEP requirements for students who graduated during the 2004-2005 academic year. The survey concluded with nine questions asking for the Program Director's personal perceptions about requiring professional involvement of students, and a final question asked for the university at which the ATEP was located in order to match the ATEP data with its graduates' data from the ATC survey.

Data Collection

Email lists were compiled for both the ATCs and the Program Directors. Contact information for athletic trainers who became certified in 2005 were obtained from the BOC, and athletic trainers who did not graduate during the 2004-2005 academic year were eliminated from the study through an initial question on the survey. Contact information for Program Directors was collected from the CAATE website. Following approval from the Texas Woman's University Institutional Review Board, emails were sent to request consent and participation in the online survey. One week following the initial email request, a second request for participation was sent. A third and final request for participation was sent 1 week following the second request. All data were downloaded and saved in the researcher's computer, which was protected by username and password.

Incentives were awarded to encourage participation. For participants completing the ATC survey, two \$50 gift cards were awarded to winners drawn from those participants who chose to send their name and email at the conclusion of the survey. Names were submitted separately from data to an email account in order to maintain confidentiality. For program directors who submitted their name and email address at the conclusion of the survey, the researcher sent a brief summary of the findings of this study.

The researcher used Psychdata for the online surveys. Psychdata incorporated a secure survey environment to protect participants and their responses. Questions and data were encrypted during transmission, and databases were only accessible by username and password. Additionally, the researcher had control of the data and was able to delete the data when desired (Psychdata, 2010).

Data Analysis

Descriptive data were compiled to describe the participating athletic trainers and college/university program directors. In SPSS, McNemar's test was used to look for differences between the participants' behavior as a student and their involvement as a professional athletic trainer in five specific areas: presentations, professional organizations, research, mentoring, and community service. Also, frequencies were used to look at ATCs' reasons for not participating in professional activities and to see the perceptions of PDs.

Human Subjects Considerations

The rights of the participants were protected by the use of the following procedures.

1. Approval from the Texas Woman's University Institutional Review Board was obtained before data collection begins.
2. Participants were informed that their participation in this study is completely voluntary and they were allowed to discontinue participation at any time without penalty.
3. Participants were anonymous. The researcher will not be able to identify any individual participant.
4. Identification of institutions was used only for matching an athletic trainer's data to that of their respective ATEP. Only the researcher had access to this information.
5. All data were downloaded and saved in the researcher's computer, which was username and password protected by the researcher.
6. The digital files of the data will be deleted after 3 years.

CHAPTER IV

RESULTS

The purpose of this study was to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level athletic training education program. Comparing the student experience (for those graduating in the 2004-2005 academic year) with the experience during the first 5 years as a professional athletic trainer reveals significant changes ($p = .05$) in participation of the following areas: professional organizations, research projects, community service, and mentoring. In this chapter, the results are presented under the following headings: (a) Participant Demographics, (b) Presentation Proposals, (c) Organization Membership, (d) Research, (e) Community Service, (f) Mentoring, (g) Reasons for Professionals' Participation, (h) Participants' Thoughts, (i) Program Directors' Perceptions, and (j) Memory Recall.

Participant Demographics

Survey participation requests were sent nation-wide to 800 ATCs who became certified in 2005 and are actively maintaining their credentials with the BOC. From this group, 307 survey responses were received. With the first question on the survey, the participant pool was further narrowed down to include only those individuals who graduated from an ATEP during the 2004-2005 academic year and included 128

individuals. Eight of these participants were excluded due to incomplete survey responses, leaving 120 valid participants.

Most participants were between 25 and 29 years of age (85.8%). Remaining participants were 30-34 years (11.7%) or 35-40 years (2.5%). Forty-nine (40.8%) were male, and 71 (59.2%) were female. Eighty-eight (73.9%) of the participants have completed or are working towards a graduate degree beyond their entry-level ATEP. Every job setting category listed for members by the NATA was represented by at least one participant with the majority of participants being in college/university athletics (28.3%), secondary schools (28.3%), and clinics (15%). Participants currently reside in all NATA districts with each district being represented by at least 6 participants.

As former students, participants represent graduates of 105 different ATEPs. These ATEPs were largely undergraduate entry-level programs (94.2%), with 7 (5.8%) participants completing masters entry-level programs. Additionally, students attended NCAA Division I (53.3%), NCAA Division II (16.6%), NCAA Division III (27.5%), and NAIA (2.5%) institutions. Table 1 contains a full description of the ATC participants.

Table 1

Demographics of ATC Participants

Participant Characteristics	Number of Participants (%)
Gender	
Male	49 (40.8%)
Female	71 (59.2%)
Age	
25-29 years	103 (85.8%)
30-34 years	14 (11.7%)
35-40 years	3 (2.5%)
ATEP Attended	
Undergraduate	113 (94.2%)
Masters Entry-Level	7 (5.8%)
NCAA DI	64 (53.3%)
NCAA DII	20 (16.6%)
NCAA DIII	33 (27.5%)
NAIA	3 (2.5%)
Working toward or completed additional graduate degree	88 (73.9%)
Current Work Setting	
Clinic	18 (15%)
College/University Athletics	34 (28.3%)
College/University Academics	2 (1.7%)
Corporate	2 (1.7%)
Health/Fitness Clubs	1 (0.8%)
Hospital	3 (2.5%)
Independent Contractor	2 (1.7%)
Industrial/Occupational	3 (2.5%)
Military/Government/Law Enforcement	1 (0.8%)
Pro Sports	3 (2.5%)
Secondary Schools	34 (28.3%)
Graduate Student	2 (1.7%)
Unemployed	3 (2.5%)
Other	12 (10%)
Current NATA District	
1 (CT, ME, MA, NH, RI)	7 (5.8%)
2 (DE, NJ, NY, PA)	16 (13.3%)
3 (D.C., MD, NC, SC, VA, WV)	15 (12.5%)
4 (IL, IN, MI, MN, OH, WI)	23 (19.2%)
5 (IA, KS, MO, NE, ND, OK, SD)	10 (8.3%)
6 (AR, TX)	6 (5%)
7 (AZ, CO, NM, UT, WY)	10 (8.3%)
8 (CA, HI, NV)	8 (6.7%)
9 (AL, FL, GA, KY, LA, MS, TN)	15 (12.5%)
10 (AK, ID, MT, OR, WA)	10 (8.3%)

Out of 368 survey participation requests, 124 (33.7%) ATEP Program Directors' responses were received. Twenty-five of those responses were eliminated due to respondents completing only demographic questions and nothing further. Additionally, 8 responses were eliminated as possible duplicate surveys sent from the same IP addresses as other responses. If two surveys from the same IP address were complete, the second survey was retained while the first was deleted. Some duplicate surveys had the first several questions completed on the second submission, but the entire survey was not completed. It was assumed that this indicated participants realized that they had previously completed the survey. They discontinued the survey at that time. In this case, the incomplete survey was deleted.

These remaining 91 responses represented ATEPs from all NATA Districts with District 10 having the fewest (3) and District 4 and 5 having the most (15 and 16 respectively). The ATEPs were mostly undergraduate (93.4%), but 6 graduate entry-level programs also participated. Various divisions of institutions were represented: 44% NCAA Division I, 22% NCAA Division II, 23.1% NCAA Division III, 9.9% NAIA, and 1.1% other. Program Directors (PDs) indicated that 84.6% of ATEPs were accredited during the 2004-2005 academic year, and the remaining ATEPs attained accreditation within the next 5 years. Demographics of the ATEPs represented by these PDs are shown in Table 2.

Table 2

Demographics of Program Directors' ATEPs

ATEP Characteristics	Number of ATEPs (%)
Entry-Level of Program	
Undergraduate	85 (93.4%)
Masters	6 (6.6%)
ATEP Accreditation Obtained	
2004-2005 academic year or earlier	77 (84.6%)
2005-2006	7 (7.7%)
2006-2007	1 (1.1%)
2007-2008	2 (2.2%)
2008-2009	2 (2.2%)
2009-2010	2 (2.2%)
Length of ATEP Professional Phase	
2 years	19 (20.9%)
2.5 years	10 (11%)
3 years	54 (59.3%)
3.5 years	1 (1.1%)
4 years	5 (5.5%)
Other	2 (2.2%)
Division of Institution	
NCAA DI	40 (44%)
NCAA DII	20 (22%)
NCAA DIII	21 (23.1%)
NAIA	9 (9.9%)
Other	1 (1.1%)
NATA District Where ATEP is Located	
1 (CT, ME, MA, NH, RI)	6 (6.6%)
2 (DE, NJ, NY, PA)	9 (9.9%)
3 (D.C., MD, NC, SC, VA, WV)	11 (12.1%)
4 (IL, IN, MI, MN, OH, WI)	15 (16.5%)
5 (IA, KS, MO, NE, ND, OK, SD)	16 (17.6%)
6 (AR, TX)	7 (7.7%)
7 (AZ, CO, NM, UT, WY)	6 (6.6%)
8 (CA, HI, NV)	8 (8.8%)
9 (AL, FL, GA, KY, LA, MS, TN)	10 (11%)
10 (AK, ID, MT, OR, WA)	3 (3.3%)

Presentation Proposals

As students, only 28% of the ATCs were required to complete presentation proposals. Since graduating and becoming certified, 40% of the ATCs have submitted presentation proposals. Based on McNemar test, this change is not significant. Similar findings are noted among ATCs who completed presentation proposals as students (required or not). For this group, 38% completed presentation proposals as students, and when this is compared to the 40% of professionals who submitted proposals, the change is not significant (see Table 3). These findings indicate that both requiring and participating in presentation proposals as students influence the participation in presentation proposals as professionals.

Table 3

Presentation Proposals

Presentation Proposals	Yes		No	
	#	%	#	%
Required as student	33	27.7	86	72.3
Completed as student (required or not)	45	37.8	74	62.2
Completed as professional	47	39.5	72	60.5

Organization Membership

Survey results, reflected on Table 4, showed that 25% of ATCs were required to be members of a student organization while completing their degree. Additionally, 81% of ATCs reported that they were members of student organizations even if they were not required to be. Once they became certified athletic trainers, 98% of participants became members of a professional organization. McNemar test indicated that both of these

changes from student organization memberships to professional memberships are significant ($p < .001$). This means that membership in student organizations as students (required and not required) did not influence membership in organizations as professionals. Of the 96 who were student members, 93.8% considered themselves to be active members of the student organization.

Table 4

Student Organization Memberships to Professional Organization Memberships

Student Organization Memberships	Yes		No	
	#	%	#	%
Required as student	30	25.2	89	74.8
Member as student (required or not)	96	80.7	23	19.3
Member as professional	117	98.3	2	1.7

Table 5 shows that membership (required and not required) in a professional organization as a student did not influence membership as a professional. As students, 31% of participants indicated they were required to be members of a professional organization, and 98% indicated being members as professionals. Based on the McNemar test, this is a significant change ($p < .001$). Participants reported that 82% of them were members of a professional organization (required or not) as students. When comparing this 82% student membership with the 98% who were members as professionals, McNemar test again indicates a significant change ($p < .001$). Also among professionals who were members of an athletic training related organization, only 47% considered themselves as active members. Further, among those indicating that they

were active members in student organizations, 47.8% report that they are not active members as professionals.

Table 5

Professional Organization Memberships

Professional Organization Memberships	Yes		No	
	#	%	#	%
Required as student	37	31.1	82	68.9
Member as student (required or not)	98	82.4	21	17.6
Member as professional	117	98.3	2	1.7

Research

In the area of research, 76% of ATCs were required to complete research as a student, but as professionals, only 39% have conducted research. Based on the McNemar test, this is a significant decrease ($p < .001$). Responses from participants indicated that only 1 participant completed research that was not required as a student. Due to the small change in numbers from required to those students who completed research (required or not), the McNemar test again indicated a significant decrease ($p < .001$) from student participation to participation as a professional. These findings (shown in Table 6) suggest that requiring research and simply participating in research did not influence participation in research as professionals.

Table 6

Research

Research	Yes		No	
	#	%	#	%
Required as student	91	76.5	28	23.5
Complete as student (required or not)	92	77.3	27	22.7
Complete as professional	46	38.7	73	61.3

Community Service

As students, 24% of participants were required to perform community service, whereas 74% participate in community service as professionals. Based on the McNemar test, this change is significant ($p < .001$) but would indicate that required community service as a student does not influence community service as a professional. However, 70% of ATCs completed community service as students (required or not), and 74% perform community service as professionals. The McNemar test shows that this change is not significant, which indicated that participating in community service as a student influenced the participation of community service as professionals. These findings are shown in Table 7.

Table 7

Community Service

Community Service	Yes		No	
	#	%	#	%
Required as student	29	24.4	90	75.6
Participate as student (required or not)	83	69.7	36	30.3
Participate as professional	88	73.9	31	26.1

Mentoring

When asked about mentoring other students, 50% of participants indicated that they were required to participate, but as professionals, 82% participate in mentoring athletic training students (see Table 8). This was a significant increase ($p < .001$) indicating that being required to mentor other students did not influence participation in mentoring students as a professional. On the other hand, 82% of ATCs indicated that as students they mentored other students (required or not), and 82% continue as a professional to mentor students (see Table 8). According to the McNemar test, this is not a significant change and indicates that mentoring as a student influences mentoring as a professional.

Table 8

Mentoring Athletic Training Students

Mentoring Athletic Training Students	Yes		No	
	#	%	#	%
Required as student	59	49.6	60	50.4
Participate as student (required or not)	97	81.5	22	18.5
Participate as professional	98	82.4	21	17.6

As students, 58% of participants were required to be mentored by a healthcare professional. Comparing this to the 74% who are mentored as professionals gives a significant increase ($p = 0.006$) according to the McNemar test. Also, 87% of participants indicated that they were mentored as students, but only 74% continue to participate in mentoring as a professional. This is a significant decrease ($p = 0.003$). Both of these findings indicated that being mentored as a student (required and simply

participating) did not influence being mentored as a professional. See Table 9 for these results.

Table 9

Being Mentored

Being Mentored by a Professional	Yes		No	
	#	%	#	%
Required as student	69	58	50	42
Participate as student (required or not)	104	87.4	15	12.6
Being mentored as a professional	88	73.9	31	26.1

Reasons for Professionals' Participation

Participants who had completed activities as professionals in the 5 discussed categories were then asked to indicate if they were required to complete these activities or if it was their choice to participate. Participants were allowed to indicate more than one answer for each activity. A summary of these findings are in Table 10.

Table 10

Reasons for Participation as a Professional in Five Areas

Participation as an Athletic Training Professional	Required for Work	Required for Additional Degree	Required for Other	Not Required	Total
Presentation Proposals					
# of Responses (out of 47)	5	27	2	20	54
% of Participants	10.6%	57.4%	4.3%	42.6%	
Organization Membership					
# of Responses (out of 117)	22	3	13	79	117
% of Participants	18.8%	2.6%	11.1%	67.5%	
Research					
# of Responses (out of 46)	2	35	0	11	48
% of Participants	4.3%	76.1%	0%	23.9%	
Community Service					
# of Responses (out of 88)	11	3	5	72	91
% of Participants	12.5%	3.4%	5.7%	81.8%	
Mentoring					
# of Responses (out of 108)	27	10	7	66	110
% of Participants	25%	9.3%	6.5%	61.1%	

*Note: 88 (73.9%) participants have completed or are working toward a graduate degree.

Participants' Thoughts

When asked to report if there were any significant reasons why participants have not participated or have had limited participation in the discussed professional activities, several responses were reported (see Graph 1). Responses show that the time commitment at work is the most frequently given constraint (68.1%). Other reasons for limited participation were no resources (38.7%), no interest (21%), family/personal reasons (18.5%), other (6.7%), and do not see the benefit (5%). Descriptions for other included do not receive invitations, lack of information, have not made it a priority, under-staffed (time-restraints) and not sure how to become involved. Also, one reported

being back in school for a different allied health professional degree, and another was practicing within the corporate health field instead of focusing on athletic training.

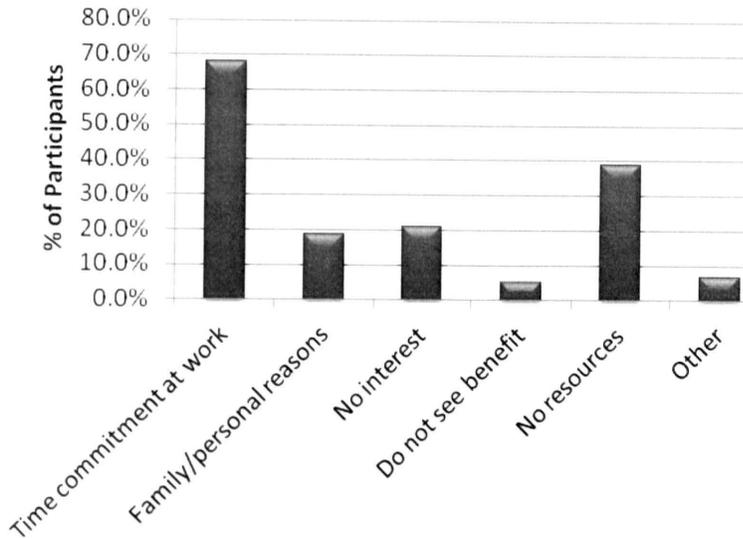


Figure 1. Reasons for limited professional involvement

Participants were asked two opinion questions at the conclusion of the survey. When asked if participation as a student in at least two different beyond classroom service activities (presentations, mentoring, volunteering, memberships) would lead to a service-oriented professional, 72.3% believed that yes it would. Participants were then asked if they think participating in research as a student encourages further research as professionals. Again, the majority of responses indicated yes (71.4%). See Table 11.

Table 11

Student Perceptions About Professional Involvement

	Yes		No	
	#	%	#	%
Do you think that participation as a student in at least two different “beyond classroom service activities” (presentations, mentoring, volunteering, memberships) leads to a service-oriented professional?	86	72.3%	33	27.7%
Do you think that participation in research as a student encourages further research as professionals?	85	71.4%	34	28.6%

Program Directors’ Perceptions

After indicating requirements for students within their respective ATEPs, Program Directors were asked to give their personal perception on requiring students to participate in professional activities. Specifically, PDs were asked if requiring these activities of students would lead to their participation in the same activities as professionals. Responses for PDs are presented in Table 12.

Almost two-thirds (64%) of PDs thought that requiring research as students would not lead to doing research as a professional. Similarly, 58% thought that requiring poster or oral presentation proposals as students would not lead to their submitting proposals as professionals. However, for the remaining 6 questions about participation required of students, at least 50% of PDs thought students would be influenced to participate as professionals.

Table 12

Perceptions of ATEP Program Directors

Do you think that requiring entry-level athletic training students:	Yes		No	
	#	%	#	%
To submit presentation proposals (poster or oral) leads to their submitting proposals following graduation?	38	41.8%	53	58.2%
To have membership in organizations as students leads to their ACTIVE involvement in organizations following graduation?	54	59.3%	37	40.7%
To be ACTIVELY involved in organizations as students leads to their ACTIVE involvement in organizations following graduation?	71	78%	20	22%
To complete research projects as part of a structured class leads to their conducting research following graduation?	33	36.3%	58	63.7%
To complete voluntary community service leads to their participation in community service after graduation?	55	60.4%	36	39.6%
To mentor other students leads to their participation in mentoring following graduation?	57	62.6%	34	37.4%
To complete any ONE of these activities leads students to participate in several of these activities following graduation?	55	60.4%	36	39.6%
Do you think that participation of a student in at least two different “beyond classroom service activities” (presentations, mentoring, volunteering, memberships) leads to a service-oriented professional?	57	62.6%	34	37.4%

Memory Recall

Student responses for required components of their respective ATEPs were compared to the responses of their PDs to determine if memory recollection was accurate. On the survey, PDs were asked to respond with requirements for students who graduated from their ATEP in the 2004-2005 academic year. Table 13 shows how six participants' responses compared with the responses of 5 PDs (2 students were from the same university).

It is interesting to note that in 3 areas of participation (presentation proposals, student organization membership, and research), a third of the responses from students and PDs did not show agreement on the requirement. Additionally on 3 other areas (professional organization membership, community service, and mentored by healthcare professional), the lack of agreement was 50%. When reporting requirements for mentoring other students, two-thirds (67%) of the time the two groups did not agree.

Table 13

Agreement Level of Student and Program Director Recall of ATEP Requirements

Question	Agree - Required		Agree - Not Required		Do Not Agree on Requirement	
	#	%	#	%	#	%
Were you required to submit a presentation proposal?	1	16.7%	3	50%	2	33.3%
Were you required to be a member of a student organization?	0	0%	4	66.7%	2	33.3%
Were you required to be a member of a professional organization?	0	0%	3	50%	3	50%
Were you required to complete a research project as part of a structured class?	4	66.7%	0	0%	2	33.3%
Were you required to complete any volunteer community service?	0	0%	3	50%	3	50%
Were you required to mentor other athletic training students?	1	16.7%	1	16.7%	4	66.7%
Were you required to be mentored by a healthcare professional?	2	33.3%	1	16.7%	3	50%

CHAPTER V
SUMMARY, FINDINGS, DISCUSSION, CONCLUSION,
AND RECOMMENDATIONS FOR FURTHER STUDY

This chapter summarizes the purpose, methods, and results of the study.

Conclusions drawn from the data analysis are also discussed, as well as recommendations for further study.

Summary

Since the beginning of the athletic training profession, athletic trainers have made countless efforts to bring recognition and respect to their field, but the battle continues for athletic training to be viewed as a legitimate position and to be accepted among allied healthcare professions (Dodge & Mensch, 2004). Athletic training needs individuals who take pride in their work and who will be actively engaged in further developing the profession. Being actively engaged involves more than simply registering as a member of an organization. It means voting within organizations, pursuing research and sharing findings, being a part of projects and committees, encouraging others to be involved and mentoring them, participating in political efforts, and being a positive representation of the athletic training profession at work and in the community. The NATA has launched a large-scale effort to get the young professionals involved (NATA, 2008, n.d.a).

However, could athletic trainers do more in Athletic Training Education Programs (ATEPs) to develop this type of engaged professional?

The purpose of this study was to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level ATEP.

The participants for this study were Certified Athletic Trainers (ATCs) who graduated during the 2004-2005 academic year and became certified in 2005. These participants were chosen because they have had at least 5 years to potentially become involved as professionals. Program Directors (PDs) at all CAATE accredited entry-level ATEPs in the United States were asked to provide information with respect to requirements for professional involvement of students who graduated from their programs during the 2004-2005 academic year. Responses from Program Directors were matched to the responses of ATCs who graduated from their respective ATEPs. This comparison showed how much agreement existed between athletic training participants and Program Directors on the ATEPs' requirements of student participation

Psychdata was used for both online surveys during the Spring of 2011. Email lists were compiled for both the ATCs and the PDs to request their participation in the surveys. Contact information for 800 athletic trainers who became certified in 2005 were obtained from the BOC, and athletic trainers who did not graduate during the 2004-2005 academic year were eliminated from the study through an initial question on the survey. Contact information for 368 Program Directors was collected from the CAATE website. Following approval from the Texas Woman's University Institutional Review Board, emails were sent to request consent and participation in the online survey. One week

following the initial email request, a second request for participation was sent, and a third and final request for participation was sent 1 week following the second request. All data was downloaded and saved in the researcher's computer, which was protected by username and password.

Descriptive data were compiled to describe the participating athletic trainers and college/university program directors. In SPSS, the McNemar test was used to look for differences between the participants' behavior as a student and their involvement as a professional athletic trainer in five specific areas: presentation proposals, professional organization memberships, research, mentoring, and community service. Also, frequencies were used to look at ATCs' reasons for not participating in professional activities and to see the perceptions of PDs.

Survey participation requests were sent nation-wide to 800 ATCs who became certified in 2005 and were actively maintaining their credentials with the BOC. From this group, 307 survey responses were received. With the first question on the survey, the participant pool was further narrowed down to include only those individuals who graduated from an ATEP during the 2004-2005 academic year and included 128 individuals. Eight of these participants were excluded due to incomplete survey responses, leaving 120 valid participants.

Out of 368 survey participation requests, 124 (33.7%) ATEP Program Directors' responses were received. Twenty-five of those responses were eliminated due to respondents completing only demographic questions and nothing further. Additionally, 8

responses were eliminated as possible duplicate surveys sent from the same IP addresses as other responses. This left 91 (24.7%) complete responses.

Findings

The findings will be reported according to the research questions that guided this study.

1. Do athletic trainers who submitted presentation proposals as students continue to submit professional presentation proposals following certification? (Table 3)
 - Both requiring and participating in presentation proposals as students influenced the participation in presentation proposals as professionals.
2. At what level do athletic trainers who were active participants in organizations as students continue to be active participants in professional organizations following certification? (Tables 4 and 5)
 - Membership in student organizations as students (both required and participation by choice) did not influence membership in organizations as professionals.
 - Student membership in a professional organization (both required and participation by choice) did not influence membership in organizations as professionals.
 - As student organization members, 93.8% of participants considered themselves as active members. However, 47.8% of these same

participants reported that they are not active members in organizations as professionals.

3. What percentage of athletic trainers who completed research projects as students continue to do research projects following certification? (Table 6)
 - Of the students who completed a research project, only 41.3% had completed research since becoming certified.
 - Requiring research and simply participating in research did not influence participation in research as professionals.
4. At what level do athletic trainers who participated in mentoring as students continue to be involved with mentoring following certification? (Tables 8 and 9)
 - Participating in mentoring other students did influence mentoring athletic training students as a professional, but requiring students to mentor other students did not influence participation as a professional.
 - Being mentored as a student (required and simply participating) by a healthcare professional did not influence being mentored as a professional.
5. What percentage of athletic trainers who participated in community service related to athletic training continue to be involved in community service related to athletic training following certification? (Table 7)
 - Of the 83 students who participated in community service, 81.9% continued to participate as professionals.

- Participating in community service as a student influenced participation as a professional, but requiring community service of students did not influence participation as professionals.
6. Program Directors' perceptions about required participation as students in the 5 activities discussed leading to continued participation as professionals. (Table 12)
- At least 58% of PDs thought that requiring research or presentation proposals as students would not lead to completing these activities as professionals.
 - At least 59% of PDs thought that requiring student participation in organizations, community service, and mentoring did lead to participating in these activities as professionals.
 - Almost two-thirds (63%) of PDs believe that student participation in at least two beyond classroom activities would lead to a service-oriented professional.

Discussion

The following discussions are based on the findings of this study and previous studies and are presented in the following sections: (a) Participant Demographics, (b) Presentation Proposals, (c) Organization Membership, (d) Research, (e) Community Service, (f) Mentoring, (g) Participants' Thoughts, (h) Memory Recall, and (i) Program Directors' Perceptions.

Participant Demographics

Surveys from a diverse sample of entry-level athletic training graduates from the 2004-2005 academic year were collected from across the United States. However, 73.9% of participants had completed or were working towards a graduate degree beyond their entry-level ATEP. As a result, many participants had completed professional activities since becoming ATCs, but it was due to requirements of their graduate programs. It would be beneficial to follow these graduate students to see what activities they completed in the 5 years following the completion of their graduate degree.

Presentation Proposals

Submission of presentation proposals was the only professional activity in which significant changes were not seen from student participation to professional participation. Of those who submitted proposals as students, almost half of them continued to do so as professionals, and more than one-third who did not submit proposals as students did submit them as professionals. However, within the one-third who did not submit proposals as students but did as professionals, 65% of those proposals as professionals were required. Overall, among the professionals who submitted presentation proposals, 57.4% indicated it was required for an additional degree. With almost 75% of participants pursuing or completing a graduate degree, this could have an impact on the findings. Additionally, participants indicated that time commitment at work and no resources were major limiting factors for participating in professional activities. This could certainly come into play with presentation proposals.

Being required to give presentations could be a motivating factor for participating in this activity as a student and as a professional, but other motivating factors accounted for 42.6% of professional presentation proposals. If it could be determined what motivates this 42.6% of ATCs to complete their proposals without being required, then maybe others could be encouraged to participate without being required to do so.

In a study by Seymour et al. (2004), findings indicated that students who participated in authentic research and then presented their research at professional conferences had better developed abilities to present, discuss, and defend their research than those who presented only at their respective institutions. Also in the study by Seymour et al. (2004), student participants indicated that development of these communication skills was more pertinent to their professional preparation than formal writing skills. Are students with better developed communication skills and confidence more likely to voluntarily give presentations in the future? If so, shouldn't ATEPs require authentic research experiences for students followed by presenting at professional conferences?

Organization Memberships

With all but 2 participants becoming members of a professional organization after graduating, it seemed that requiring membership as a student was not necessary. Even as students, the majority of participants chose to be members of student organizations. This could be supported by the human development theories of Arnett (2000), Erikson (1950, 1968), and Keniston (1971). During their late teens and early to mid-twenties, most

individuals are more willing to try new things as they develop their individual identities, and being a member of organizations helps individuals explore opportunities to determine their strengths and interests.

From the current study, we did see that 99% of those who participated in student organizations continued on to be members in professional organizations; however, it could not be determined that it is only participation as a student that led to this continued membership as a professional. Also 95.7% of those who were not members of organizations as students still became members of organizations as professionals. Most participants (67.5%) indicated that being a member of a professional organization was not required. They chose to participate for whatever their reasons.

A point of interest is the amount of participants who considered themselves as active members within their organizations. As students, 93.8% of participants reported being active members of their student organization, but as professionals, only 47% indicated that they were active members of their professional organization. Even when looking specifically at the group who indicated being active student members, 47.8% reported that they are not active members as professionals. Perhaps, Program Directors should re-evaluate how we encourage students to become active members in our athletic training organizations for the sake of the profession. These findings were supported by the lack of participation in the last NATA presidential election. In 2008, only 16% of eligible members took the time to cast an electronic vote (Albhom, 2011). As a young

profession, actively engaged members are needed if we are to serve our physically active population and advance our field.

Many of the new ATCs who participated in this study have continued to voluntarily participate in community service. If athletic trainers like to participate in community service, why not utilize community service projects for students that will emphasize professional accountability as suggested by O'Toole et al. (2005)? Studies have shown that participation in service learning (community service linked directly to learning goals in education) led to an increased sense of social responsibility and a deeper commitment to civic responsibilities (Astin et al., 1999; Bentley & Ellison, 2005; Eyler et al., 1997; Klink & Athaide, 2004). Athletic Training Education Programs could try utilizing service learning experiences so that students see how their decisions and actions do impact the environment around them. Perhaps these opportunities would give students the confidence to be engaged as professionals and the vision for why it is important for the field of athletic training.

If students are engaged in organizations but failed to be active once they become professionals, what was the cause? Maybe we should look at whether state and regional organizations have provided opportunities for young professionals to join committees. Other questions that should be explored are: (1) Do young professionals simply have the mindset that they do not have enough experience to serve on committees? (2) Why are members not voting during organizational elections when the process is as simple as clicking a link and clicking to vote? (3) Do new professionals not feel integrated enough

to make decisions about the organizations? (4) Are the first 5 years as a professional so overwhelming that new athletic trainers truly do not have time for active participation in organizations? These are all questions that should be addressed when considering why 47.8% of actively engaged students did not get actively engaged in organizations as professionals.

Athletic Training Education Programs should continue to reinforce the importance of being active members of organizations but do not need to require this. From this study, it is clear that graduates became members of professional organizations, but graduates did need a little help in moving on to become active members in their organizations. Could this be improved through more effective teaching of professional and civic responsibility or through increasing professional integration of new graduates? Individuals tend to develop their own professional attitudes during their educational years, which makes it vital for educators to instill active or participatory ideals in the students (Cohen, 2006).

Research

This study clearly showed that to get professionals to participate in research it needed to be required when they were students. Only 1 participant indicated completing research that was not required as a student. Additionally, from the participants who did not complete research as students but have as professionals, 75% (6) of them were required to conduct the research as professionals. It was not their choice to do so. As professionals, 11 participants completed research that was not required. While this is a

small number, it was noteworthy that 9 (81.8%) of these individuals did complete research as a student. Out of all the participants, only 2 (0.02%) chose to do research as professionals without any previous research experience.

Even though 59.3% of participants were required to complete research as a student and did not complete research as a professional, this could be due to the actual research experience as a student or to the lack of resources and time as professionals. Studies have indicated that participation in authentic research – rather than traditional lab experiments or small class projects – as students has a positive outcome on students' perceptions of research and their decision to pursue research in their futures (Craney et al., 2011; Hunter et al., 2007).

If students do not complete research, how will they learn the research process? How will a person know if they like to conduct research? One participant stated, "I wholeheartedly think that developing an interest in research early on in one's education will facilitate continued curiosity for field-related research." Of all ATCs, 71.4% felt that participation in research as a student encouraged further research as a professional. A recent study has shown that students conducting research gained the added benefits of better communication, more use of research based evidence, and higher levels of confidence in questioning clinical practices (Martin et al., 2009). If students are given quality authentic research experiences and see the personal benefits, perhaps it would be enough to increase participation in research after graduation.

Research needs to be a required component for athletic training students, and the experience needs to extend beyond the realm of class work. Modeling research experiences after authentic research programs that have been completed successfully by others is a great place for ATEPs to start. Two ATEPs have already been working to develop research engagement experiences for their students that have shown positive results (Martin et al., 2009). Through authentic research experiences, students not only improved research and communication skills, but they also indicated that they are more likely to conduct research in the future and could envision themselves as researchers (Craney et al., 2011; Hunter et al., 2007). The advancement of athletic training depends upon professionals who are willing to conduct research, and new professionals need to help fill this role (McCoy, 2008; Steves & Hootman, 2004). In other words, the future of athletic training depends on ATEPs being able to develop an interest in students for conducting research and to build student confidence in their ability to complete research after they have graduated.

Community Service

For community service, it appeared that participation in this activity as students led to continued participation as professionals. In fact, 83% of those who were required to complete community service continued to participate in further service as professionals. It might be possible to further increase the percentage of those who continue participating in community service by emphasizing student reflection of the experience and by making clear connections between the service and skills being

discussed in coursework (Bringle & Hatcher, 1996; Cene et al., 2009; Conrad & Hedin, 1991; Ngai, 2006).

Although a significant increase was seen for students who were not required to participate but did participate as professionals, the same was not true for those who did not participate (required or not) in service as students. This further supported the notion that voluntary participation in service (rather than required service) was what led to further service. Some respondents who were not required to participate in service still chose to participate as a student and later as a professional.

It was encouraging that 73.9% of ATCs participated in community service as professionals, and 81.8% reported that their participation was not required. Since athletic training is a service-oriented profession, these findings were not too surprising. Additionally, studies have shown that participating in service programs led to an increased sense of social responsibility (Bentley & Ellison, 2005; Eycler et al., 1997; Hamilton & Fenzel, 1988; Klink & Athaide, 2004).

Participation in community service should be either strongly encouraged or possibly required in order to demonstrate the value of such an activity and to promote continued service as professionals. If ATEPs are going to have students complete service, why not utilize service learning as a way to obtain added benefits such as building civic responsibility and making connections between the service activity and the information being learned in class? As demonstrated in this study, many students already had a desire to take part in community service. By using an activity that students want to

complete, ATEPs could take advantage of the positive, engaging environment to further develop additional professional skills (civic engagement, research) that students might not otherwise give thought or effort to developing. In essence, hide the vegetable in the fruits until they have figured out the vegetable is not so bad after all. Studies have shown that participating in service has benefits such as creating a deeper understanding of knowledge, allowing integration and analysis of information, developing professional skills, and understanding the need for being active in policy processes (Dupre & Goodgold; 2007; Eyer et al., 1997; Klink & Athaide, 2004; Ngai, 2006).

Mentoring

Mentoring other students only had significance when comparing numbers of students required to participate in mentoring to the number of professionals who mentored a student. When numbers were compared for all participants (required or not) in student mentoring with the number of professionals who mentored students, the changes were nonsignificant. This led to participating in mentoring other students as being a key factor. Many students were not required to mentor other students, but they still chose to do so. Then as they began their professional careers, the participants continued to mentor other athletic training students.

This study found that 81.5% of participants mentored another athletic training student while they were a student themselves, and 82.4% mentored students once they became professionals. A study by Henning et al. (2006) showed that 91% of student participants enrolled in accredited ATEPs were learning at least a small amount of their

clinical skills from their peers, and 66% of participants reported practicing a moderate to large amount of their skills with fellow students. From these two studies, it was clear that a majority of athletic training students were being exposed to the concept of mentoring and continued to assist students even when they became professionals, which should be a great asset for the field of athletic training as it continues to move forward.

When noting changes from students who were not required to be mentored and those who were not mentored (required or not) by healthcare professionals, significant increases were seen for both groups in the number who had been mentored as athletic training professionals. However, 80% of those who were not mentored by healthcare professionals as students, but have been mentored as professionals, did participate in mentoring other students when they were students. The other 20% who have been mentored as ATCs with no previous mentoring experience (being the mentor or mentee) were required to be mentored. These findings also supported the idea that participating in mentoring as a student, whether it is with fellow students or healthcare professionals, encouraged participation in mentoring as professionals. Additionally, 61.1% of those who have been mentored as an athletic training professional indicated that it was not required of them. Do beginning athletic training professionals have an appreciation for the benefits of mentoring that they experienced as students? Or do beginning athletic training professionals feel unprepared for the professional realm and are seeking necessary guidance? These questions could not be answered by this study.

Athletic Training Education Programs should continue to encourage participation in mentoring, both students mentoring students and healthcare professionals mentoring students. This study shows that students who participated in mentoring were likely to continue participation after graduating. Mentoring provided benefits to both the mentor and the mentee (Giordana & Wedin, 2010; Stensfors-Hayes et al., 2010; Weidner & Popp, 2007). This development of skills, including communication, collaboration, better teaching, increased knowledge, seeing multiple perspectives, leadership skills, and self-reflection, would strengthen athletic trainers, resulting in a stronger professional field overall.

Participants' Thoughts

When asked what reasons may have limited or prohibited participation in the professional activities discussed, participants indicated time commitment at work (68.1%) as the top constraint. Considering that most athletic trainers work well over the typical 40-hr week, this finding was not a surprise. The second highest response was that participants did not have the resources (38.7%). Is the problem that resources were not available, or is the problem actually that athletic trainers did not have the time to seek out resources that were available through indirect approaches (i.e. grants, teaming with athletic trainers at equipped facilities, etc)? The third highest constraint on participating in professional activities was a lack of interest (21%). Should this be setting off alarms for the athletic training profession? Can a young profession continue to progress as a

healthcare field if 21% of its newest members had no interest in being engaged in professional activities?

Additional reasons for limited participation in professional activities were family/personal reasons and do not see the benefit. A few responses in the other category included lack of information and not sure how to become involved. The participants who gave these two responses along with the individuals who responded that they did not see the benefit could possibly become involved by having a mentor who is engaged in the profession. Is it possible that simple education and communication could change the participation of these ATCs?

Even with these constraints, at least 82% of respondents participated in mentoring as professionals, and 73.9% have completed community service. While community service may not have required a lot of time, mentoring did. If ATCs could make the time to be involved with mentoring, could they not also make the time to be involved in research? When given the opportunity to indicate other reasons for not participating in professional activities, one participant commented, "Have not made it a priority." As this study's findings indicated, most athletic trainers participated in community service and mentoring by choice. While the personal rewards from completing research may not be the same as rewards from mentoring, personal benefits of conducting research still existed as well as the added benefits of research for the entire profession. Another participant commented,

Research is very important, and I did not really realize this until I started my Masters program. I now understand how research affects our profession, and if we want to grow, it needs to be the basis of everything we do and how we conduct our profession.

The challenge for ATEPs is to get each graduate to arrive at this same level of understanding. Each ATEP should strive to develop a professional commitment in students so that they come to the realization that as a profession, involvement and research are necessary. Without active participation from ATCs, the profession could not move forward to create better work conditions such as less time commitment to work.

Finally, participants were asked to give their opinion on the connection of participation in professional activities as a student to participating in those activities as professionals. On both questions, over 70% of participants thought that participation as students would lead to more engaged professionals. Professionals who are fairly new to the athletic training field are saying, 'yes, participating in beyond classroom service activities as students will lead to more service-oriented professionals.' They also believed that completing research as a student encourages further research as professionals. These responses came from individuals who were students not so long ago and have experienced their first several years as a professional. These perceptions are valuable for the continued growth of the athletic training profession.

Memory Recall

The same questions about ATEP requirements were sent to the athletic trainers and to Program Directors in order to see if responses were consistent between the graduates and the requirements of their respective programs. The initial survey for PDs did not contain the question for them to indicate which program they represented. By the time the researcher realized this and added the question to the survey, more than half of the responses had already been received. Due to this, a limited number of program responses could be matched to the ATCs' responses.

With the 6 participants who attended programs that were identified by their 5 respective PDs (2 students attended the same university), at least half of the answers matched on all but one question. It is positive to see that several answers for program requirements did match, but not enough responses were collected to draw a conclusion. Additionally, some PDs who responded to the survey were not at their current institution during the 2004-2005 academic year, and it could have been difficult for them to determine the requirements for the students at that time.

Program Directors' Perceptions

Program directors were given the chance to report their personal perception as it related to student activities leading to further involvement as a professional following the student's graduation. Some of the responses did not match the findings of the current study on athletic training professionals' involvement. Below, each perception was compared to the findings of this study.

Within the professional activities of community service and mentoring, the perceptions of more than half of the Program Directors seemed to be consistent with the findings of this study. When considering community service, the current study's findings indicated their participating in community service (both required and not required) as students did influence professionals to continue completing community service without being required to do so. Among PDs, 60.4% thought that requiring community service would lead to participation in the activity as a professional. Next, 62.6% of the PDs thought that requiring students to mentor other students led to them participating in mentoring following graduation. The current study found that participating in mentoring other students (required or not) was connected to a large number who continued to mentor as professionals.

Presentation proposals, organizational membership, and active involvement of organizations were areas where some differences appeared. Significant changes were not seen in the present study for presentation proposals as students and then later as professionals. This indicated that participation (required or not) as a student did influence participation as a professional, but 58.2% of Program Directors believed that being required to submit proposals as students would not lead to submitting proposals as professionals. Program Directors (59.3%) believed that requiring student membership in organizations led to their active involvement in organizations as professionals. This study found that a significant number of students who were not required or simply chose not to be members of organizations later joined organizations as professionals.

Participation as a student did not appear to be the determining factor for joining an organization as a professional. Further, 78% of PDs thought that students being actively involved in organizations led to their active involvement in organizations as professionals. Among the athletic trainers who were members in student organizations, 93.8% considered themselves to be active members, and from this same group of individuals, 47.8% reported that they were not active members as professionals. This finding did not support the perception of three-fourths of the responding PDs.

Finally, 63.7% of Program Directors perceived that requiring research as part of a class did not lead to athletic trainers who will conduct research as professionals. This perception did match the findings of this study. However, even though 59.3% of participants who were required to complete research as a student did not complete research as a professional, this still left 40.7% who did conduct research as a professional. Additionally, if students were not required to conduct research, then according to the results of this study, only 0.02% would conduct research as a personal decision after graduating. These odds were not in favor of the continued development for a young profession such as athletic training. Also, if such a small number of PDs believed that requiring research is beneficial, it may limit the experiences of their students.

Only 62.6% of participating Program Directors thought that participation in at least two different beyond classroom service activities (presentations, mentoring, volunteering, memberships) led to a service-oriented professional. Was this number low

simply because of the limitation to two activities? Or were there a large number of Program Directors who believed that beyond classroom service activities were not important to the development of future athletic trainers?

It is important to determine the perceptions of ATEP Program Directors because their perceptions and ideas will impact these aspects of their respective programs. If PDs do not believe that it is important for students to experience participation in a particular professional activity, their programs may not work to improve opportunities for student growth in those areas. Findings from this study indicated that some perceptions of program directors, about participation of students carrying over into participation as professionals, were different from what was actually occurring. As was seen, PDs had a strong belief that active engagement in student organizations led to active professional members. This study found that this was not the case. Additionally, the lack of belief in conducting research as students leading to conducting research after graduation could be resulting in limited research experiences or research experiences that need improvement, but attention was not given to this area because of the perception that it was not necessary.

Learning what trends existed and educating PDs about these trends could be helpful. If PDs had an understanding and an appreciation for the current trends in participation, they could consider adjustments in their ATEPs that might develop better prepared and more engaged athletic training graduates, or they might see that their ATEP was on the right track with their current learning opportunities.

Simply having accreditation standards that require professionalism instruction is not enough to create successful and valuable development of skills in new professionals (Lang et al., 2009). It is up to each ATEP to implement methods beyond simple lecture format that best envelope students in real-world, applicable experiences. This experiential learning can ultimately influence (without technically requiring) students to develop the skills and attitudes, which builds graduates' interests and desires to be actively engaged professionals. As one participant stated, "I now wish I had been forced to be more involved as an Athletic Training Student. I feel I would be more involved now or more comfortable getting involved."

The field of athletic training needs young engaged professionals to help continue the progress being made in allied healthcare. Requirements for students during their entry-level education could potentially impact the decisions and directions these students choose to pursue as young professionals. By recognizing and understanding this possible influence, ATEPs can better construct their curriculum requirements or opportunities to significantly impact the development of students within their institutions. The potential outcome would be producing athletic training graduates who are more actively engaged within the profession.

Conclusions

Participation in some professional activities as students influenced continued participation in these activities as athletic training professionals. Submitting proposals for presentations, completing community service, and mentoring fellow students had a

positive influence on continuing these activities as ATCs. Even though organizational membership as professionals was not influenced by membership as a student, this study found a dramatic decrease in ATCs who considered themselves as active members of their professional organization. Research and being mentored by a healthcare professional did not influence continued participation in these activities as professionals. Finally, Program Directors had some perceptions about the influence of student activities on professional involvement that did not reflect the findings of this study.

Recommendations for Future Studies

Based on the results and findings of the present study, the following recommendations for future research are listed.

1. Have a separate survey for students who complete a graduate degree after completing their entry-level athletic training degree. This will allow for a follow up at 5 years after the completion of the graduate degree. Then comparisons can be made between individuals who complete a bachelors degree and those who continue on to complete a masters degree.
2. Incorporate a survey on attitude towards professionalism, professional responsibility, and preparation for the professional realm by the respective ATEP. Participants would complete the survey when they graduate from their entry-level ATEP and again 3 to 5 years into their careers. If participants complete an added graduate degree, have them complete the attitude survey at the conclusion of their graduate degree and again in 3 to 5 years.

3. Find ATEPs that utilize service-learning as a large component within their curriculum and follow the professional involvement of those students after their graduation.
4. Determine what types of research opportunities ATEPs are offering. This might help explain why a significant decrease in research as professionals is seen in the current study.
5. Find ATEPs that incorporate authentic research into their curriculum and follow the participation in research of those students after graduating. If no ATEPs are currently using authentic research, find a program willing to implement this aspect and collect data as the program is developed and implemented.
6. Determine the limitations to implementing authentic research in ATEPs and develop possible solutions for these limitations.
7. Develop research-based curriculum guides for implementing authentic research and service-learning in ATEPs.
8. Determine why 93.8% of participants reported being active members of their student organization, but as professionals, only 47% indicated that they were active members of their professional organization.
9. Determine what motivates the 42.6% of ATCs who submit presentation proposals when it is not required of them to do so.

REFERENCES

- Aagaard, E.M., & Hauer, K.E. (2003). A cross-sectional descriptive study of mentoring relationships formed by medical students. *Journal of General Internal Medicine, 18*, 298-302.
- Albholm, M. (2011, September). View from the top: A note from your president. *NATA News, 9*.
- Arnett, J.J. (1997). Young people's conceptions of the transition to adulthood. *Youth & Society, 29*(1), 1-23.
- Arnett, J.J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469-480.
- Astin, A.W., Sax, L.J., & Avalos, J. (1999). Long-term effects of volunteerism during the undergraduate years. *The Review of Higher Education, 22*, 187-202.
- Bauer, K.W., & Bennett, J.S. (2003). Alumni perceptions used to assess undergraduate research experience. *The Journal of Higher Education, 74*, 210-230.
- Benbassat, J., & Baumal, R. (2005). Enhancing self-awareness in medical students: An overview of teaching approaches. *Academic Medicine, 80*, 156-161.
- Bentley, R., & Ellison, K.J. (2005). Impact of a service-learning project on nursing students. *Nursing Education Perspectives, 26*, 287-290.

- Blue, A.V., Basco, W.T., Geesey, M.E., Thiedke, C.C., Sheridan, M.E., & Elam, C.L. (2005). How does pre-admission community service compare with community service during medical school? *Teaching and Learning in Medicine, 17*, 316-321.
- Bingle, R.G., & Hatcher, J.A. (1996). Implementing service learning in higher education. *Journal of Higher Education, 67*, 221-239.
- Cameron-Jones, M., & O'Hara, P. (1996). Three decisions about nurse mentoring. *Journal of Nurse Management, 4*, 225-230.
- Campbell, D.E., & Campbell, T.A. (2000). The mentoring relationship: Differing perceptions of benefits. *College Student Journal, 34*, 516-523.
- Castiglioni, A., Bellini, L.M., & Shea, J.A. (2004). Program directors' views of the importance and prevalence of mentoring in internal medicine residencies. *Journal of General Internal Medicine, 19*, 779-782.
- Castledine, G. (2008). Castledine column. Time in the professional gym. *British Journal of Nursing, 17*(1), 23.
- Cene, C.W., Peek, M.E., Jacobs, E., & Horowitz, C.R. (2009). Community-based teaching about health disparities: Combining education, scholarship, and community service. *Journal of General Internal Medicine, 25*(Suppl 2), 130-135.
- Chu, P.Y., & Chiu, J.F. (2003). Factors influencing household waste recycling behavior: Test of an integrated model. *Journal of Applied Social Psychology, 33*, 604-626.
- Cohen, J.J. (2006). Professionalism in medical education, and American perspective: From evidence to accountability. *Medical Education, 40*, 607-617.

- Commission on Accreditation of Athletic Training Education. (2008). Standards for the accreditation of entry-level athletic training education programs. Retrieved from <http://www.caate.net>
- Commission on Accreditation of Athletic Training Education. (n.d.). *Documents and online services*. Retrieved from <http://www.caate.net/>
- Connolly, B.H., Lupinnaci, N.S., & Bush, A.J. (2001). Changes in attitudes and perceptions about research in physical therapy among professional physical therapist students and new graduates. *Physical Therapy, 81*, 1127-1134.
- Conrad, D., & Hedin, D. (1982). The impact of experiential education on adolescent development. *Child & Youth Services, 4*, 57-76.
- Conrad, D., & Hedin, D. (1991). School-based community service: What we know from research and theory. *Phi Delta Kappan, 72*, 743-749.
- Corwin, R.G., & Taves, M.J. (1962). Some concomitants of bureaucratic and professional conceptions of the nurse role. *Nursing Research, 11*, 223-227.
- Craney, C., McKay, T., Mazzeo, A., Morris, J., Prigodich, C., & De Groot, R. (2011). Cross-discipline perceptions of the undergraduate research experience. *The Journal of Higher Education, 82*(1), 92-113.
- Cronan-Hillix, T., Gensheimer, L.K., Cronan-Hillix, W.A., & Davidson, W.S. (1986). Students' views of mentors in psychology graduate training. *Teaching of Psychology, 13*(3), 123-127.

Cruess, R., McIlroy, J., Cruess, S.C., Steinhart, Y., & Ginsburg, S. (2006).

Professionalism mini-evaluation exercise (P-MEX): A tool to evaluate professional behavior. *Academic Medicine*, 81(10), S74-S78.

Curtis, N., Helion, J.G., & Domsohn, M. (1998). Student athletic trainer perceptions of clinical supervisor behaviors: A critical incident study. *Journal of Athletic Training*, 33, 249-253.

Dodge, T. & Mensch, J. (2004). Image is everything. *Athletic Therapy Today*, 9(6), 58-59.

Dolaz, L.A. (1986). *Effective teaching and mentoring*. San Francisco, CA: Jossey-Bass.

Dupre, A.M., & Goodgold, S. (2007). Development of physical therapy student cultural competence through international community service. *Journal of Cultural Diversity*, 14(3), 126-134.

Erikson, E.H. (1950). *Childhood and society*. New York: Norton.

Erikson, E.H. (1968). *Identity, youth, and crisis*. New York: Norton.

Evans, D.R. (2010). The challenge of undergraduate research. *Peer Review - Association of American College & Universities*, 12(2), 31.

Eyler, J., Giles, D.E., & Braxton, J. (1997). The impact of service-learning on college students. *Michigan Journal of Community Service Learning*, 4, 5-15.

Falconer, J., & Holcomb, D. (2008). Understanding undergraduate research experiences from the student perspective: A phenomenological study of a summer student research program. *College Student Journal*, 42, 869-878.

- Feeg, V.D. (2001). Another view on professionalism. *Pediatric Nursing*, 27, 220-222.
- Fitch, T. (1987). Characteristics and motivations of college students volunteering for community service. *Journal of College Student Personnel*, 28, 424-431.
- Foster, J.J., Martin, A., Meekins, M.D., Seery, A.B., Eisenhower, D.D., & Howell, J.E. (2008). Opportunities for professional involvement. *American Journal of Health-System Pharmacy*, 65, 1120-1121.
- Giordana, S., & Wedin, B. (2010). Peer mentoring for multiple levels of nursing students. *Nursing Education Perspectives*, 31, 394-396.
- Greene, A.L., Wheatley, S.M., & Aldava, J.F. (1992). Stages on life's way: Adolescents' implicit theories of the life course. *Journal of Adolescent Research*, 7, 364-381.
- Hamilton, S.F., & Fenzel, L.M. (1988). The impact of volunteer experience on adolescent social development: Evidence of program effects. *Journal of Adolescent Research*, 3(1), 65-80.
- Harrison, D.A. (1995). Volunteer motivation and attendance decisions: Competitive theory testing in multiple samples from a homeless shelter. *Journal of Applied Psychology*, 80, 371-385.
- Harrison, L.L., Lowery, B., & Bailey, P. (1991). Changes in nursing students' knowledge about and attitudes toward research following an undergraduate research course. *Journal of Advanced Nursing*, 16, 807-812.
- Harris, S.M. (1995). Ethics, legalities, professionalism, and the professor: A document analysis. *The American Journal of Family Therapy*, 23(1), 38-47.

- Hellman, C.M., Hoppes, S., & Ellison, G.C. (2006). Factors associated with college student intent to engage in community service. *Journal of Psychology, 140*(1), 29-39.
- Henning, J.M., Weidner, T.G., & Jones, J. (2006). Peer-assisted learning in the athletic training clinical setting. *Journal of Athletic Training, 41*(1), 102-108.
- Hodgkinson, V.A. (1995). Key factors influencing caring, involvement and community. In P. Schervish, V. Hodgkinson, & M. Gates (Eds), *Care and community in modern society: Passing on the tradition of service to future generations* (pp. 21-50). San Francisco: Josey-Bass.
- Hoge, D.R., Johnson, B., & Luidens, D.A. (1993). Determinants of church involvement of young adults who grew up in Presbyterian churches. *Journal of the Scientific Study of Religion, 32*, 242-255.
- Howard, L.A., Smith-Goodwin, E.A. (2010). Student-to-student mentoring for retention: Both groups benefit. *Athletic Therapy Today, 15*(3), 14-17.
- Hunter, A.B., Laursen, S.L., & Seymour, E. (2007). Becoming a scientist: The role of undergraduate research in students' cognitive, personal, and professional development. *Science Education, 91*(1), 36-74.
- Ingersoll, C.D. (2006). It's time for evidence. *Journal of Athletic Training, 41*(1), 7.
- Ishiyama, J. (2002). Does early participation in undergraduate research benefit social science and humanities students?. *College Student Journal, 36*, 380-386.

- Johnson, M., Beebe, T., Mortimer, J., & Snyder, M. (1998). Volunteerism in adolescence: A process perspective. *Journal of Research on Adolescence, 9*, 309-332.
- Jotkowitz, A.B., Glick, S., & Porath, A. (2004). A physician charter on medical professionalism: A challenge for medical education. *European Journal of Internal Medicine, 15*(1), 5-9.
- Kardash, C.M. (2000). Evaluation of an undergraduate research experience: Perceptions of undergraduate interns and their faculty mentors. *Journal of Educational Psychology, 92*(1), 192-201.
- Keniston, K. (1971). *Youth and dissent: The rise of a new opposition*. New York: Harcourt Brace Jovanovich.
- Klink, R.R., & Athaide, G.A. (2004). Implementing service learning in the principles of marketing course. *Journal of Marketing Education, 26*, 145-153.
- Landrum, R.E., & Nelson, L.R. (2002). The undergraduate research assistantship: An analysis of the benefits. *Teaching of Psychology, 29*(1), 15-19.
- Lang, C.W., Smith, P.J., & Ross, L.F. (2009). Ethics and professionalism in the pediatric curriculum: A survey of pediatric program directors. *Pediatrics, 124*, 1143-1151.
- Levy, B.D., Katz, J.T., Wolf, M.A., Sillman, J.S., Handin, R.I., & Dzau, V.J. (2004). An initiative in mentoring to promote residents' and faculty members' careers. *Academic Medicine, 79*, 845-850.
- Lopatto, D. (2004). Survey of undergraduate research experiences (SURE): First findings. *Cell Biology Education, 3*, 270-277.

- Lopopolo, R.B., Schafer, D.S., & Nosse, L.J. (2004). Leadership, administration, management, and professionalism (LAMP) in physical therapy: A delphi study. *Physical Therapy, 84*, 137-150.
- Malasarn, R., Bloom, G.A., & Crumptom, R. (2002). The development of expert male National Collegiate Athletic Association Division I certified athletic trainers. *Journal of Athletic Training, 37*(1), 55-62.
- Martin, M., Myer, G.D., Kreiswirth, E.M., & Kahanov, L. (2009). Research engagement: A model for athletic training education. *Athletic Therapy Today, 14*(1), 27-30.
- Maudsley, G., & Strivens, J. (2000). Promoting professional knowledge, experiential learning and critical thinking for medical students. *Medical Education, 34*, 535-544.
- McCoy, M. (2008). Professional attitudes regarding research – changing the culture one student at a time. *Journal of Canadian Chiropractic Association, 52*(3), 143-148.
- Murakani, J., Lund, D.A., Wright, S.D., & Stephenson, M. (2002). Service learning in gerontology: A coordinated curriculum model. *Gerontology & Geriatrics Education, 23*(2), 1-24.
- National Athletic Trainers' Association. (2008, August). NATA: Involve & evolve gains momentum. *NATA News*, 12-15.
- National Athletic Trainers' Association. (n.d.a). *Involve & evolve*. Retrieved from <http://www.nata.org/members1/involveandevolve/index.cfm>

- National Athletic Trainers' Association. (n.d.b). *Membership statistics*. Retrieved from <http://www.nata.org/members1/documents/membstats/index.cfm>
- National Athletic Trainers' Association. (n.d.c). *NATA's fair practice lawsuit settlement benefits members*. Retrieved from <http://www.nata.org/newsrelease/archives/000665.htm>
- Ngai, S.S. (2006). Service-learning, personal development, and social commitment: A case study of university students in Hong Kong. *Adolescence, 41*(161), 165-176.
- Nolin, M.J., Chaney, B., & Chapman, C. (1997). Student participation in community service activity (NCES 97-331). Washington, DC: National Center for Education Statistics, US Department of Education.
- Oesterle, S., Johnson, M.K., & Mortimer, J.T. (2004). Volunteerism during the transition to adulthood: A life course perspective. *Social Forces, 82*, 1123-1149.
- Okun, M.A., & Sloane, E.S. (2002). Application of planned behavior theory to predicting volunteer enrollment by college students in a campus-based program. *Social Behavior and Personality, 30*, 243-250.
- Osborne, R.E., Hammerich, S., & Hensley, C. (1998). Student effects of service-learning: Tracking change across a semester. *Michigan Journal of Community Service Learning, 5*, 5-13.
- O'Toole, T.P., Navneet, K., Mishra, M., & Schukart, D. (2005). Teaching professionalism within a community context: perspectives from a national demonstration project. *Academic Medicine, 80*, 339-343.

- Parkison, P.T., & Bartek, J.K. (2010). Peer mentoring and collaboration in the clinical setting: A case study in dental hygiene. *Reflective Practice, 11*, 231-243.
- Peacock, J.R., Flythe, M.K., & Jones, K. (2006). A service-learning collaboration: A graduate gerontology program and a foster grandparent program. *Educational Gerontology, 32*, 335-349.
- Peer, K.S. & Schlabach, G. (2007). Ethics education: The cornerstone of foundational behaviors of professional practice. *Athletic Therapy Today, 12*(1), 2-6.
- Pitney, W.A., & Ehlers, G.G. (2004). A grounded theory study of the mentoring process involved with undergraduate athletic training students. *Journal of Athletic Training, 39*, 344-351.
- Planty, M., Bozick, R., & Regnier, M. (2006). Helping because you have to or helping because you want to? Sustaining participation in service work from adolescence through young adulthood. *Youth & Society, 38*, 177-202.
- Polk-Lepson Research Group. (2010). *2010 professionalism in the workplace*. York, PA. Retrieved from David Polk: dpolk@ycp.edu
- Pomerleau, K.J. (2008). Attracting students to professional organizations: One student's thoughts after attending the AWHONN convention. *Nursing for Women's Health, 12*, 377-378.
- Ramanan, R.A., Taylor, W.C., Davis, R.B., & Phillips, R.S. (2006). Mentoring matters: Mentoring and career preparation in internal medicine residency training. *Journal of General Internal Medicine, 21*, 340-345.

- Ricer, R.E., Fox, B.C., & Miller, K.E. (1995). Mentoring for medical students interested in family practice. *Family Medicine*, 27, 360-365.
- Rogers, I. (2010). Required service-learning courses: A disciplinary necessity to preserve the decaying social mission of black studies. *Journal of Black Studies*, 40, 1119-1135.
- Russell, S., Hancock, M., & McCullough, J. (2007). Benefits of undergraduate research experiences. *Science*, 316, 548-549.
- Sadler, T.D., & McKinney, L. (2010). Scientific research for undergraduate students: A review of the literatures. *Journal of College Science Teaching*, 39(5), 43-49.
- Sax, L.J., & Astin, A.W. (1997). The benefits of service: Evidence from undergraduates. *The Educational Record*, 78(3-4), 25-32.
- Seider, S. (2007). Catalyzing a commitment to community service in emerging adults. *Journal of Adolescent Research*, 22, 612-639.
- Serow, R. (1991). Students and voluntarism: Looking into the motives of community service participants. *American Educational Research Journal*, 28, 543-556.
- Seymour, E., Hunter, A.B., Laursen, S.L., & Deantoni, T. (2004). Establishing the benefits of research experiences for undergraduates in the sciences: First findings from a three-year study. *Science Education*, 88, 493-534.
- Shiarella, A.H., McCarthy, A.M., & Tucker, M.L. (2000). Development and construct validity of scores on the community service attitudes scale. *Educational and Psychological Measurement*, 60, 286-300.

- Stark, R., Korenstein, D., & Karani, R. (2008). Impact of a 360-degree professionalism assessment on faculty comfort and skills in feedback delivery. *Journal of General Internal Medicine*, 23, 969-972.
- Stenfors-Hayes, T., Kalen, S., Hult, H., Dahlgren, L.O., Hindbeck, H., & Ponzer, S. (2010). Being a mentor for undergraduate medical students enhances personal and professional development. *Medical Teacher*, 32, 148-153.
- Steves, R., & Hootman, J.M. (2004). Evidence-based medicine: What is it and how does it apply to athletic training?. *Journal of Athletic Training*, 39(1), 83-87.
- Suter, E., Vanderheyden, L.C., Trojan, L.S., Verhoef, M.J., & Armitage, M.A. (2007). How important is research-based practice to chiropractors and massage therapists?. *Journal of Manipulative and Physiological Therapeutics*, 30(2), 109-115).
- Weidner, T.G., & Henning, J.M. (2002). Being an effective athletic training clinical instructor. *Athletic Therapy Today*, 7(5), 6-11.
- Weidner, T.G., & Popp, J.K. (2007). Peer-assisted learning and orthopaedic evaluation psychomotor skills. *Journal of Athletic Training*, 42(1), 113-119.
- Weidner, T.G., Trethewey, J., & August, J.A. (1997). Learning clinical skills in athletic therapy. *Athletic Therapy Today*, 2(5), 43-49.
- Williams, L.L., Levine, J.B., Malhotra, S., & Holtzheimer, P. (2004). The good-enough mentoring relationship. *Academic Psychiatry*, 28(2), 111-115.

Youniss, J., McLellan, J.A., & Yates, M. (1997). What we know about engendering civic identity. *American Behavioral Scientist*, 40, 620-631.

APPENDIX A

Online Survey for Certified Athletic Trainers

Athletic Trainer - Professional Activity Survey

Consent to Participate in Research

Title: Professional Involvement: Requirements as Students and Trends Following Certification

Investigator: Jennifer Lancaster, MS, ATC, LAT (972) 968-5525

Advisor: Bettye Myers, PhD. (940) 898-2577

You are being asked to participate in a survey study for a doctoral dissertation. The **purpose** of this research is to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level athletic training education program.

This research will require you to complete an online survey that should take no more than 15-20 minutes to complete.

A few possible risks or discomforts may be present with the content of certain questions. For example, questions regarding professional involvement ask for reasons why you do or do not participate in certain professional activities. Your participation is completely voluntary, and your name will never be associated with your response. You may choose not to participate in the survey at all. If discomfort occurs at any time while taking the survey, you may discontinue your participation. There is a potential loss of confidentiality in all internet, email, and downloading transactions. While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect confidentiality of your transmission.

At the conclusion of the survey, you will have the opportunity to submit your name and email address separately from data if you wish to be included in the drawing for two \$50 gift cards.

If you have any questions regarding this study, you may contact the researchers, whose phone numbers are located at the top of this page. If you have questions about your rights as a participant in this research or the way the research is being conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at (940) 898-3378 or via email at IRB@twu.edu.

If you agree to participate, please click *Continue to the Next Page*. The submission of your completed survey constitutes your informed consent to act as a participant in this research. If you do not agree to participate, you may exit out of the program.

Thank you for your time!

*1) What academic year did you graduate from your entry-level Athletic Training Education Program?

2003-2004 2004-2005 2005-2006 Other

(please specify)

*2) What is your current age?

- 20-24
- 25-29
- 30-34
- Other (please specify)

*3) Your Gender

- Male
- Female

*4) What is your current job setting?

- Clinic
- College/University Athletics
- College/University Academics (if academics is the majority of your workload)
- Corporate
- Health/Fitness Clubs
- Hospital
- Independent Contractor
- Industrial/Occupational
- Military/Government/Law Enforcement
- Pro Sports
- Secondary Schools
- Graduate Student
- Unemployed
- Other (please specify)

Other: _____

*5) In which NATA district do you currently live?

- 1 (CT, ME, MA, NH, RI, VT)
- 2 (DE, NJ, NY, PA)
- 3 (D.C., 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, HI, NV)

- 9 (AL, FL, GA, KY, LA, MS, TN)
- 10 (AK, ID, MT, OR, WA)

*6) At what university did you complete your entry-level Athletic Training Education Program?

*7) Was the entry-level Athletic Training Education Program that you attended:

- An undergraduate degree program (Bachelor degree)
- A master degree program

*8) Was your entry-level athletic training education program at a:

- NCAA Division I University
- NCAA Division II University
- NCAA Division III University
- NAIA University
- Other (please specify)

Other:

In the following questions, please give answers based upon your experiences as an athletic training student while completing your entry-level athletic training degree. For the purpose of this study, presentation proposals could be oral or posters at professional or student conferences.

*9) Were you REQUIRED to submit a presentation proposal?

- Yes No

*10) How many presentation proposals did you submit? (Even if not required)

- 1 2 3 or more None

For the following questions about organizations, please include only those student experiences with organizations that are related to athletic training.

	Yes	No	N/A
*11) Were you REQUIRED to be a member of a student organization?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
*12) Were you a member of a student organization?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*13) Would you have considered yourself an active	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

member of the student organization?

*14) Did you hold any offices in a student organization?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	1	2	3 or more	N/A
*15) How many years were you a member of a student organization?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Yes	No	N/A	
*16) Were you REQUIRED to be a member of a professional organization?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
*17) Were you a member of a professional organization?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
*18) Would you have considered yourself an active member of the professional organization?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	1	2	3 or more	N/A
*19) How many years were you a member of a professional organization?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*20) Were you REQUIRED to complete a research project as part of a structured class?

Yes No

*21) How many research projects did you complete as part of structured classes? (Even if not required)

1 2 3 or more None

*22) Were you REQUIRED to complete any volunteer community service (done without pay) related to athletic training?

Yes No

*23) How many community service projects did you complete? (Even if not required)

1-3 4-6 7 or more None

For the following questions, mentoring is defined by meeting regularly to facilitate professional growth and development.

	Yes	No
*24) Were you REQUIRED to mentor other athletic training students?	<input type="radio"/>	<input type="radio"/>
*25) Did you mentor other athletic training students? (Even if not required)	<input type="radio"/>	<input type="radio"/>
*26) Were you REQUIRED to be mentored by a healthcare professional?	<input type="radio"/>	<input type="radio"/>
*27) Were you mentored by a healthcare professional? (Even if not required)	<input type="radio"/>	<input type="radio"/>

28) Please check all that apply for healthcare professionals that mentored you.

- Athletic trainer at your university
- Athletic trainer not employed at your university
- Family practice doctor
- Orthopedic doctor
- Physical therapist at your university
- Physical therapist not employed at your university
- Other (please specify) _____

In the following section, please answer questions based upon your professional experiences in athletic training following graduation from your entry-level Athletic Training Education Program to the present time. This should be roughly five years of time. Do not include activities completed as part of your entry-level Athletic Training Education Program.

*29) Since graduating, how many presentation proposals (poster or oral) for a workshop or conference have you submitted?

- 1 2 3 or more None

30) If you have submitted a presentation proposal, was it: (Check all that apply)

- Required for work (tenure, promotion, annual evaluation, etc)
- Required for additional degree
- Required for other
- Not required

*31) Since graduating, how many years have you been a member of a professional organization related to athletic training?

- 1-3 4 or more None

*32) Would you consider yourself an active member of the professional organization?

- Yes No N/A

33) If you have been a member of a professional organization related to athletic training, was it: (Check all that apply)

- Required for work (tenure, promotion, annual evaluation, etc)
- Required for additional degree
- Required for other
- Not required

*34) Have you served on a committee or held an office in a professional organization related to athletic training?

- Yes No

35) If you did serve on a committee or hold an office, was it: (check all that apply)

- Required for work (tenure, promotion, annual evaluation, etc)
- Required for additional degree
- Required for other
- Not required

*36) How many professional research projects have you completed?

- 1 2 3 or more None

*37) How many of your research projects have you submitted for publication?

1 2 3 or more None

38) If you have completed a research project(s), was it: (check all that apply)

- Required for work (tenure, promotion, annual evaluation, etc)
- Required for additional degree
- Required for other
- Not required

*39) Following graduation, how many volunteer community service activities (done without pay) related to athletic training have you done?

1-3 4-6 7 or more None

40) If you have participated in community service related to athletic training, was it: (check all that apply)

- Required for work (tenure, promotion, annual evaluation, etc)
- Required for additional degree
- Required for other
- Not required

*41) Since graduating, have you participated in mentoring other athletic training students or professionals?

Yes No

*42) Since graduating, have you been mentored by another professional?

Yes No

43) If you have participated in mentoring since graduation, was it: (check all that apply):

- Required for work (tenure, promotion, annual evaluation, etc)
- Required for additional degree
- Required for other
- Not required

*44) Have you completed or are you currently working towards a graduate degree (other than an entry-level Athletic Training Education Program)?

Yes No

45) Are there any SIGNIFICANT reasons why you have not participated or have had limited participation in the previous professional activities?

- Work hours do not allow me enough time
- Family/personal reasons (single parent, illness, etc)
- No interest
- Do not see benefit
- No resources (money, equipment, technology, etc)

Other (please specify)

*46) Do you think that participation as a student in at least two different "beyond classroom service activities" (presentations, mentoring, volunteering, memberships) leads to a service-oriented professional?

Yes No

*47) Do you think that participation in research as a student encourages further research as professionals?

Yes No

48) If you have any comments or thoughts related to this study, feel free to list them below.

Athletic Trainer - Professional Activity Survey

Thank you!

Your time in completing this survey is greatly appreciated! If you would like to be included in the drawing for two \$50 gift cards, please send your name and email address to participantdrawing@yahoo.com.

If you were sent to this page after answering the very first question, it is because I am searching for participants who graduated within a specific academic year. I appreciate your willingness to participate.

APPENDIX B

Solicitation Email to Certified Athletic Trainers

To: [Email]
From: lancasterj@cfbisd.edu
Subject: Participation Request

Body: Hello, my name is Jennifer Lancaster, and I am requesting your participation in a short survey study for my doctoral dissertation. This research will require you to complete an online survey that should take no more than 15-20 minutes to complete. Participants who complete the survey will be given the opportunity to win one of two \$50 gift cards.

The **purpose** of this research is to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level athletic training education program.

Your participation is completely voluntary, and your name will never be associated with your response. There is a potential loss of confidentiality in all internet, email, and downloading transactions. While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect confidentiality of your transmission.

Investigator: Jennifer Lancaster, MS, ATC, LAT (972) 968-5525

Advisor: Bettye Myers, PhD. (940) 898-2577

If you agree to participate, please click the link to the survey below.

<https://www.psychdata.com/s.asp?SID=136904>

Thank you for your time!

Jennifer Lancaster

APPENDIX C

Online Survey for Program Directors

Program Director Survey

Consent to Participate in Research

Title: Professional Involvement: Requirements as Students and Trends Following Certification

Investigator: Jennifer Lancaster, ABD, ATC, LAT (972) 968-5525

Advisor: Bettye Myers, PhD. (940) 898-2577

You are being asked to participate in a survey study for a doctoral dissertation. The **purpose** of this research is to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level athletic training education program.

This research will require you to complete an online survey that should take no more than 15 minutes to complete.

Your participation is completely voluntary, and your name will never be associated with your response. You may choose not to participate in the survey at all, or while taking the survey, you may discontinue your participation at any time. There is a potential loss of confidentiality in all internet, email, and downloading transactions. While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect confidentiality of your transmission.

At the conclusion of the survey, you will have the opportunity to submit your name and email address separately from data if you wish to receive a brief summary of the findings of this study.

If you have any questions regarding this study, you may contact the researchers, whose phone numbers are located at the top of this page. If you have questions about your rights as a participant in this research or the way the research is being conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at (940) 898-3378 or via email at IRB@twu.edu.

If you agree to participate, please click *Continue to the Next Page*. The submission of your completed survey constitutes your informed consent to act as a participant in this research. If you do not agree to participate, you may exit out of the program.

Thank you for your time!

*1) In which NATA district is your ATEP located?

- 1 (CT, ME, MA, NH, RI, VT)
- 2 (DE, NJ, NY, PA)
- 3 (D.C., 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, HI, NV)
- 9 (AL, FL, GA, KY, LA, MS, TN)
- 10 (AK, ID, MT, OR, WA)

*2) Is your ATEP an undergraduate or graduate entry-level program?

Undergraduate Graduate

*3) How long is the professional phase of your curriculum program?

- 2 years
- 3 years
- 4 years
- Other (please specify)

Other:

*4) Is your institution:

- NCAA Division I
- NCAA Division II
- NCAA Division III
- NAIA
- Other (please specify)

Other:

*5) Was your ATEP a CAATE accredited program in the 2004-2005 academic year?

Yes No

*6) If you were not CAATE accredited in 2004-2005, what year did your program become accredited?

- 2005-2006
- 2006-2007
- 2007-2008
- 2008-2009
- 2009-2010
- Other (please specify)

For the following questions, please recall to the best of your abilities the requirements of your entry-level ATEP for students who **graduated** in the **2004-2005** academic year. Please include requirements for the entire progression of these students through your ATEP.

For the purpose of this study, presentation proposals include proposals for oral or poster presentations submitted to professional or student conferences.

*7) How many presentation proposals were students REQUIRED to submit?

1 2 3 or more None

*8) If your ATEP required students to be members of a student organization related to athletic training, how many years of membership were REQUIRED?

1 2 3 or more None

*9) If they were required to be members of a student organization, were students REQUIRED to be ACTIVE members?

Yes No N/A

*10) If your ATEP required students to be members of a professional organization related to athletic training, how many years of membership were REQUIRED?

1 2 3 or more None

*11) If they were required to be members of a professional organization, were students REQUIRED to be ACTIVE members?

Yes No N/A

*12) How many research projects were students REQUIRED to complete as part of a structured class?

1 2 3 or more None

*13) How many volunteer community service projects (done without pay) related to athletic training were students REQUIRED to complete?

1-3 4-6 7 or more None

*14) Were students REQUIRED to mentor other athletic training students? For this study, mentoring is defined as a person meeting regularly with a more experienced individual to facilitate professional growth and development.

Yes No

*15) Were athletic training students REQUIRED to be mentored by a healthcare professional?

Yes No

16) If mentoring by a healthcare professional was REQUIRED, please check all that apply for professionals who could have been involved.

- Athletic trainer at your university
- Athletic trainer not employed at your university
- Family practice doctor
- Orthopedic doctor
- Physical therapist at your university
- Physical therapist not employed at your university

Please indicate your personal perception on the following questions.

Do you think that requiring entry-level athletic training students:

	Yes	No
*27) To submit presentation proposals (poster or oral) leads to their submitting proposals following graduation?	<input type="radio"/>	<input type="radio"/>
*28) To have membership in organizations as students leads to their ACTIVE involvement in organizations following graduation?	<input type="radio"/>	<input type="radio"/>
*29) To be ACTIVELY involved in organizations as students leads to their ACTIVE involvement in organizations following graduation?	<input type="radio"/>	<input type="radio"/>
*30) To complete research projects as part of a structured class leads to their conducting research following graduation?	<input type="radio"/>	<input type="radio"/>
*31) To complete voluntary community service leads to their participation in community service after graduation?	<input type="radio"/>	<input type="radio"/>
*32) To mentor other students leads to their participation in mentoring following graduation?	<input type="radio"/>	<input type="radio"/>
	Yes	No
*33) Do you think that requiring any ONE of these activities (submitting presentations, memberships, research, community service, mentoring) leads students to participate in several of these activities following graduation?	<input type="radio"/>	<input type="radio"/>
*34) Do you think that participation of a student in at least two different "beyond classroom service activities" (presentations, mentoring, volunteering, memberships) leads to a service-oriented professional?	<input type="radio"/>	<input type="radio"/>

35) If you have any comments or thoughts related to this study, feel free to list them below.

36) Please indicate the name of your institution. This information will ONLY be used to match your responses to the responses of participants who graduated from your program during the 2004-2005 academic year.

Program Director Survey

Thank you!

Your time in completing this survey is greatly appreciated! If you would like to receive a summary of the findings from this study, please send your name and email address to surveysummary@yahoo.com.

APPENDIX D

Solicitation Email to Program Directors

To: [Email]
From: lancasterj@cfbisd.edu
Subject: Participation Request

Body: Hello, my name is Jennifer Lancaster, and I am requesting your participation in a short survey study for my doctoral dissertation. This research will require you to complete an online survey that should take no more than 15-20 minutes to complete. Participants who complete the survey will be given the opportunity to receive a summary of the findings.

The **purpose** of this research is to determine the difference in professional involvement of athletic trainers based upon their participation in professional activities while completing their entry-level athletic training education program.

Your participation is completely voluntary, and your name will never be associated with your response. There is a potential loss of confidentiality in all internet, email, and downloading transactions. While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect confidentiality of your transmission.

Investigator: Jennifer Lancaster, MS, ATC, LAT (972) 968-5525

Advisor: Bettye Myers, PhD. (940) 898-2577

If you agree to participate, please click the link to the survey below.

<https://www.psychdata.com/s.asp?SID=137077>

Thank you for your time!

Jennifer Lancaster

APPENDIX E

Approval Letter from Institutional Review Board



Institutional Review Board
Office of Research and Sponsored Programs
P.O. Box 425619, Denton, TX 76204-5619
940-898-3378 FAX 940-898-4416
e-mail: IRB@twu.edu

February 22, 2011

Ms. Jennifer N. Lancaster
3621 Frankford Rd., #434
Dallas, TX 75287

Dear Ms. Lancaster:

*Re: Professional Involvement: Requirements as Students and Trends Following Certification
(Protocol #: 16514)*

The above referenced study has been reviewed by the TWU Institutional Review Board (IRB) and was determined to be exempt from further review.

If applicable, agency approval letters must be submitted to the IRB upon receipt PRIOR to any data collection at that agency. Because a signed consent form is not required for exempt studies, the filing of signatures of participants with the TWU IRB is not necessary.

Any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any unanticipated incidents. If you have any questions, please contact the TWU IRB.

Sincerely,

Dr. Kathy DeOrnellas, Chair
Institutional Review Board - Denton

cc. Dr. Charlotte Sanborn, Department of Kinesiology
Dr. Bettye Myers, Department of Kinesiology
Graduate School