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How Athletic Training Educators Understand their Practice of Teaching: A Phenomenological Study

A dissertation submitted in partial fulfillment of the requirements for the degree of

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By

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Abstract

The purpose of this phenomenological study was to examine the understandings that select athletic training educators (ATEs) hold about their teaching in the classroom and what factors influenced their selection of teaching methods. The three research questions that guided this study were: (a) how do select ATEs understand their own teaching, (b) what strategies do they frequently use, and (c) what factors influence their selection of teaching methods. The participants of this study were purposefully selected beginning with critical case sampling of ATEs who were leaders in the field of athletic training education, followed by the additional recruitment of ATEs through a snowball method. Seven ATEs ultimately agreed to participate. Data sources for this study included interviews and documents. Participants also videotaped a teaching lesson from one of their undergraduate athletic training classes to aid in their reflection on their teaching for the in-depth interview. The data was analyzed in an effort to find the essence of the phenomenon. This included the identification of overarching themes and constant comparison of participants throughout the process. Two main themes emerged from the data: (a) mindfulness of the ATEs' teaching practice and (b) genuine care for the success and development of their students. Each theme was further broken down into subthemes. The theme of mindfulness of the participants' teaching practice was demonstrated through the following four subthemes: (a) their personal evolution as ATEs, (b) balance of student learning and engagement with required content, (c) importance of critical thinking, and (d) content being applicable/useful/relevant. The theme genuine care for the success and development of their students was illustrated through the following four subthemes: (a) student focused teaching, (b) development of skills other than academic,

(c) today's students, and (d) student success and good certified athletic trainers. Further review of the findings and themes revealed the larger concept, teaching as an essential vehicle to advance the profession of athletic training by way of instilling foundational behaviors in students.

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Chapter I

Introduction

Although athletic training as a profession has been in existence since the late 1800s, formal athletic training education programs were slow to develop. It was not until the 1950s and 1960s that athletic training education began to take shape (Ebel, 1999; Lisher, 2002). Since then, the education programs and the requirements for entry into the profession of athletic training have continued to evolve. While there has been some recent research on teaching and learning in athletic training, little research has been conducted to understand effective teaching in athletic training education programs and what influences athletic training educators' (ATEs) teaching methods (Craig, 2006). With the current increasing standards associated with educational programs (Craig, 2003; Peer & Rakich, 2000), developing an understanding of how ATEs teach may help promote effective teaching in athletic education programs and help determine best practices in the classroom. The demand for certified athletic trainers (ATCs) in various settings is increasing nationwide, and educational programs must fulfill the need for these highly skilled allied healthcare professionals.

Background of the Study

"How well do we know how to teach?" was the question asked by Dr. David Berry to ATEs in his column in the *Athletic Training Education Journal*. Berry (2010b) not only discussed the need for more doctoral-educated athletic trainers to fill faculty positions in athletic training education programs, but he also contemplated whether a doctoral degree signifies that an educator understands pedagogy. Successful completion of the Board of Certification, Inc. (BOC) examination verifies ATEs have the knowledge

and skills within the field of athletic training for clinical practice, but a terminal degree "does not mean that the person holding this degree necessarily understands how to design, implement, assess, or even instruct his/her content expertise" (Berry, 2010b, p. 38). Berry stated further:

> The ability to transfer this knowledge [the skill set defined by the BOC Role Delineation Study] in meaningful ways to athletic training students is challenging, even for seasoned educators….In general most, if not all, educators need to improve the delivery of the educational content he/she is responsible for. (p. 38)

In this column, Berry continued to discuss how he reflected on his own teaching and began "researching what it meant to be an effective educator and what pedagogy really was" (p. 39). Through this reflection, Berry stated that he "stopped trying to be like my former teachers and began being me" (p. 38).

Ray (2006) discussed the changes in athletic training and specifically athletic training education in his 2002 acceptance speech for the National Athletic Trainers' Association's (NATA) Sayers "Bud" Miller Distinguished Educator Award. During this speech, he addressed five themes for change in athletic training education: (a) what we teach, (b) how we teach, (c) how ATEs relate to other parts of the academy, (d) how ATEs relate to students, and (e) how ATEs relate to each other (Ray, 2006). Specific to the way ATEs teach, Ray addressed what curriculum expansion would mean to ATEs who need to help students learn more material in the same amount of class time as previously allocated. ATEs must become more effective and efficient with their teaching in order to accomplish this change. Ray stated:

> We [ATEs] are going to have to refine our teaching methods so that we can help

> students learn more and learn better in the fixed and rather small amount of time we spend with them every week. We will become organizers for our students' learning instead of content deliverers. (p. 3)

Currently there is no requirement from the Commission on Accreditation of Athletic Training Education (CAATE) that ATEs have training or experience in teaching methods (Schellhase, 2010). The delivery and presentation of the required content to students is at the discretion of the individual academic programs and specific faculty members (Payne, Berry, & Lowry, 2012).

Previous research specific to athletic training education in the classroom setting is focused on student learning styles (Brower, Stemmans, Ingersoll, & Langley, 2001; Coker, 2000; Gould & Caswell, 2006b; Harrelson, Leaver-Dunn, & Wright, 1998; Livecchi, Merrick, Ingersoll, & Stemmans, 2004; Stradley, Buckley, Kaminski, Horodyski, Fleming, & Janelle, 2002), educator teaching styles (Gould & Caswell, 2006a; Livecchi et al., 2004; Mensch & Ennis, 2002; Rich, 2006; Schellhase, 2009, 2010), and instructors' level of formal education related to their teaching (Craig, 2006; Rich, 2006; Schellhase, 2009, 2010; Williams & Hadfield, 2003). Other research on teaching and learning in athletic training education programs is only focused on the clinical education component of athletic training education (e.g., Foster & Leslie, 1992; Ristori, Eberman, Tripp, & Kaminski, 2011; Thompson & Carson, 2008), not the classroom component of instruction. There is little research on how ATEs effectively teach their students in the classroom setting. However, Craig's (2006) research specific to ATEs' instruction on teaching methods leads to the call for more research in this area, as do the works of Burningham, Deru, and Berry (2010) and Rich (2006).

Effective teaching in higher education is considered a complex endeavor. Researchers, including Devlin and Samarawickrema (2010), Feldman (1996), and Slate, LaPrairie, Schulte, and Onwuegbuzie (2011), found effective teaching in higher education to be multidimensional, complex, and continuously evolving. While there are reoccurring themes in the research and literature on effective teaching, there is no commonly accepted definition of effective teaching in higher education (Delvin & Samarawickrema, 2010; McCabe & Layne, 2012; Paulsen, 2002). Burningham et al. (2010) discussed their beliefs about what effective ATEs should do in the classroom, but did not examine what is effective teaching in athletic training education programs. Similarly, Irvin (1983) discussed his recommendations for effective teaching in athletic training education programs, but his recommendations lacked the backing of empirical evidence.

Statement of the Problem

Berry's (2010b) work and self-reflection on his teaching brought to light the issue of how ATEs with subject matter content knowledge in athletic training choose to teach content and skills to their students. The research that has been conducted in athletic training education has not addressed how ATEs apply pedagogical knowledge to the instruction of students in the classroom. Rather, as noted earlier, the research focused on student learning styles (Brower, Stemmans, Ingersoll, & Langley, 2001; Coker, 2000; Gould & Caswell, 2006b; Harrelson, Leaver-Dunn, & Wright, 1998; Livecchi, Merrick, Ingersoll, & Stemmans, 2004; Stradley, Buckley, Kaminski, Horodyski, Fleming, & Janelle, 2002), educator teaching styles (Gould & Caswell, 2006a; Livecchi et al., 2004; Mensch & Ennis, 2002; Rich, 2006; Schellhase, 2009, 2010), and instructors' level of

formal education related to their teaching (Craig, 2006; Rich, 2006; Schellhase, 2009, 2010; Williams & Hadfield, 2003).

As the number of required competencies grow and the standards for program accreditation increase, there is a need for more research to investigate effective teaching in athletic training education programs. As discussed by Ray (2006), ATEs need to cover more content within the timeframe of the current curriculum. There is also a demand for better-prepared athletic trainers as the popularity of the sports medicine field grows (Voll, Goodwin, & Pitney, 1999). ATEs have a daunting responsibility to meet CAATE requirements, prepare students for the BOC examination, and to help socialize students to the professional standards of the NATA (Payne et al., 2012; Peer & Schlabach, 2011). This must be done within the ever changing allied healthcare field and, as Carlin (1967) stated, "We must teach in reference to what is happening and what will happen, not in response to what has happened" (p. 382). ATEs need to be proactive in their teaching and work to be as efficient and effective as possible with their craft.

Purpose of the Study and Research Questions

The purpose of this study was to examine the understandings that select ATEs hold about their teaching in the classroom and what factors influenced their teaching methods. The research questions guiding this study were:

- How do select athletic training educators understand their own teaching?
- What strategies do they frequently use?
- What factors influence their selection of teaching methods?

Research Design

To best address the research questions, a phenomenological study was conducted; the research utilized interviews and self-reflection with seven select ATEs. Phenomenology was founded by German philosopher Edmund H. Husserl and involves the study of how people experience and interpret different phenomena (Moustakas, 1994). The phenomenon of interest is central to all aspects of a phenomenological study. The phenomenon under study was how select ATEs approach their teaching in the classroom.

Significance of the Study

Improving the undergraduate educational experience through better classroom instruction is currently an important issue to many stakeholders in higher education (Austin, 2002; Berrett, 2011; Bok, 2006; Boyer, 1990; Gould & Caswell, 2006a; Peer & Rakich, 2000; Voll et al., 1999). It is posited that through effective teaching, learning can improve at the undergraduate level (Bok, 2006). ATCs are currently using evidence-based practice (EBP) in the clinical setting and EBP is now part of the prescribed CAATE educational components; therefore, teaching in athletic training programs needs to be based on research (Gould & Caswell, 2006b; Weidner, 2010). Weidner (2010) stated, "As our colleagues build a body of best evidence in medical education, so must athletic training educators recognize, and act upon, the obligation to incorporate these concepts into both our teaching and research" (p. 117). EBP involves combining information from the current research with clinical expertise of the athletic trainer and the preferences and values of the patient to make the best clinical decisions for patient care (Steves & Hootman, 2004). With the integration of EBP for patient care in athletic

training education programs, there will likely be an emphasis that teaching methods be based on research as well. Knight and Ingersoll (1998) stated that "much of our [athletic training] knowledge base is borrowed from other professions, which is natural for a young profession" (p. 271). In the future, knowledge and skills in effective teaching strategies could be key components to meeting the BOC and CAATE requirements placed on athletic training education programs.

Definition of Terms

The following terms and definitions clarify the terminology related to this study:

Athletic trainer: Certified athletic trainers (ATCs) are allied healthcare providers who specialize in the prevention, assessment, treatment, and rehabilitation of injuries and illnesses (NATA, 2011). ATCs are certified by the Board of Certification, Inc. (BOC) after successful completion of both a Commission on Accreditation of Athletic Training Education (CAATE) accredited athletic training education program and the national certification examination.

Athletic training educator (ATE): For the purpose of this study, ATEs are BOC certified athletic trainers who hold either a master's or doctoral degree and are responsible for teaching courses in an entry-level, CAATE accredited undergraduate athletic training education program.

Phenomenological study: A phenomenological study "focuses on descriptions of what people experience and how it is that they experience what they experience" (Patton, 1990, p. 71). A phenomenological study describes the participants' understanding of the experiences with the phenomenon from the participants' perspective (Creswell, 2008; Patton, 1990).

Bracketing: A component of phenomenological research design that involves the researcher examining his or her own biases and attitudes toward the phenomenon (Moustakas, 1994; Patton, 1990). Through this examination, the researcher's beliefs are suspended in order to prevent influence on the description of phenomenon (Moustakas, 1994; Patton, 1990). It is also known as Epoche (Moustakas, 1994). The process was ongoing; for this study bracketing was done through memoing.

Purposeful selection: Selection of participants based on specific characteristics and information that the participants could contribute to the purpose of the study such as knowledge, reputation, or experience (Maxwell, 2005; Patton, 1990).

Conceptual Framework

This study drew on the work of Shulman (1986) and the recent applications of pedagogical content knowledge (PCK) to athletic training education research by Rich (2006) and Schellhase (2009). The concept of pedagogical content knowledge was originally designed for K-12 teachers and was later adopted into higher education (Shulman, 1999). Shulman's (1986) model of teacher knowledge has three separate components: (a) subject matter content knowledge, (b) pedagogical content knowledge, and (c) curricular knowledge. According to Shulman, teachers must be knowledgeable in all three areas to be successful and effective in the classroom. Subject matter content knowledge for teaching, as defined by Shulman (1986), goes beyond knowing facts and concepts related to the subject area; it involves knowing the field in its entirety. ATCs are experts in the content required for clinical athletic training practice and have proven this by successful completion of the BOC certification examination (Berry, 2010b; Monaco & Martin, 2007; Rich, 2006; Schellhase, 2009).

PCK integrates a blend of subject matter content knowledge and pedagogical knowledge; it is the "subject matter knowledge for teaching" (Shulman, 1986, p. 9). PCK involves the teacher using various teaching methods common in the field, factoring in backgrounds and previous experiences of students, and understanding what makes certain concepts easier or more difficult to learn (Shulman, 1986). Shulman's (1986) PCK includes the importance of actual teaching experience in the classroom to inform teaching practice, but Shulman also stresses the importance of using research about teaching and learning (Shulman, 1986). The concept of PCK factors in both the research and practice of teaching with what is common within the academic discipline. The use of research is particularly significant in athletic training education because of the current focus on EBP within the field (Gould & Caswell, 2006b; Weidner, 2010).

Rich (2006) and Schellhase (2009) both used PCK in their recent research. Rich (2006) examined the relationship between educational background and teaching styles of ATEs. Specifically, Rich surveyed ATEs nationwide, who were also program directors, and then examined the relationship between teaching styles and educational backgrounds. Rich's recommendations from the research included the need for additional research to "determine what specific pedagogical strategies are employed in the athletic training education classroom and what factors influence the selection of these strategies" (Rich, 2006, p. 89). Schellhase also investigated teaching styles and the amount of formal education coursework ATEs had completed, with the added variable of student evaluations of instructional outcomes. Schellhase's findings demonstrated a positive relationship between ATEs' background in teaching coursework and teaching

effectiveness. Thus, the findings support the need for more instruction for ATEs in teaching strategies and methods.

Limitations

The study had the following limitations:

1. Due to the methodology selected and number of participants included in this study, the results of this study are not generalizable to all ATEs in the country. The findings are specific to the individuals who elected to participate in this study. While the results may not be generalizable, they can help inform the teaching practice of other ATEs. The results of this study can contribute to individual ATEs' reflections on effective teaching and best practices in their classroom.
2. The purposeful sample of ATEs included in the study was not random and did not represent all ATEs in the United States. The ATEs who chose to participate may not characterize what was "typical" in the field, but represented a variety of ATEs from different educational backgrounds, routes to becoming ATEs, and employment histories.
3. The in-depth interviews took place in-person, over the phone, or using video conferencing software. The difference in a face-to-face interview contrasted to a phone or video conference interview could have had an effect on the relationship established between the participant and the researcher during the interview (Bertrand & Bourdeau, 2010). There was an assumption that the interviews were candid and open no matter which way the interview was conducted.

4. The researcher is a certified athletic trainer and an educator. In qualitative research, the researcher is the instrument; therefore, this background could have had an influence during data analysis procedures and the development of themes. The researcher was aware of this potential influence and all efforts were undertaken to bracket preconceptions before and during this study. This involved the researcher examining her own biases and attitudes toward the phenomenon and memoing about them during the research process (Moustakas, 1994; Patton, 1990).

Delimitations

This study had the following delimitations:

1. Only ATEs at CAATE accredited undergraduate athletic training education programs were recruited and participated in this study.
2. The ATEs may have taught both classroom and clinical components of the curriculum; this study focused only on classroom teaching and not clinical education.

Organization of the Study

The study is presented in five chapters. Chapter I includes the background of the study, the statement of the problem, purpose of the study and research questions, research design, significance of the study, definition of terms, conceptual framework, limitations, and delimitations. Chapter II presents a review of the literature, which includes the history of athletic training education, effective teaching in higher education, teaching and learning in athletic training education, and reflective practice. Chapter III describes the methodology of this research study, which includes research design, participants, data

sources, data collection, and data analysis. Chapter IV presents the study's findings, including descriptions of participants and the common themes from the data. Chapter V provides the results of the research questions and discussion of the findings. Lastly, implications of the findings and recommendation for future research are discussed.

Chapter II

Literature Review

Introduction

The purpose of this study was to investigate the understanding that select athletic training educators (ATEs) hold about their teaching in the classroom and what factors influenced their teaching methods. Turocy (2002) stated in her review of literature on athletic training education research, "Although research in athletic training education has evolved and proliferated during the past 15 years, the breadth and depth of that research is still very limited" (p. S-162). Since Turocy's publication, minimal research was found that was directly related to how ATEs select their teaching strategies and present the knowledge and skills required in athletic training education programs to students. Research studies and literature on the history of athletic training education, effective teaching in higher education, teaching and learning in athletic training education, and reflective practice are presented in this chapter.

History of Athletic Training Education

The profession of athletic training began in the late 1800s, and as the profession grew, so did the need for formal education of those wishing to pursue careers in athletic training. Many of the first practicing athletic trainers did not even have a high school education. The changing needs of the profession and the increasing sophistication of healthcare fields shaped the educational requirements that developed over time. Preparation for a career in athletic training evolved from solely apprenticeship to a minimum of a four-year college program of study and national examination.

Prior to World War II, there was no organization to oversee athletic training as a profession or the education requirements needed to practice athletic training (Lisher, 2002). In 1950, athletic trainers organized and founded the National Athletic Trainers' Association (NATA) (Lisher, 2002). Part of the reoccurring discussion by the members of the NATA was how to strengthen the profession and gain recognition within the healthcare community (Ebel, 1999). Leaders in athletic training believed that formal education programs and national certification of athletic trainers were necessary to accomplish this goal. In 1956, the NATA formed a committee to address the educational requirements of athletic trainers (Lisher, 2002). In 1959, the NATA education committee recommended the first comprehensive college education program (Ebel, 1999). The model curriculum included courses in basic sciences, anatomy and physiology, exercise science, nutrition, first aid, personal and community hygiene, and athletic training techniques (Ebel, 1999). The proposed curriculum contained few courses outside of those already offered at many universities, especially schools offering a physical education program of study. Instead, the committee recommended the addition of a few courses specific to the needs of athletic trainers, such as advanced techniques in athletic training and a related laboratory (Delforge & Behnke, 1999). While the preparation of athletic trainers had previously relied solely on apprenticeships, these recommendations were the first steps away from that and towards formal education programs.

After the NATA committee made the suggestion for a comprehensive curriculum, little changed in athletic training education for 10 years (Lisher, 2002). Apprenticeship was still the path to the profession. College students interested in athletic training as a career might have been able to take one or two classes specific to athletic training,

depending on the school they attended, but very few schools offered a comprehensive curriculum. Most of the needed skills and knowledge were learned and developed in the field through apprenticeships. In 1969, the newly formed NATA professional education committee recognized the first four universities that met the educational standards recommended by the 1959 education committee (Lisher, 2002). These institutions were Mankato State University, Indiana State University, Lamar University, and the University of New Mexico (Lisher, 2002). The foundation for a comprehensive athletic training education program, as it is known today, was underway.

The 1970s were a time of development and improvement to the educational programs for aspiring athletic trainers. The new curriculum included more science courses and more courses specific to the practice of athletic training. The new curricular requirements of the 1970s also introduced the first structured athletic training practicum experiences (Delforge & Behnke, 1999). Students in a formal educational program were now required to complete a minimum of 600 clinical hours under the direct supervision of a certified athletic trainer (ATC). While students were still learning by doing, they were supervised by ATCs, not just anyone calling himself or herself an athletic trainer.

In the 1980s, another revision to athletic training curriculum requirements was implemented. This time the modification of the requirements focused on subject areas that needed to be addressed within the curriculum (e.g., prevention, evaluation, therapeutic modalities, administration, etc.), as opposed to specific courses that were to be taken by students (Delforge & Behnke, 1999; Lisher, 2002). This change allowed for more flexibility within individual university programs. The other major change in the 1980s educational revision was the introduction of competencies within athletic training

education that listed all the skills and knowledge an entry-level ATC was required to know (Lisher, 2002). A competency-based approach to education is still used in athletic training education today. Also during this time period, there was a push by the NATA for schools to create athletic training majors, as opposed to just an emphasis in athletic training within other majors, such as physical education (Lisher, 2002).

In 1997, a major change to athletic training education occurred – the Board of Certification, Inc. (BOC) eliminated the internship route to certification (Lisher, 2002). Prior to this decision, an athletic training student was eligible to sit for the national certification examination through one of two routes – the curriculum route or the internship route. The curriculum route required students to complete coursework and practicum hours through an accredited athletic training education program. The internship route was essentially the remnants of the traditional apprenticeship programs. Students had to have a bachelor's degree in any area and a minimum of 1,800 hours under the supervision of an ATC, but there was no required coursework to be eligible to sit for the certification examination (Ebel, 1999). After full implementation of the educational reform policy, which occurred in January of 2004, all students had to attend a nationally accredited curriculum program in order to be eligible to sit for the BOC examination (Craig, 2003). The elimination of the internship route helped standardize athletic training education and aligned athletic training education programs with other allied healthcare education programs (Craig, 2003; Delforge & Behnke, 1999).

Athletic training education today. Today there are over 350 accredited undergraduate athletic training education programs across the country (NATA, 2010). These programs are now reviewed and accredited by the Commission on Accreditation of

Athletic Training Education (CAATE), which is independent of the NATA. The curriculum required for the accredited programs is still subject based, not course based, allowing program directors the flexibility to decide how and when to teach the required subject matter within the individual coursework. There is no longer a focus within the curriculum on preparing students for physical therapy school or to become secondary school teachers. Both are still popular options for ATCs to pursue in graduate school, but they are no longer the primary focus of the undergraduate athletic training curriculum. By the 2014-2015 academic year, CAATE accredited education programs will be required to award degrees in athletic training, meaning athletic training can no longer be an emphasis area under another degree (e.g., kinesiology) (Perrin, 2007).

Additionally, CAATE recommends that there no longer be specific practicum hour requirements to be eligible to sit for the BOC examination. Educational programs can impose their own minimum hour requirements, but the focus is now on competencies over time on task. Students must successfully complete all required competencies within their clinical experiences prior to graduation to be eligible to sit for the BOC examination.

The role of athletic training educators (ATEs). In higher education, ATCs have traditionally worked in the athletics department caring for athletes on the various intercollegiate sports teams. As athletic training educations programs were developed at colleges and universities across the country, some ATCs began teaching as part of their responsibilities at the institution (Dewald & Walsh, 2009). As a result, some early ATEs entered their academic positions differently than faculty from other disciplines. Also different than other academic disciplines, ATEs received tenure based on their teaching

and clinical athletic training skills and many ATEs did their graduate studies while teaching and directing the program (Dewald & Walsh, 2009). If an ATC completed a graduate degree before taking a position as an ATE, his or her graduate assistantship likely involved working as an ATC at a local high school or at the college or university he or she attended (Dewald & Walsh, 2009).

Now many of the ATE positions have evolved into full-time, tenure-track positions within an academic department at the institution. Within the academic department, one ATE serves as the program director who oversees all administrative aspects and requirements for accreditation for the athletic training education program. Typically another ATE serves as the clinical education coordinator who oversees the assignments of students to their various clinical rotations. Few academic programs today have ATEs who are required to provide care for sports teams as was the standard in the initial years of the profession.

Recently, Hertel, West, Buckley, and Denegar (2001) called for more ATCs with doctoral degrees to become the "next generation" of leaders, researchers, and educators in the field of athletic training. Hertel et al. (2001) surveyed 116 doctoral educated ATCs working at different colleges and universities about their educational backgrounds, current employment, and perceived importance of various competencies they thought were needed in new doctoral educated ATCs. The research stressed the importance of teaching and found that the ability to teach both graduate and undergraduate classes was important in new doctoral trained ATEs (Hertel et al., 2001). Hertel et al. recommended that graduate students be given opportunities to teach during their doctoral programs. Dewald and Walsh (2009) recommended new ATEs take advantage of the resources at

their institutions, such as faculty development workshops, and build a relationship with a professional mentor in order to be successful in their new roles in higher education. Currently there are no requirements from CAATE that ATEs must have training or experience in teaching methods (Schellhase, 2010).

Hertel et al. (2001) also found significant differences in the job responsibilities between ATEs employed at doctoral granting institutions compared to ATEs employed at non-doctoral granting institutions. Further differences were found between ATEs who served as program directors compared to those ATEs who were not program directors. ATEs at doctoral granting institutions spent more time advising graduate students and performing research; they also spent less time preparing for and actually teaching than ATEs at non-doctoral granting institutions. Program directors spent more time advising students and completing administrative tasks than other ATEs. These differences could be related to the requirements of the institution and the ATEs' specific role in that institution.

Williams and Hadfield (2003) surveyed 54 athletic training education program directors to investigate program attributes that related to successful completion of the certification examination by students. Williams and Hadfield found a positive correlation between the percent of faculty in an athletic training education program with a doctoral degree and the success of their students on the BOC examination. This finding supported the need for ATEs with doctoral degrees because of the link to student success. Not only is there a need for more doctoral trained ATCs to serve as ATEs, there is also a need for those ATEs to have an understanding of teaching and learning in the classroom.

Recently the expansion of athletic training education programs has outpaced the education of doctoral trained ATCs (Perrin, 2007).

Summary of the history of athletic training education. Athletic training education evolved from its beginnings with apprenticeship as the sole route to the profession to a highly specialized academic discipline. Today, all ATCs have a minimum of a bachelor's degree, and in 2009 the NATA reported that almost 70% of ATCs had a master's degree or higher (NATA, 2009). Now, many ATEs hold tenure-track faculty positions separate from the college or university's athletic department. The research of Hertel et al. (2001) and Williams and Hadfield (2003) support the move to doctoral trained ATEs. No matter how ATEs begin their faculty roles or the position they hold within the athletic training education program, effective teaching needs to be one of their priorities. Dewald and Walsh (2009) stated, "It is important for educators to be excellent teachers, as the future of their programs depends on the success of its students" (p. 144).

Effective Teaching in Higher Education

Many authors prepared various lists of the skills, behaviors, and practices characterizing effective teaching in higher education, but none clearly define it (Delvin & Samarawickrema, 2010; Paulsen, 2002). At its broadest definition, effective teaching can be defined as "all of those instructor behaviors which help students learn" (Cashin, 1989, p. 4). At best, an effective teacher is systematic, stimulating, and caring (Brown & Atkins, 1988) or knowledgeable, enthusiastic, concerned about students, and dedicated (Lowman, 1995). In his recent book, *What the Best College Teachers Do*, Bain (2004) defined outstanding teachers as those who had "achieved remarkable success in helping

their students learn in ways that made a sustained, substantial, and positive influence on how those students think, act, and feel" (p.5).

Bain (2004), Brown and Atkins (1988), Devlin and Samarawickrema (2010), Lowman (1995), Shulman (1986), and Slate et al. (2011) all included mastery of the subject area or discipline as a requirement for effective teaching in higher education. The importance of the teacher's knowledge in the subject area increases as the level of academic standing of the students increased (Slate et al., 2011). Senior and graduate students value teacher knowledge as an important characteristic of effective teachers more often than underclass students. The knowledge of the subject area does beyond simply being an expert and a scholar in the field, to being able to communicate that knowledge to the students. Effective teaching requires the teacher to consider students' previous knowledge in the subject area and the ability to communicate with students effectively (Brown & Atkins, 1988; Shulman, 1986).

From his or her in-depth knowledge of the subject area and communication skills, an effective teacher helps students grasp the fundamental concepts of the field and build upon the students own knowledge (Bain, 2004; Shulman, 1986). An effective teacher has the ability to break down difficult concepts for students and provide examples when necessary to clarify ideas (Lowman, 1995; Shulman, 1986). An effective teacher is also able to simplify complex ideas and problem-solve in the classroom (Brown & Atkins, 1988; Shulman, 1986). In his book, *Mastering the Techniques of Teaching*, Lowman (1995) discussed that an effective teacher fosters critical thinking and problem solving among his or her students and, as a result, students "should be expected to emerge with an enhanced ability to evaluate information critically" (p. 2). The results of effective

teaching goes beyond students knowing the content to students learning how to think and become involved in their own learning.

Filene (2005) stated, "Good teachers display five characteristics that depend less on scholarly expertise than on personal skills" (p. 7). These characteristics include enthusiasm for teaching and the subject area, clarity in presentation, organization, stimulating classes, and care for students. Effective teaching is organized and structured. An effective teacher selects key strategies, methods, and materials to present information and creates activities for his or her students to understand the material better (Brown & Atkins, 1988; Shulman, 1986). An effective teacher also has the ability to present the content of the course in an engaging manner (Lowman, 1995). He or she motivates students to learn the subject area and develop a true love of learning.

Another common component of effective teaching in higher education is that the teacher is caring (Brown & Atkins, 1988; Filene, 2005; Lowman, 1995; Slate et al., 2011). An effective teacher creates a positive learning environment and promotes community within the classroom. He or she trusts students and treats them with decency and respect (Bain, 2004). This trust and respect leads to the teacher developing a positive relationship with the students (Filene, 2005; Slate et al., 2011). Effective teaching goes beyond mastery of the subject area to the intangible qualities associated with relationships.

Effectiveness in teaching is individual and related to the unique goals of the instructor; "thus what counts as effective in one context may not be so in another" (Brown & Atkins, 1988, p. 4). Each department within a college or university has its own criteria for effective teaching as part of the promotion and tenure process. Young

and Shaw (1999) warned that because of the multiple variables affecting teaching, such as type of class, subject area, and variation in student demographics, a consensus on a definition of effective teaching might be unattainable.

Brown and Atkins (1988) argued that while it is difficult to define effective teaching in higher education, ineffective teaching decreases student motivation, increases negative attitudes toward learning, and brings about lower achievement in classes. Ineffective teaching is not student-centered or engaging. Brown and Atkins (1988) summarized the key to effective teaching, "In short, to teach effectively you must know your subject area, know how your students learn, *and* how to teach" (p. 1). Many stakeholders in higher education have called for improved undergraduate educational experiences (Austin, 2002; Berrett, 2011; Bok, 2006; Boyer, 1990; Gould & Caswell, 2006a); effective teaching is the cornerstone component to that improvement.

Research on effective teaching in higher education. Effective teaching is not only hard to define, it is also hard to measure. Most of the research on effective teaching has used either student perception forms completed at the end of a course or surveys requesting the students to identify characteristics of effective teachers that extend beyond an individual class (McCabe & Layne, 2012; Paulsen, 2002; Young & Shaw, 1999). Both qualitative and quantitative methodologies have been used in an effort to define and characterize effective teaching in higher education.

In an early study, Miron and Segal (1978) investigated students' perceptions of a "good teacher" in higher education. The study examined which characteristics were desirable in teachers, both inside and outside the classroom. A questionnaire was administered to 589 second-year, undergraduate students from various departments at

Tel-Aviv University (Miron & Segal, 1978). Students represented programs in law, medicine, life sciences, and humanities. The questionnaire consisted of 15 characteristics of a good teacher related to scholarship, delivery, advising, and personal traits based upon the literature and previous studies. Students selected three most important characteristics of a good teacher from the list provided. The characteristics that received the most selections were related to method of instruction and presentation in class. These included "interesting presentation of lecture material," "preparation and organization of lessons," and "lucid expression of ideas" (Miron & Segal, 1978). The characteristics of "developing thinking processes," "ability to encourage intellectual curiosity," and "developing student motivation," which the researchers combined to call "ability to spark intellectual growth" was of secondary importance for the respondents of this questionnaire (Miron & Segal, 1978). The teachers' research ability, external appearance, friendly approach, flexibility, and willingness to help received the lowest number of selections from the students. Students across the disciplines expressed similar selections of characteristics, but Miron and Segal noted that the similarity might be due to the students being in the early phase (participants were second year students) of their academic career, before their courses of study were differentiated.

In general, the results of this study aligned with subsequent research. Repeatedly noted in the literature on effective teaching in higher education was the importance of presentation, clarity, and organization in the classroom (Brown & Atkins, 1988; Brown, Tomlin, & Fortson, 1996; Filene, 2005; Lowman, 1995; McCabe & Layne, 2012; Slate et al., 2011). The low number of selections for the characteristics of friendly approach, flexibility, and willingness to help, which could be considered aspects of caring, were

contradictory to Brown and Atkins (1988), Filene (2005), Lowman (1995), McCabe and Layne (2012), and Slate et al. (2011), who all stressed the importance of caring as a characteristic of effective teaching. Another noteworthy result of the study by Miron and Segal (1978) was the students' infrequent selection of the characteristic of research ability for effective teaching. This finding was common across the academic disciplines surveyed. The researchers stated that this might change as the students progressed in their academic programs and classes become more specialized; however, during the first phase of postsecondary education, there was a disparity in what universities recognized as an important characteristic in faculty members and what students identified as characteristics of effective teachers (Miron & Segal, 1978).

Ten years after Miron and Segal's (1978) study, in a meta-analysis of 31 studies involving characteristics of effective teaching in higher education, Feldman (1988) attempted to examine the similarities and differences between students' and teachers' perceptions of effective teaching. Characteristics included attitudes, behaviors, and pedagogical practices that the teachers exhibited. Feldman extracted the degree of agreement between the two groups (students and teachers) from the original studies or calculated it from the data given if degree of agreement was not provided in the original study. Feldman found that, in general, students and teachers agreed in their views of good teaching with an average correlation of +.71. From his analysis, Feldman stated:

> Across the various sets of studies and methods of comparison, it is clear that students and faculty were similar in placing high importance on teachers being prepared and organized, clear and understandable, and sensitive to class level and

> progress; and both groups generally placed moderate importance on teachers being open to class discussion and the opinions of others. (p. 321)

As with the work of Brown and Atkins (1988), Brown et al. (1996), Filene (2005), Lowman (1995), McCabe and Layne (2012); Miron and Segal (1978), and Slate et al. (2011), clarity and organization were important characteristics of effective teachers in Feldman's analysis. Feldman concluded that students placed more importance than the faculty on teachers being interesting, having good elocutionary skills, and being helpful. On the other hand, teachers differed from the students in the importance of challenging, motivating, and setting high standards for the students. The personality of the teacher and his or her research abilities were relatively unimportant for both the students and faculty members. The unimportance of research ability among the characteristics of effective teachers aligned with Miron and Segal (1978), who found research ability of teachers was infrequently selected as an important characteristic of effective teachers as identified by students. Feldman's findings highlighted some similarities and differences in perceptions of effective teaching between faculty and students they teach.

Brown et al. (1996) also examined characteristics that make teachers the "best" and the "worst," according to undergraduate students at one mid-western, public university. The study involved 133 juniors who selected from a list of eight choices of traits that characterize their best and worst college teachers. The number of students who selected each item created its rank. The students then wrote one sentence about what made that instructor the best or the worst. Common themes were developed from the sentences and a count of the number of times a theme appeared was provided. The two characteristics that indicated a teacher was the best were the "instructor's sense of humor

and the class was enjoyable" and the "instructor's variety of teaching methods" (Brown et al., 1996). Sense of humor was also one of the commonly identified definitions of an effective teacher by students participating in the study by McCabe and Layne (2012). From the one sentence descriptions, the most common themes included that the best teachers used a variety of instruction methods, were enthusiastic and motivating, and showed an interest in the student's success (Brown et al., 1996). These characteristics of the best teachers reflected the importance of varied and engaging teaching styles. Respondents identified enthusiasm as an important characteristic of effective teaching, which aligned with the work of Brown and Atkins (1988), Filene (2005), and Lowman (1995). The characteristic of interest in students' success could be considered part of caring. This supported the research and literature that suggested the importance of caring as part of effective instruction in higher education (Brown & Atkins, 1988; Filene, 2005; Lowman, 1995; Slate et al., 2011).

The top ranking characteristics of the worst teachers in Brown et al.'s (1996) study included "poor course organization" and "limited teaching methods". The most common themes from the one sentence descriptions of the worst teachers included that the teachers were poorly organized, had unfair evaluations or unclear expectations, and had no variety in their teaching methods (Brown et al., 1996). The importance of organization was stressed again as an important factor in effective teaching. From their findings, Brown et al. concluded that teaching at the undergraduate level should be varied, organized, and involve humor and enthusiasm from the faculty member.

Slate et al. (2011) also examined students' perceptions of characteristics of effective college teachers. Participants for this study included 615 students from various

education courses at two southwest, Hispanic-serving universities. The majority of the participants were Hispanic (71.1%), female (79.5%), and undergraduates (59.0%) (Slate et al., 2011). The survey administered included an open-ended question asking the students to list characteristics of effective college teachers. Analysis of the responses to the open-ended question produced themes that were converted to a quantitative format to allow for statistical analysis. The four most prevalent themes were knowledgeable, understanding, communicates well, and teaches well (Slate et al., 2011). These findings supported the previous literature that stressed the importance of subject mastery for teachers in higher education (Bain, 2004; Brown & Atkins, 1988; Devlin & Samarawickrema, 2010; Lowman, 1995; Shulman, 1986), as well as the importance of communication (Brown & Atkins, 1988). Other themes frequently identified in the participants' responses included that the teacher was caring, organized, and flexible, all characteristics of effective teaching previously identified in the literature (Brown & Atkins, 1988; Brown et al., 1996; Filene, 2005; Lowman, 1995; McCabe & Layne, 2012; Miron & Segal, 1978). Slate et al. concluded that the findings demonstrated the students' preference for teachers who set high standards and challenged them in the classroom.

McCabe and Layne (2012) examined the difference in perceptions of effective teaching between students and faculty members, similar to Feldman's (1988) research. Thirty-two faculty members and 233 students were surveyed about effective teaching. A list of 30 options was provided and the respondents ranked their top four choices for what defined effective teaching. Some of the more commonly selected definitions by the students included the following: sense of humor, patient and flexible, able to keep students' interest, clear indication of material to be tested, used a variety of teaching

methods, and love of the subject (McCabe & Layne, 2012). Commonly identified definitions by the faculty included the following: used a variety of teaching methods, love of the subject, outlined course expectations, organized, and encouraged student questions (McCabe & Layne, 2012). McCabe and Layne also found a difference between student and faculty perceptions of effective teaching, which aligned with the findings of Feldman. McCabe and Layne continued to discuss the potential impact these results could have on student evaluations of faculty in the tenure and promotion process.

Summary of effective teaching. It appears that there is still no clear and concise definition of effective teaching in higher education. Researchers and theorists have concluded that there are many different characteristics of effective teaching and that there are common themes in the literature on what constitutes effective teaching in higher education. The findings in the research reviewed on effective teaching supported the idea that effective teaching in higher education is organized, used a variety of teaching methods, and involved a positive relationship between the instructor and the students.

Teaching and Learning in Athletic Training Education

Research on effective teaching in athletic training education is limited. The research that has been conducted in athletic training education has focused on student learning styles, ATEs' teaching styles, and ATEs' level of education related to their teaching. Gould and Caswell (2006b) called for additional research in the area of effective teaching and stated:

> Athletic training professionals have embraced the value and necessity of scientific research to support evidence-based practices. Similarly, athletic training educators must also recognize and value the necessity for rigorous scientific

> inquiry that examines learning theory and pedagogy to support evidence-based educational practices. (p. 109)

This section reviews the related research on teaching and learning in athletic training education programs.

Research on teaching and learning in athletic training education. Harrelson et al. (1998) conducted one of the first studies to examine learning styles of undergraduate athletic training students. The Productivity Environmental Preference Survey (see Price, Dunn, & Dunn, 1991) was administered to 27 students in their first or second year in the athletic training education program at one university. Along with assessing learning styles, Harrelson et al. also examined the differences between gender and year in school for the group. Surprisingly, Harrelson et al. found a "lack of clear preference for kinesthetic and tactile learning among subjects" (p. 52), which was believed to be a preference in allied healthcare students. Significant findings from this study included a difference in male and female respondents in preference to the amount of light in their learning environment with females preferring more light. There was also a difference between among first and second year students' preference in afternoon or morning learning times with first year students preferring the afternoon for learning and work activities more than second year students. Plant, Van Lunen, Dowling, and Bonacci (2003) also identified a preference for afternoon learning in their study on learning style preferences of graduate athletic training students. Harrelson et al. recommended ATEs examine their instructional strategies and take the learning preferences of their students into consideration when planning classes.

Coker (2000) compared learning styles of 26 undergraduate athletic training students in the classroom and in the clinical setting at one university. Kolb's Learning Style Inventory (see Kolb, 1996) was administered to students who were asked to take the inventory twice, first focusing on classroom learning and the second time focusing on the clinical setting. A significant difference was found between the two settings in the composite areas of reflective observation (preferred watching) and active experimentation (preferred doing) (Coker, 2000). In the classroom, the preferred mode was reflective observation, and in the clinical setting, active experimentation was preferred. Coker also found that 58% of participants switched their learning style preference between the two different settings. The dominant Kolb learning style in the classroom was characterized as good at understanding a wide range of information and putting it into concise form; Kolb used the term "assimilators" (Coker, 2000). In the clinical setting, the dominant style was "convergers", those who were good at problem solving and finding practical uses for information (Coker, 2000). Coker concluded that the results supported the idea that learning styles change for individuals depending on setting. From this conclusion, Coker recommended that ATEs be aware that teaching strategies may not have the same effectiveness in both classroom and clinical teaching environments.

Brower et al. (2001) investigated learning styles of undergraduate athletic training students and the relationship with program admissions. Specifically, the researchers examined if any one learning style was dominant among athletic training students admitted into the program compared to students not admitted. Forty participants from three different institutions completed Kolb's Learning Style Inventory (see Kolb, 1996).

Brower et al. found no significant difference between the observed and the expected distribution of Kolb learning styles for both the admitted and not admitted groups. The researchers found no dominant learning style among the student groups, but the greatest number of students in this study were "assimilators", which aligned with Coker's (2000) research. The researchers concluded that no learning style preference led to program admission. Brower et al. recommended that students become aware of their learning style, so that they can identify their strengths and weaknesses, and ATEs should factor in learning style differences when planning lessons and activities.

Stradley et al. (2002) also examined learning styles of athletic training students, but investigated differences based on geographical region in the United States. Ten students at 50 different accredited undergraduate programs from five different regions across the country were randomly selected to participate for a total of 188 participants. Kolb's Learning Style Inventory (see Kolb, 1996) and Productivity Environmental Preference Survey (see Price, Dunn, & Dunn, 1991) were used to assess learning style. The researchers found no difference between the observed and the expected distributions of learning styles; no learning style was dominant among the athletic training students (Stradley et al., 2002). There was also no significant difference in learning styles between different geographical regions. The results of the Productivity Environmental Preference Survey administrated by Stradley et al. showed that athletic training students preferred afternoon learning, similar to the results of Harrelson et al.'s (1998) study. Also, in alignment with Harrelson et al.'s work, was the lack of a preference for kinesthetic and tactile activities among participants in Stradley et al.'s study. Stradley et

al. recommended both students and ATEs be aware of learning style preferences and for ATEs to try to accommodate all preferences in the classroom.

Mensch and Ennis (2002) conducted one of the first investigations on pedagogical strategies in athletic training education. The researchers used qualitative methods to examine which strategies students and ATEs perceived to enhance student learning. Mensch and Ennis selected this methodology to "provide a more complete picture of the pedagogic variables that contribute to student learning" (p. S-200). Twenty-one students and 12 ATEs participated in the interviews. Mensch and Ennis identified three pedagogical strategies essential to athletic training education: (a) case studies and scenarios, (b) authentic experiences, and (c) a positive educational environment. These strategies were important because they went beyond the traditional lecture-based teaching to "assist students in understanding and applying concepts in athletic training" (Mensch & Ennis, 2002, p. S-205). Mensch and Ennis stated, "When integrated into an effective curriculum, each theme contributes to a learning process in which student autonomy and confidence become essential vehicles through which students learn" (p. S-205). Mensch and Ennis stated that they hope their research "encourages athletic training educators to examine how learning is fostered within their own classrooms…" and "…reflect on their current pedagogic practices" (p. S-206).

Livecchi et al. (2004) examined teacher-centered instruction compared to student-centered instruction as it related to student learning style and success on both written and practical examinations. The purpose of the research was to examine different methods of teaching, since there was no standard mode of delivery in athletic training education (Livecchi et al., 2004). Forty first-year students classified as pre-athletic training were

divided into two groups. One group was taught through a teacher-centered method and the other through a student-centered method. At the end, both groups took the same written and practical examinations. All participants completed the Grasha Student Learning Style Scale (see Grasha, 2002) to assess their preferred learning style. The participants in the study favored teacher-centered instruction for the written examination, but there was no difference between groups on the practical examination. No other significant results were found. From this the authors concluded, "Student-centered instruction, although effective in practical applications, is not as effective as teacher-centered instruction when the goal is to teach theory and skill to pre-athletic training students" (Livecchi et al., 2004, p. 204). Livecchi et al. continued to discuss that student-centered instruction might be more effective later in the students' academic careers or in laboratory based classes. From this, the authors recommended further study in teaching and learning styles. Livecchi et al.'s study drew attention to the importance of using both student-centered and teacher-centered instruction, depending on the material taught, the educational setting in which it was delivered, and the method of testing. ATEs need to realize that there is not one "right" approach to teaching athletic training knowledge and skills.

Gould and Caswell (2006a) also investigated the relationship between instructors' teaching and testing styles and students' learning styles. The Gregorc Style Delineator (see Gregorc, 1982) and Preferred Teaching and Testing Method Inventory (see Gould & Caswell, 2006a) were administered to 200 undergraduate athletic training students and 43 ATEs, who were also program directors, across the United States. The results of the study indicated that ATEs and students had significant differences in preferred teaching

and testing methods (Gould & Caswell, 2006a). Undergraduate participants did not like teaching methods that required active participation; Gould and Caswell concluded that students might actually prefer passive learning environments. The conclusion drawn by the authors was that "educators should be aware of their own preferences and be sensitive to students' preferences" (Gould & Caswell, 2006a, p. 49).

In a related study, Gould and Caswell (2006b) examined composite scores from the Gregorc Mind Style Delineator (see Gregorc, 1982) inventory and investigated the differences between variables, such as gender, education level, and between the students and ATEs. The results showed that both students and ATEs preferred the "concrete sequential" style, which was characterized as methodical, attentive, and reliable, with a preference for concrete information and structured learning experiences (Gould & Caswell, 2006b). There was a significant difference between the genders in preference for "abstract sequential" (analytical, logical, and serious) and "abstract random" (perceptive, idealistic, and communal) mind styles. Females preferred abstract random style, but there were no differences among the other styles (Gould & Caswell, 2006b). Education level of the students did not affect mind style preference. Lastly, students preferred the abstract random style, whereas ATEs preferred concrete sequential. Gould and Caswell challenged ATEs to consider gender differences in student preferences of teaching style and discussed how educators tend to teach to their preferred learning style. Yet, to be effective, ATEs must consider all learning preferences, while challenging students to learn in new ways (Gould & Caswell, 2006b).

Research on ATEs' level of education related to their teaching. Craig (2006) investigated the relationship between ATEs teaching background and education, self-

perceived teaching methodology knowledge, and self-perceived competence in teaching. Craig specifically explored the need for more instruction on teaching methods in the preparation of ATCs with master's degrees. Participants of the study were ATCs from across the United States who held a master's degree and worked at the college or university setting. Of the 341 ATCs who completed the survey, 149 taught in an athletic training education program. The online survey measured ATEs knowledge of 20 different teaching components, their self-perceived competence in the teaching components, and the probability of the ATEs pursuing additional instruction on teaching methods.

Craig (2006) found that ATEs who rated themselves high on knowledge of teaching methods also rated themselves high on competence in teaching methods. ATEs with more previous instruction on teaching methods had more self-perceived knowledge than those ATEs with no instruction. Craig's findings also revealed that ATEs with less previous instruction in teaching methods were less likely to take courses or workshops on teaching methods in the future. From the different types of teaching method instructions examined in the survey, Craig found that structured mentoring and undergraduate courses in teaching methods were the best predictors of ATEs' self-perceived competence in teaching. From the results, Craig concluded that there was a need for instruction on teaching methods in athletic training master's programs and recommended that ATCs with teaching responsibilities consider continuing education courses on teaching methods. Craig's results supported the "phenomenon of *you don't know what you don't know*" (p. 35).

Rich (2006) examined the relationship between educational background and teaching styles of ATEs. Rich specifically explored teaching styles in relation to degrees earned, years of teaching experience, and courses or workshops taken in education or pedagogy by the ATEs. One hundred and ninety-eight ATEs across the country participated and completed the Teaching Styles Inventory (see Grasha, 2002), along with a demographic questionnaire. Fifty percent of the respondents identified with the personal model teaching style (Rich, 2006). Participants preferred leading by example or role-model type teaching. This preference also included hands-on approaches to teaching and learning. These methods of teaching were common in athletic training education due to the nature of the profession and the role of clinical education in the learning process (Rich, 2006). The second most common teaching style for the respondents of Rich's survey was the formal authority approach to teaching. Rich believed this style of teaching was prominent with ATEs due to the competencies that must be addressed within CAATE accredited undergraduate athletic training education programs. The overall teaching style preferences which Rich identified included individuals who were "more likely to use pedagogical strategies that focused on sharing personal experiences, discussing alternative approaches to performing tasks, coaching and guiding students" (p. 84). Rich's research did not find a relationship between teaching style and the educational background of the ATEs. The findings led Rich to recommend, "The next natural step in the research process would be to determine what specific pedagogical strategies are employed in the athletic training education classroom and what factors influence the selection of these strategies" (p. 89).

Schellhase (2009, 2010) also examined teaching styles and the amount of formal coursework in education ATEs had and added the variable of student evaluations of instructional outcomes. Nineteen ATEs from the state of Florida completed the Students' Evaluation of Education Quality questionnaire (see Marsh, 1984). The results of Schellhase's (2009, 2010) research showed a significant positive correlation between amount of formal education the ATEs completed and the specific subscale on the students' evaluation of "assignments/readings". ATEs who had completed 10 or more education courses had significantly higher ratings on the "learning/academic value" and "assignments/reading" subscales than ATEs with less coursework in education (Schellhase, 2009, 2010). Schellhase (2009) stated that the research found "evidence to suggest that more educational coursework leads to improved teacher quality as perceived by students" (p. 98). Schellhase (2009, 2010) recommended additional research in this area to address the possible need for more formal preparation of athletic training education faculty.

Summary of teaching and learning research. The research on teaching and learning in athletic training education is limited. What can be surmised is that there is no conclusive preference in learning styles for athletic training students or in teaching styles for ATEs. What should be extracted from the research is that ATEs need to be aware of their own preferences for teaching, differences among students' preferences for learning, and various options for best reaching their students. ATEs need to examine and reflect on their own teaching (Berry, 2010b; Mensch & Ennis, 2002).

Research specific to pedagogical training in athletic training education is also limited. Irvin (1983) provided one of the first commentaries on effective teaching for

ATEs in both the classroom and clinical settings, and stated, "Athletic trainers should make an effort to evaluate their teaching methods and techniques" (p. 43). Irvin recommended ATEs address five components in their preparation for teaching: (a) selection and organization of content, (b) selection of presentation method, (c) instruction resources, (d) conditions for successful learning, and (e) evaluation of teacher effectiveness. More recently, Burningham et al. (2010) provided commentary on the desired characteristics of effective ATEs. These characteristics included the ATEs ability to communicate, facilitate critical thinking, model professionalism, and respond to the needs of students.

Since Irvin's (1983) article, the results of the research by Craig (2006), Rich (2006), and Schellhase (2009, 2010) have recommended additional research related to effective teaching in athletic training education programs. Specifically, Craig recommended instruction in teaching methods for athletic trainers pursuing master's degrees who will have teaching roles in their future careers. Previous research by Williams and Hadfield (2003) supported Schellhase's (2009, 2010) findings that more education coursework can positively affect students in athletic training education programs. While a degree in education does not guarantee training in pedagogy (Hertel et al., 2001; Schellhase, 2009), specific courses in teaching methods may benefit student success. ATEs need both subject matter knowledge and pedagogical strategies to pass knowledge effectively to future athletic trainers (Craig, 2006).

Reflective Practice

Morton (2009) stated, "The notion that reflection is crucial to the development of teachers is not novel and one can hardly find a paper on teacher education without the

centrality of the importance of reflective practice" (p. 234). Schön (1983) popularized the idea of the reflective practitioner in teaching. Hammersley-Fletcher and Orsmond (2005) discussed the importance of reflective practice examining the process and thinking behind teaching and stated, "Addressing the question *why* as opposed to *how* and, most important, it is about learning from this process" (p. 214). According to Hammersley-Fletcher and Orsmond, the practice of reflection lead to self-knowledge, and through that process, the development as a teacher occurs. Hammersley-Fletcher and Orsmond (2005) and Song and Catapano (2008) noted reflection can be aided through many methods including teaching observation, videotaping for self-reflection, and journaling.

Reflection through the observation of teaching. Classroom observation is a valuable tool for both the observer and observed through reflection and discussion by both parties during the process (Cosh, 1998; Donnelly, 2007; Gosling, 2002; Shortland, 2004). Classroom observation has its roots in K-12 teacher preparation and assessment, but has become increasingly popular in higher education as a faculty development tool and for evaluations (Fullerton, 1999). Fullerton (1999), an expert in classroom observation in higher education, listed the following benefits from classroom observation related to reflective practice: (a) provides insight into what happens during effective teaching sessions; (b) allows for feedback on individual teaching skills and styles; (c) promotes the discussion, collaboration, and exchange of ideas related to teaching among colleagues; and (d) encourages focused reflection on teaching sessions.

One of the most common concerns about the use of observation of teaching is the idea that the process itself could influence the teaching (Cockburn, 2005; Cosh, 1998; Fullerton, 1999; Gosling, 2002; Paulsen, 2002). Critics noted that teachers could "teach

up", or try to teach better than usual, during the observed session, or students would act differently in what Jones (1993) called the "observer effect" (p. 32). Fullerton (1999) disputed these concerns in her work and stated that the opposite may be true; "Students may behave too well and not respond in as lively and interactive a way as might normally be expected" (p. 225). Gosling (2002) acknowledged the effect the observer may have on both the teacher and the students and stated, "Observing is not a neutral process, it is influenced by circumstances, the method of observation as well as what the observer brings to the event" (p. 3).

There is also the concern that classroom observation takes what was once a private practice, teaching, and makes the exchange in the classroom no longer between the teacher and the students; observation adds a third party (Cockburn, 2005; Paulsen, 2002). To this, Cosh (1998) stated, "Observation is an invaluable form of staff development… [observation] can play a crucial role in preventing teachers from becoming isolated and routinized" (p. 173). Shulman (1993) indicated that peer interactions, such as classroom observation, help prevent "pedagogical solitude" (para. 3) and promotes teaching as community property. Classroom observations help create a dialog about teaching and learning in higher education.

In Shortland's (2004) research, participants benefited from the reflective process of classroom observations. The implementation of the peer observation program at a university in the United Kingdom was part of an institutional review process that took place over the course of two years. The focus of the case study was the experiences of one of the peer observation trios. Despite adversity, Shortland found that the trio built relationships among the group members and developed "their own mechanism for self-

development" (p. 226). While the program highlighted many negative aspects of the peer observation process, the group learned from each other and believed they improved their individual teaching during the course of the project through feedback and reflection. Shortland found that "good practices discussed after the first round of observations had been incorporated into teaching" (p. 226); participants were able to adapt their teaching from the feedback provided after the first observation session.

Hammersley-Fletcher and Orsmond (2005) examined the peer observation process at another university in the United Kingdom. Interviews were conducted with 18 participants including both the observers and the teachers. Participants stressed the importance of the observation process in promoting reflection about the teaching process. Hammersley-Fletcher and Orsmond found that the value of the opportunity was lost if continued discussions were not fostered among participants, and that the process of reflection needed to be taught to educators.

Donnelly (2007) investigated the role of classroom observation in the development of new teachers. Over the course of five years, 99 participants from one university's faculty development program evaluated the classroom observation component of the program through a questionnaire. The researcher evaluated the teaching portfolios from all of the participants and conducted three in-depth interviews with six of the participants from each year of the program. From the data, Donnelly identified the major themes of application of theory to practice: reflection, increased confidence, and perceived change. Donnelly found that participants' involvement in the observation process helped create and facilitate dialog about teaching and learning. They

were able to discuss teaching theory and put it into practice. This also led to critical reflection by the participants about their own teaching practice.

Atkinson and Bolt (2010) investigated the use of the classroom observation process in improvement of teaching. Nine participants were observed over the course of two semesters (one participant being observed twice). After the observation of the teaching session, the observer gave each participant written feedback about the session in the form of strengths, weaknesses, and ideas for consideration. Upon completion of all the observations for the semester, the observer compiled a comprehensive list of the anonymous feedback and distributed it amongst the participants. A group debriefing session then took place. At this session, participants shared how they changed their teaching during the course of the semester as a result of the feedback. In general, the participants found the observation experience to be beneficial, especially the feedback and advice they received from the observer (Atkinson & Bolt, 2010). Participants also felt they benefited from the group debriefing sessions and the related discussions about teaching. Involvement in the project gave participants an opportunity to reflect on their teaching and have open discussions about teaching with their peers.

Reflection through videotaping of teaching. There has been an increased use of videotaping in teacher education programs (Song & Catapano, 2008). Videotaping has been used in a variety of educational settings, including nursing, medicine, physical education, and physical therapy as a way for students to reflect on skills and for teachers to provide feedback (Winters, Hauck, Riggs, Clawson, & Collins, 2003). Cockburn (2005), Fullerton (1999), and Gosling (2002) each discussed the value of video recording teaching sessions for either self-reflection or as part of the peer observation process.

Among other advantages, video recordings enable the documentation of teaching development over time. By videotaping lessons "teachers are present as distant observers and are able to 'stand back' and consider alternative perspectives in ways that are not possible in a traditional reflection methods" (Song & Catapano, 2008, p. 78). Teachers do not have to rely on memory alone to reflect. Both Fullerton and Gosling addressed a concern that videotaping could alter the teacher's performance. Fullerton stated that participants of videotaped classroom observation usually forgot about the camera after a few minutes. Video recording a teaching lesson is no more invasive than having an observer present in the classroom.

Song and Catapano's (2008) research investigated teachers' reflective practices through the use of different tools such as videotaping and assessment rubrics during a professional development project. The participants of the study were K-12 teachers in a large urban school district. Eight participants completed the questionnaires, along with three videotaped teaching lessons and reflective writings. The results of the study showed increased reflective thinking skills by the teachers over the course of the study, but did not show evidence that the teachers improved their teaching after the three videotaped sessions (Song & Catapano, 2008). Song and Catapano stated, "Videotaping teachers' performances is an efficient, reflective method for measuring and improving teachers' self-assessment….The reflective practice model developed for this study is another tool for teachers…" (p. 91).

Reflection through journaling. Morton (2009) reflected on his own experience as a first-year college professor in his recent auto-ethnography. Morton, an exercise physiologist, reflected on his experience through journaling and discussions with others

within his department. Major themes from his reflections included initial aspirations and concerns as a teacher, changing views on teaching, developing his own style of teaching, and finding the human side of teaching, including caring for his students (Morton, 2009). Morton found the process of reflection made him reevaluate his teaching philosophy and approach teaching differently. This included a new focus on developing students to become life-long learners. In the end, Morton challenged other teachers, especially science instructors, to reflect on their own teaching.

Reflective practice in athletic training education. Research on reflective practice of ATEs is limited. One relevant publication by Bell (2008), a sports therapist in the United Kingdom, addressed the process she went through deciding to leave the clinical setting and become an educator. Bell reflected on her initial time as an educator and discussed reflections, such as the difference from just practicing to having to share her knowledge with students, and having to know why things are done a certain way. Bell also gave advice to other new practitioners beginning their careers as educators. Bell's article demonstrated the reflective practice of an educator in a field similar to athletic training. Also, Berry's (2010b) commentary reflected on his teaching and educational background to help himself become a better teacher.

Platt-Meyer (2002) addressed the importance of reflection related to leadership qualities among athletic training clinical educators. Platt-Meyer discussed similarities between effective leaders and effective clinical educators. Her work used Schön's (1983) model of reflective practice as a self-assessment approach for clinical educators. Platt-Meyer recommended reflection as a way for clinical educators to become aware of their teaching style and improve their teaching in the clinical setting.

Thompson and Carson (2008) provided a framework for clinical educators to establish their beliefs about their clinical practice and their teaching. The first step in the process was reflection. Thompson and Carson called for clinical educators to "explore their individual teaching and learning beliefs" (p. 7). After the initial reflections, Thompson and Carson recommended discussion amongst other clinical educators to help each other continue to refine their beliefs. This call for discussion amongst peers to facilitate reflection aligned with the work of Atkinson and Bolt (2010), Cosh (1998), Donnelly (2007), Fullerton (1999), Gosling (2002), Shortland (2004), and Shulman (1993). Lastly, after continued reflection and discussion, Thompson and Carson felt clinical educators should share their beliefs with their students and continue to reflect throughout the course of their careers.

Platt-Meyer (2002) called for reflection by athletic training students, not just clinical educators, to assess student learning and promote the development of leadership skills. Kutz (2008) also recommended students use reflection through journaling to help learn and develop leadership skills. Walker (2006) specifically addressed the use of journaling in athletic training education programs as a tool for reflection to ultimately help improve students' decision making abilities.

Leaver-Dunn, Harrelson, Martin, and Wyatt (2002) investigated critical thinking among undergraduate athletic training students. Ninety-one students from three different accredited undergraduate programs completed the California Critical Thinking Disposition Inventory (see Facione, Facione, & Sanchez, 1994). Leaver-Dunn et al. (2002) concluded students did not think critically. From the research results, Leaver-Dunn et al. recommended ATEs promote reflection among their students "because

refection distinguishes great practitioners from their peers" (p. S-150). If we are asking our students to reflect and telling them it makes them better practitioners, why are we not doing the same with our teaching practice?

Summary

As stated by Turocy (2002), "The future of athletic training education depends upon the future of research in athletic training education" (p. S-166). In this chapter, research studies and literature on the history of athletic training education, effective teaching in higher education, teaching and learning in athletic training education, and reflective practice were presented. What can be deduced from review of the literature, and applicable across disciplines, is that effective teaching is important. While there is still no clear and concise definition of effective teaching in higher education, the research supports the idea that effective teaching is organized, uses a variety of teaching methods, and involves a positive relationship between the instructor and the students. Specific to teaching in athletic training education programs, it is important for ATEs to be aware of their own preferences for teaching, differences among students' preferences for learning, and various options for best reaching their students. Understanding effective teaching strategies needs to be a priority for ATEs. ATEs need to examine and reflect on their own teaching and include teaching methodology as a component of the preparation of future ATEs (Berry, 2010b; Craig, 2006; Mensch & Ennis, 2002).

Chapter III

Methods

The purpose of this study was to examine the understandings that select athletic training educators (ATEs) hold about their teaching in the classroom and what factors influenced their selection of teaching methods. This chapter outlines the methods by which the study was conducted. It is divided into five sections: (a) research design, (b) participants, (c) data sources, (d) data collection, and (e) data analysis.

Research Design

The research questions that guided the study were:

- How do select athletic training educators understand their own teaching?
- What strategies do they frequently use?
- What factors influence their selection of teaching methods?

To best address the research questions, a phenomenological study was conducted. Phenomenology was founded by German philosopher Edmund H. Husserl and involves the study of how people experience and interpret different phenomena (Moustakas, 1994). Since Husserl's initial writings, the concept of phenomenology has been expanded by many authors including Heidegger, Sartre, and Merleau-Ponty (Creswell, 2007). Phenomenology is both a philosophy and research method. Phenomenological methodologies have been associated with the health sciences, including nursing and athletic training (Creswell, 2007; Hoppe, 2011; Pitney & Parker, 2001; Pitney & Parker, 2002).

Phenomenology is similar to other types of qualitative approaches to research in that it uses "naturalistic approaches to inductively and holistically understand human

experience in context-specific settings" (Patton, 1990, p. 37). Phenomenology differs from other approaches in perspective and methodology in that it focuses on the essence of everyday experiences from the participant's perspective (Holstein & Gubrium, 2005; Moustakas, 1994). The phenomenon is central to all aspects of the study. Lived experiences are important, as are the unique perceptions of the individuals involved in the study; at the same time there is also a focus on shared experience and the commonalities among participants (Creswell, 2007; Patton, 1990). As stated by Creswell (2007), "The inquirer then collects data from persons who have experienced the phenomenon, and develops a composite description of the essence of the experience for all of the individuals" (p. 58). Methodologically, phenomenology is also unique from other qualitative methods in the way it allows the researcher to address his or her prior knowledge and assumptions about the phenomenon through Epoche or bracketing (Moustakas, 1994). Bracketing can be accomplished through memoing or journaling. Bracketing is the first "step" in phenomenological research and it continues throughout data collection and analysis.

"Typically in the phenomenological investigation, the long interview is the method through which data is collected on the topic and question" (Moustakas, 1994, p. 114). An interview guide may be used, but the interviews are characteristically flexible and informal in nature (Moustakas, 1994). The interview guide helps "facilitate the obtaining of rich, vital, substantive descriptions" of the participants' teaching experiences (Moustakas, 1994, p. 116).

The true process of phenomenological data analysis is not linear. Although the process is summarized as steps, it is not a step-by-step data analysis procedure, but

reflective and continuous in nature (Moustakas, 1994). The first step in data analysis is bracketing; this process is ongoing throughout a study. Next, horizonalizing, or examining all data collected, occurs; this includes "regarding every horizon or statement relevant to the topic and question as having equal value" (Moustakas, 1994, p. 118). From this process, the identification of the initial meaning units or significant statements occurs. These statements are then combined to create themes, which then develop into what the participant experienced and how they experienced it (Creswell, 2007). These are then combined to create the essence of the experience.

The phenomenon under investigation in this study was how select ATEs approach their teaching in a post-secondary setting. This was explored through interviews with and self-reflection by seven purposefully selected ATEs from various colleges and universities in the United States. Bracketing was completed throughout the study through extensive memoing by the researcher.

Participants

Participants were purposefully selected based on characteristics and information that each participant could contribute to the study (Maxwell, 2005; Patton, 1990) and their experience with the phenomenon (Moustakas, 1994). Inclusion criteria required that all potential participants were ATEs teaching at Commission on Accreditation of Athletic Training Education (CAATE) accredited undergraduate athletic training education programs. Participants were also certified athletic trainers (ATCs).

Selection of participants began with critical case sampling, which involved selecting potential participants "that make a point quite dramatically" (Patton, 1990, p. 174). For this study, the critical cases were ATEs who were known leaders in the field of

athletic training education. This included having been recognized by their peers with the National Athletic Trainers' Association's (NATA) Sayers "Bud" Miller Most Distinguished Educator Award; having published extensively in the area of athletic training education or related areas; serving on the editorial board for the *Athletic Training Education Journal*; or having been recognized with other awards at the national, district, or state level. National award recipients for the last 10 years were reviewed from the NATA website and district websites were also explored for lists of various award winners to create the initial list of potential participants. The *Athletic Training Education Journal* editorial board members were reviewed, as were the authors of articles published in the journal over the last five years. ATEs who published in other journals on education related topics and had presented at conferences, such as the Athletic Training Educators' Conference, were also considered. The more frequently an ATE appeared in different sources or the more familiar the researcher was with a name, the more likely the individual was to be considered a known leader in the field. As the list of potential participants grew, the websites of each individual's institution was searched for more information. Some potential participants were eliminated from the list early due to the fact they were teaching in advanced degree programs, not undergraduate programs. Initially, 12 ATEs were contacted as critical cases. From those ATEs contacted as critical cases, three individuals met the study criteria and volunteered to participate.

During the initial contact and pre-interviews with the critical cases, potential participants were asked to recommend other ATEs who they believed could contribute to the study. This method of participant selection is known as snowballing (Creswell, 2008; Patton, 1990). This allowed for the inclusion of ATEs who may not have been nationally

known, but were still exceptional educators and important contributors to this study. From the recommendations of the critical case ATEs, 15 additional potential participants were contacted as part of the snowball method of recruitment. Four individuals met the study criteria and volunteered to participate in the study.

The sample size for this study was seven participants from both recruitment methods (three critical cases and four snowball). The exact number of participants was determined by the quality and depth of the information provided by the participants (Patton, 1990). Notably, recommendations provided through the snowball requests yielded many of the same individuals either contacted initially as critical cases or during the continued snowball procedure.

Data Sources

Two primary sources of data were used for analysis: (a) interviews and (b) documents. An initial pre-interview and a second, in-depth interview that included reflection on videotaped teaching lessons by the participant were conducted. The initial pre-interview consisted of informing the potential participants about the study, requesting that participants videotape a teaching lesson of one of their undergraduate athletic training classes, and asking participants to submit the course syllabus for the course they videotaped lesson, as well as the ATE's curriculum vitae (CV).

The videotaped teaching lesson was not collected for the purpose of data analysis, rather the videotapes served as a vehicle for reflection by the participants and a way for them to explain their teaching practice through concrete examples. The videotaped lesson was requested to be an undergraduate athletic training course in which the lesson was theory-based, as opposed to being a laboratory. The videotaping focused on the

ATE, not the students in the class. Lessons were videotaped from the following courses: Athletic Injury Management, Therapeutic Exercise, Organization and Administration, Recognition and Assessment III, Medical Pathology, Practicum II, and Internship II.

The videotapes were used as a basis for the second, in-depth interview. This second interview served as the primary data source for the study, along with the document review. The second interview focused on the participant's evolution as a teacher, his or her teaching experiences, and strategies he or she chose to use in the classroom. Participants were asked to discuss specific examples from their videotaped teaching lesson. The interview guide is found in Appendix A.

In addition to the interviews, the following documents were used as primary data sources: (a) the course syllabus from the class in which the videotaped teaching lesson was conducted and (b) the participant's CV. The course syllabi provided the context within the courses and the athletic training curricula for the videotaped teaching lessons. The CV provided the participants' educational background and teaching experiences. This helped establish the participants' experience with the phenomenon (Moustakas, 1994).

In spring of 2011, a pilot study with a single participant was conducted using a similar methodology and interview questions. The participant was an ATE who is a leader in the field and was teaching at a regional state university. After conducting two in-depth interviews with the pilot study participant, the research questions were reviewed by the researcher and an expert in qualitative research from the College of Education at the University of Nevada, Reno (UNR) to improve the research questions used in this study. The interview questions were slightly modified to align with the interview

protocol of this study, the phenomenological methodology used, and current literature on effective teaching in higher education.

Data Collection

Following Institutional Review Board (IRB) approval (see Appendix B), the critical case potential participants were contacted via an email that described the study and requested their participation (see Appendix C). The initial email included the consent forms so the participant was fully informed of the details of the study. Four of the potential critical case participants, including pilot study participant, responded immediately to the initial email request. A follow-up email was sent approximately one week later to the potential participants who had not responded. After the recruitment email exchange, ATEs interested in participating in the study were asked to schedule a 10 to 20 minute phone pre-interview at a mutually agreed upon time. Five potential participants from the critical case group completed a pre-interview. During that time, potential participants were informed of how the study was to be conducted, how the information for the interviews would be used, how confidentiality would be maintained, and the participant's right to withdraw at any time. Both ATEs interested in participating in the study and those who declined to participate were asked to recommend other ATEs for inclusion in the study. Additional potential participants were then contacted via email to request their participation in the study (See Appendix D) and then the same pre-interview procedures were followed. This process yielded seven final participants.

ATEs who participated were asked to sign the consent forms attached to the initial email and submit their CV and course syllabus. Consent forms were returned via email, fax, or the US Postal Service. CVs and course syllabi were submitted via email for all

participants. Participants were asked to videotape at least one example of their "typical" teaching lesson during one of their athletic training classes. The participants could select any theory-based undergraduate class of any length. The videotaping of the athletic training class took place at each participant's institution. The videotaped lessons were then submitted to the researcher for review prior to the second, in-depth interview. The videotapes were submitted through a variety of methods at the preference of the participants. These included the use of a shared Dropbox folder, DVDs sent standard mail, videos posted on a university's website, and other Internet file sharing services. The participants were also asked to review the videotaped teaching lesson by himself or herself prior to the second interview. The purpose of using a videotaped teaching lesson was to aid the participant's reflection on his or her teaching and allow for discussion using concrete examples of what he or she did in the classroom.

Following the videotaping and sufficient time for both the researcher and the participant to review the videotape, the second, in-depth interview was scheduled. The time between when the videotape was received by the researcher and the in-depth interview ranged from three days to approximately one month. The interviews were conducted either face-to-face through video conferencing or over the phone. One in-person initial interview was conducted; the first interview of the pilot study was conducted in-person with a follow-up phone interview. Video conferencing was used for five of the participants' interviews to enable face-to-face contact. One interview was conducted only over the phone by the participant's choice. For interviews conducted using video conferencing or the phone, the participant was at his or her institution and the researcher was in a private office at UNR.

An interview guide was used with each participant (see Appendix A) and helped assure the same topics were addressed in each interview (Maxwell, 2005; Patton, 1990). Additional interview questions were asked during the interview based on the participant's videotaped teaching lesson and responses to the initial questions. Open-ended interview questions allowed the participants to describe their teaching without the influence of the researcher (Creswell, 2008). The participants were also asked to reflect on their videotaped teaching lesson as a way to provide concrete examples of how they teach. Most of the interviews lasted between 30 and 45 minutes; one lasted approximately 90 minutes. All interviews were recorded and later transcribed verbatim by a professional. During and immediately following the interviews, memos were written on key points, items that needed clarification, and the researcher's reflections.

Confidentiality was maintained by assigning each participant a unique identification number. A five part coding system was used to create the participants' identification number. The first number indicated how the participant was recruited. The number one (1) was assigned to participants recruited in the first round for their known leadership in the field. The number two (2) was assigned to participants recruited through the snowball method. The second number in the code identified the type of institution where the participant taught. One (1) was assigned to participants at research institutions and two (2) was assigned to participants at primarily teaching universities or colleges. The third number in the coding system identified if the participant was the program director for the athletic training education program at their institution. The number one (1) was assigned to program directors and the number two (2) was used for all other faculty members. The fourth number identified the gender of the participant.

Males were assigned the number one (1) and females the number two (2). The last number in the system was a unique two-digit personal identification number starting with the number 11. For example, the participant from the pilot study was identified as participant number 121111. This participant was recruited because he was a known leader in the field, was employed at a teaching institution, was the program director, was male, and had the personal identification number of 11. For ease of reading, pseudonyms were substituted for the codes in the final dissertation.

Data Analysis

The phenomenon investigated was how select ATEs approached their teaching in a post-secondary setting. The data was analyzed in an effort to find the essence of the phenomenon. While data analysis in phenomenological research is not linear, the first step of data analysis in this study was bracketing. This process continued throughout the study by way of memoing. The specific bracketing in this study centered on the researcher's experiences as an ATC and educator. This includes having worked as an ATC for over 10 years and previous experiences teaching at the secondary and collegiate levels. For instance, it was important to acknowledge that many of the participants were known leaders in the field. As a graduate student conducting the research it was imperative to think of these individuals as research participants rather than leaders in the field. In addition, memoing aided in the researcher's reflections throughout the data collection and analysis process (Maxwell, 2005; Patton, 1990). Throughout the study, memos were created about potential themes as they emerged and the researcher's previous knowledge about the themes. For example, when the idea of advancing the

profession was discussed, memos were created about how professionalism was addressed during the researcher's undergraduate education.

After the initial bracketing, analysis continued during the pre-interviews. The pre-interviews were not recorded because this phase of the study was designed to be an introduction, build rapport, obtain consent, and explain the details of the study. During the pre-interview, the ATEs were asked to videotape a teaching lesson and review their tapes prior to the second, in-depth interview. Following each pre-interview, memos were written to capture the tone of the conversation and important details of the potential participant's statements. For instance, excitement and support exhibited by some of the potential participants for this study were noted. Specifically, during one pre-interview the participant commented that this was an important "niche" in the research. Reflections about who agreed to participate and who declined were also included in memos.

Each participant was asked to submit the videotape prior to the in-depth interview. Videotapes were reviewed; extensive memoing was conducted to inform the subsequent in-depth interview. For example, items such as "engaging for a boring topic" and "very knowledgeable" were noted. Specific, unique questions or topics to address with the participants during their in-depth interview were noted on that individual's interview guide.

Next, the in-depth interviews were conducted. During the interviews, short memos were written about noteworthy statements and commonalities between study participants. Immediately after the interviews, the researcher reflected on what had just occurred; memos were written addressing reactions to the interviews. Later, the researcher listened to the interviews and expanded upon the memos written.

After the interviews were professionally transcribed, the transcripts were read for general understanding. The data collected in the pilot study was included in this study. The preliminary theme of the ATEs influence on the growth of profession was identified. The transcripts were then read line by line for coding of statements that supported the general themes. At the same time, memos were created about each individual participant to develop a composite picture or description of the participant. Next, the preliminary theme was refined and subthemes developed. Quotes from the transcripts were added to connect the themes to the participants' statements. Pitney and Parker (2002) stressed the importance of maintaining language that is "consistent with the discipline (i.e., athletic training)" during the data analysis process (p. S-170).

A constant comparison process as described by Glaser and Strauss (1967) was employed throughout the analysis to identify the commonalities and differences between individuals. For example, this included examining themes similar among ATEs who are known leaders in the field compared to ATEs recruited from the snowball procedure. The similarities and differences between ATEs at research institutions and teaching institutions, program directors and other faculty members, and males and females were also compared. During this process, memoing continued about the individual participants and the themes that developed.

The validity or "trustworthiness" (Pitney & Parker, 2001, p. 188) of the conclusions were addressed through four methods: (a) bracketing, (b) triangulation of data, (c) review of themes, and (d) feedback at a professional conference. First, bracketing addressed bias and allowed the researcher to explain how these biases could influence the conclusions (Maxwell, 2005; Patton, 1990). For example, a discussion

between the researcher and an expert in qualitative research from the College of Education at UNR occurred during which the researcher's experiences related to licensure were juxtaposed against the findings related to promoting the profession. The collection of data from various sources, including interviews, document review, and the current literature in teaching and learning in athletic training education and higher education allowed for triangulation of the data sources (Creswell, 2008; Denzin & Lincoln 2005; Maxwell, 2005; Patton, 1990; Pitney & Parker, 2001). The themes were also reviewed with peer researchers and an expert in qualitative research from the College of Education at UNR. Discussions occurred in an open manner to explore any questions or discrepancies in the interpretation of the data. Lastly, the pilot study was presented in April 2012 at a regional conference. Two of the presentation attendees were former students of the pilot study participant. These individuals provided feedback both during and after the presentation about the themes and conclusions from the pilot study.

Summary

A phenomenological study was conducted with seven ATEs recruited through both critical case and snowball processes. Two interviews were conducted, one before and one after the participants videotaped a theory-based class to aid reflection. Data analysis followed a phenomenological approach described by Moustakas (1994). The findings from this study are presented in the next chapter.

Chapter IV

Results

The purpose of this study was to examine the understandings that select athletic training educators (ATEs) hold about their teaching in the classroom and what factors influenced their selection of teaching methods. The research questions that guided this study were:

- How do select athletic training educators understand their own teaching?
- What strategies do they frequently use?
- What factors influence their selection of teaching methods?

To address these questions, a phenomenological research design was employed. Data was collected from seven athletic training educators throughout the United States. Data sources included interviews with athletic training educators, documents, and the review of videotapes of teaching lessons to aid in the participants' reflection on their teaching. Data was analyzed according to the method described by Moustakas (1994). A constant comparison process as described by Glaser and Strauss (1967) was used throughout data collection and analysis. This chapter is organized into two sections: (a) the participants and (b) identified themes.

The Participants

Participants of this study were purposefully selected based on characteristics and information that each individual could contribute (Maxwell, 2005; Patton, 1990) and their experience with the phenomenon (Moustakas, 1994). The sample size for this study was seven participants. All seven participants were ATEs employed in Commission on Accreditation of Athletic Training Education (CAATE) accredited undergraduate athletic

training education programs. Participants were also certified athletic trainers (ATCs). The following sections describe the participants in more detail including: (a) recruitment type, (b) institution type, (c) role at their institution, (d) demographics, (e) level of education, and (f) research interest.

Recruitment type. For this study, the initial critical cases were ATEs who were known leaders in the field of athletic training education. From those ATEs contacted as critical cases, three individuals met the study criteria and volunteered to participate. Matt, Edward, and Pamela (pseudonyms) were recruited as critical cases. From the recommendations of the critical case ATEs, an additional four ATEs were recruited through a snowball method. Lisa, Kristen, Meghan, and Ben (pseudonyms) were recruited through the snowball method.

What was notable during the recruitment process was that many of the ATEs recommended the same individuals. For example, Edward was initially recruited as a critical case, but three other ATEs, when asked to recommend colleagues for inclusion in the study, also recommended him. Edward also recommended two of the individuals who suggested him for inclusion when he was asked to recommend other ATEs for the snowball recruitment.

Institution type. Three of the participants (Pamela, Meghan, and Ben) were employed at universities designated as research institutions by The Carnegie Foundation for the Advancement of Teaching (n.d.). Of the three participants, two individuals were associate professors with research and teaching responsibilities, and one was an instructor who was not in a tenure-track position. One of the participants, Meghan, discussed that, while she was teaching and serving as the program director at a research intuition,

teaching was still a priority for her. She stated, "Even though it's not going to get me anywhere to full professor any faster, if I have to do more research at the cost of my teaching, that's not why I took this job, I'll stay associate for the rest of my life". The four other participants were employed at primarily teaching institutions. This included Matt, Edward, Lisa, and Kristen. Six of the participants were employed at institutions in the Midwest and one from New England.

Role at institution. Three of the study participants (Matt, Kristen, and Meghan) were program directors within their institutions' athletic training education program. Being a program director involves overseeing all administrative aspects of the athletic training education program. Of the four who were not program directors, three (Pamela, Lisa, and Ben) were clinical education coordinators for their respective athletic training education programs. As clinical education coordinators, these individuals were responsible for assigning and monitoring the students at their clinical rotations. Pamela did discuss the role strain of being the clinical education coordinator while being a faculty member with teaching and research responsibilities; she stated:

> I would rather teach a class and have less distraction and be able to focus more on writing…it [clinical coordinating] is challenging….If I got told today that I could make full professor and never have to write or get a grant again I would totally immerse myself in it [clinical coordinating].

Only one participant, Edward, had no administrative duties. Two of the participants, Lisa and Kristen, also had clinical responsibilities with the athletic departments at their institutions caring for sports teams, in addition to their teaching and administrative

responsibilities in the academic program. One of the participants with clinical responsibilities, Kristen, stated, "And it's for the express purpose to keep it real".

Six of the participants were associate professors at their institutions. These participants had been teaching for between 11 and 25 years beyond their experiences in graduate school. One of these six mentioned during her interview that she was submitting her academic record for full professor this year. The seventh participant, Ben, was instructor rank and not in a tenure-track position at his institution. He had been teaching for approximately eight years.

Demographics. All of the participants in this study were Caucasian. Three males and four females participated. Their ages ranged from approximately 32 years old to 50 years old.

Level of education. Six of the participants in this study held terminal degrees and one held a master's degree. All six participants who held terminal degrees had a focus on some area of education during their doctoral studies (e.g., adult continuing education, educational leadership, curriculum and instruction, and higher education administration). All six completed terminal degrees with the expressed purpose to either become ATEs or continue to advance their roles as ATEs.

Ben had a master's degree in athletic training. He had no formal or informal preparation in education or teaching methods prior to beginning his career in higher education. This was not uncommon for other participants as well. Four of the six participants with terminal degrees began their teaching careers at the college level during their master's programs or right after the completion of their master's degree. The other two participants with terminal degrees had some instruction in teaching methodologies

during their undergraduate education because their programs of study included preparation for a potential career in secondary education. Ben discussed his intent to complete a terminal degree at some point in his career, but due to family obligations and perceived job security, he was in "no rush" to continue his formal education.

Research interests. The participants who had research responsibilities were all interested in athletic training education. For example, Pamela, Lisa, Kristen, and Matt all had publications related to the clinical education component of athletic training education. Other areas of research related to athletic training education included evidenced-based practice (EBP) in athletic training, continuing education, ethics, and leadership. Notably, Matt's research record was very diverse, ranging from educational tools for ATEs to plyometrics. Most apparent in Matt's research record was his continued work with students and support of their research interests. For instance, many of the publications listed on his curriculum vita (CV) were collaborative projects with both undergraduate and graduate students. Edward also had extensive publications and presentations with his graduate students over the course of his career in higher education.

Identified Themes

The first concept that emerged from the interviews was the ATEs purposeful work to help advance the profession of athletic training. This was demonstrated in statements that indicated the influence the ATEs' perceived they had on their students as both future athletic training professionals and as individuals. Most of the participants spent a significant portion of the interview discussing their students. Even though the questions focused on their teaching, the participants repeatedly returned their focus back to their students. There seemed to be a sense of pride in their voices as they discussed their

"kids". Further analysis of the interview data subdivided the concept into two common themes among the ATEs who participated in this study: (a) mindfulness of their teaching practice and (b) genuine care for the success and development of their students. Exploration of these two themes revealed several subthemes. The following sections illustrate the findings of this study from the interview data.

Mindfulness of their teaching practice. The theme of mindfulness of their teaching practice was demonstrated through the following four subthemes: (a) their personal evolution as ATEs, (b) balance of student learning and engagement with required content, (c) importance of critical thinking, and (d) content being applicable/useful/relevant.

Their personal evolution as ATEs. Consistent amongst the seven participants was the discussion of their evolution as ATEs over the course of their careers in higher education. The subtheme of evolution as ATEs was evidenced by four major influences on the participants: (a) "the accidental educator", (b) "doctoral study 'Ahahs'", (c) "my practice has been shaped by my mentors", and (d) "I'm not there yet, but I'm working on it". The following sections illustrate the findings from the interview data related to the subtheme of evolution of teaching practice.

The accidental educator. Many of the participants discussed becoming higher education faculty "accidentally" or by "default"; becoming an ATE was not their original career plan after completing their bachelor's degree and athletic training certification. Indeed, Lisa said she became an educator "accidentally". After falling in love with teaching during her master's program, she changed her career trajectory from being a Division I athletic trainer to becoming an ATE. Lisa indicated that her views on

becoming an educator changed significantly after some teaching experience at the college level. Similarly, Meghan discussed that through a split academic and clinical position after completion of her master's degree, she "realized how much I truly enjoyed the teaching, [and] kind of just stayed in from that point forward". Ben stated, "I never thought that that's what I would be doing" when asked how he got into teaching and how now, "I can't picture myself doing anything else". Like Meghan, the opportunity to have a split academic and clinical position introduced Ben to teaching in an athletic training education program. Ben continued to state, "The more I got in there [the classroom], the more I enjoyed being in the classroom exclusively".

Doctoral study "Ahahs". The influence of the participants' graduate education, specifically their doctoral studies, was discussed throughout the interviews with the six participants who held terminal degrees. For example, Meghan attributed much of her development as an educator to her doctoral program. She stated that, "I knew that I loved teaching. I didn't understand or I wasn't really exposed to the theory behind doing what I did". She continued to say, "When I started my doc studies, I really, really became cognizant of what I did in the classroom, and I think at that point I became much more purposeful in my teaching". During that time, Meghan admitted to becoming "really passionate" about teaching, stating, "I really love to read about teaching".

Edward discussed different experiences he had in the classroom during his doctoral program, such as the first time he experienced interactive learning and collaborative learning, which he believed were not common in higher education when he was an undergraduate student. Specifically during his doctoral program, Edward began to "understand the importance of thinking at higher levels and also engaging the student

in some meaning making". Kristen also stated, "My doctoral work helped me looking at higher thinking and learning processes". Similarly, while reflecting on the impact of her past educational experiences on her current approach to teaching, Pamela stated:

> We didn't really have discussions [in my undergraduate program], we didn't get to talk about things, it was more of listening to our professors…so when I got in grad programs and saw professors who talked and interacted, it made me want to be like that.

My practice has been shaped by my mentors. The perceived value of mentorship and the influence of past educators was another area in the participants' evolution as ATEs. Lisa credited good mentors during her masters program to her choice to become an ATE. Lisa indicated that while her doctoral program did have an influence on her as an educator, the more substantial influences were the relationships with mentors that developed as her career in higher education progressed. She discussed how her mentors changed from traditional athletic trainers to ATEs. Kristen also attributed some of her evolution as a faulty member to working with other ATEs and attending educator conferences. Kristen stated, "Just sitting around and talking, the transition from talking about injuries and how you handle them, to talking with people who the focus is education" and how those conversations influenced who she was as an ATE.

Edward also discussed the role that different mentors played in introducing him to athletic training as a career path when he was in college, and then to the idea of teaching athletic training at the collegiate level. He indicated that those past educators and mentors still have a major impact on who he is as an ATE; Edward stated, "I think I probably take in pieces of my experience from the vast array of educators that I've had

the opportunity to work with". For example, Edward discussed how one specific professor he had during his doctoral program helped him "understand what I might be able to do in the classroom as an educator" and how he could challenge students to think differently than they had before attending college. Ben also discussed the influences his past educators, both at the high school and college levels, had on him as a faculty member now. Ben discussed how specific faculty members interacted with students and made their course content relevant to real life; he indicated he wanted to emulate those faculty members in the classroom and in his interactions with students.

I'm not there yet, but I'm working on it. The last common influence on the participants' evolution as educators was their continued exploration of the practice of teaching. For example, after graduate school, Meghan attributed "life experiences" and "coming up through the ranks" to who she had become as an educator. Meghan discussed how she sets yearly teaching goals for herself in an effort to continue to improve her teaching, and how she reflected on her classes through discussions with her teaching assistant.

Similarly, after her doctoral program, Lisa said she continued to learn as an educator. Lisa indicated that the experiences she has had as a clinician have influenced who she as an educator. She stated, "I consider myself an expert, that's why I'm in the classroom". Later in the interview, when discussing her teaching, Lisa stated, "I evolve and change, and I don't want to get stale". Lisa further indicated that she was experiencing "burnout" and feared she might have become stale in her teaching. She also discussed how she was addressing this by creating new ways to challenge herself. Lisa was purposefully attempting to reenergize and refocus herself by designing and

implementing a new hybrid course for the athletic training education program at her institution.

A major influence on Ben's teaching was leaving his split position (i.e., academic and clinical) at one institution for a purely academic position at his current institution. Ben discussed that because of having to teach more courses during the semester, he had to "adjust how I prepared for them", and stated, "I started to force myself into how do I get the most out of my teaching and do it efficiently?" Ben also discussed the influence a workshop he took on Universal Design for Instruction (UDI) had on his teaching. UDI incorporates multiple methods of instruction to reach all students, no matter their preferred learning style, strengths, or weaknesses. For example, Ben said he used narrated PowerPoint presentations and guided notes, both of which drew on ideas from UDI. He believed that the UDI principles allowed him to reach both lower and upper level students in the same class more effectively.

Matt also discussed how he took it upon himself to research new strategies and techniques to use in the classroom and to find his own approaches to teaching as opposed to modeling how he was taught in the past. He indicated that he continued to learn as an educator to help better deliver the required content and to help maintain the engagement of his students. He indicated that his students drove his change in teaching at the beginning of his career and he stated that they continue to drive change now.

Pamela indicated that her teaching has changed considerably over the course of her career in higher education. She stated how the "bigger picture" is more important to her now. For example, she discussed at length how she now "gives herself permission" to let a student sleep in class, whereas earlier in her career she would have made a "big

deal" about that type of situation and stressed over it. She indicated she has decided to focus her energy on the students who want to be in class and who are engaged in the material. Pamela also discussed how she is currently less worried about specific details of a skill or competency and is "focusing on larger concepts that are applicable and transferrable to other content". Pamela indicated that this was a major change in her thinking and teaching philosophy recently.

When discussing his evolution as a faculty member, Ben stated, "When I first started, it was walk in, have my page of notes, read my page of notes, and then when I was done with my page of notes, class was over". Ben indicated that many different factors influenced his teaching over the course of his career. He discussed that through an opportunity to develop and implement a first year experience course he was able to learn about different methods to deliver material and use technology to aid in student engagement and learning. Through this opportunity, Ben indicated that he began to reflect on his teaching and how it affected student learning.

Early in his interview, Matt discussed his reflections on and changes in his teaching from modeling his past professors to discovering his own identity as an educator. He called his first two years of teaching a "transition period". He described going from a "dictator" in the classroom to finding new ways to reach students and make the classroom more student-centered. He still maintained high expectations for his students, especially making sure his students learned to be accountable and responsible, but realized he did not need to "rule with an iron fist" to accomplish his goals. Matt knew his past style of teaching was not working, and he knew he needed to make changes for his students. Matt reflected, "I didn't necessarily know what I was doing right and

what I was doing wrong. I was just kind of going through the motions". He later stated, "I changed a lot and the changes were for the good".

Similar to Matt, Kristen talked about the evolution of her teaching and stated, "My initial teaching style was very different, it was the way I was taught, and it was the 'command style'". She indicated lessons were driven by "just the facts" and, similar to Ben's initial teaching style, after the outlined content was delivered to the students, Kristen's lesson was done for the day. During the interview, Kristen discussed that she is now more reflective with her teaching and "completely changed from how I started teaching". Lisa also discussed beginning her career in higher education by emulating how she was taught in college and the transition of her views and approach over time.

Pamela also reflected on how transitioning as an educator she drew heavily from what she remembered liking and disliking as a former student; she stated, "When I teach, I always think about what would I have liked to have had when I was an undergrad versus what I had". For example, she remembered disliking it when faculty did not provide adequate feedback on assignments, just a letter grade. Because of this, Pamela indicated she was very purposeful in providing students with feedback on their assignments so they can learn from their mistakes and make the necessary changes before the next assignment was due.

The balance of student learning and engagement with required content. The theme of mindfulness of their teaching practice was also demonstrated by the ATEs in this study through the subtheme of balancing student learning and engagement with required content. When discussing the evolution of her teaching practice, Meghan indicated that, as her career progressed, her teaching became more purposeful. She also

indicated that she strives to balance delivery of the required content with student learning in her classes. Meghan stated, "[Teaching] wasn't as much about getting the content out there as it was about, more about learning…being more concerned about student learning than about my own teaching". She also indicated that over time she had become less concerned with delivering all the required content in the time she had initially planned and stated, "Less content, more discovery". Meghan continued, "I'm not saying content isn't important, I just think that if we take two days to go over something that I had scheduled for one day, but they have a better understanding of how it fits in the big picture, then that's okay". Meghan stated that now her "assignments are often reflective as opposed to content driven". In addition, Meghan discussed how teaching was more than "just trying to drive it [content] down their throats" and how she used stories and real life scenarios to try to have the students connect with the material.

Lisa discussed this balance and stated:

> Even though I understood methodology [at the beginning of my teaching career], it was just a lot easier when you're strapped for time and have a lot of content to just go in there and say "put on your seatbelts, we're just gonna race through this content".

She continued to reflect, "What I was doing, in that sense, in lecturing, is I was losing student engagement". Because of this, she indicated that she had to change the way she was teaching and "let go of some of the control that I had with the content and let the students discover the content". She indicated that she currently views her teaching as more of a conversation with students "rather than me just kind of drilling home the content". Lisa indicated that she has a willingness to change her class structure to

reengage students in the classroom. She stated, "Maybe I'm focusing too much on engagement and not enough on learning, I don't know".

Ben stated that when he started his higher education teaching career he thought, "The kids were in there and all I had to do was give them the information so that they could pass the test". Because of his opportunities with the first year experience course, he was able to see that "it's about more than just the stuff out of the text". He also indicated that he learned different ways to engage students through the principles of UDI. For example, Ben used what he called the "pause practice", where he would purposefully stop his PowerPoint and have students discuss the information being presented with a neighbor. He indicated that he believed this helped not only reengage students during class, but also helped students process the information. Ben initially used the term entertainment, but later clarified:

> Engagement versus entertainment, I think that there's definitely some differences between those things. I think that engagement really looks at did they have an in-depth interest in the material, whereas entertainment is that they're paying attention to you. But if I can't get them to pay attention to me how can I get them invested in the material?

Ben indicated that he wanted students to be engaged in the material so they could learn the content, even if that meant him being entertaining during class sessions.

Different from Ben's views on engagement versus entertainment, Matt indicated he did not want to entertain. Matt was against the "dog and pony show" used by some professors in an effort to engage students. Matt stated toward the end of his interview, "I think the designing of the lesson and what I'm going to do is partially derived by the

content, what has worked in the past, and how willing I am to experiment with something new in the future".

Edward also reflected and discussed his thoughts on the balance between content and student learning. He stated:

> The idea that a teacher is a person who helps students understand the content and to do that you deliver the content, but as things have evolved, I've come to embrace this idea that it's still okay to do that, but it's just as important to make sure students are asking questions, finding the answers themselves, engaging in the leaning process as an active and more engaged participant.

Edward continued to discuss that while engagement was very important to him, sometimes there are just some facts and concepts that the students have to know before moving forward. He indicated that he spent more time on content in his lower division athletic training classes than in his upper division classes. He discussed how he could do more interactive and collaborative activities with the upper division students. Edward made it very clear that the competencies drove his teaching, but how he accomplished delivering the required information to his students varied based on the level of the students. Edward also stated that he made "sure we don't spoon feed students and make sure they can link theory to practice". He stated one of the goals of his teaching was "engaging the students in some meaning making".

Pamela also discussed how sometimes the need for content to be taught influenced her teaching strategies and the balance of student engagement. She stated:

> It's hard to do a whole lot of discussion with undergraduate students, partially because sometimes it just takes them so much time to get to a point where you can

have a good discussion cause they need so much knowledge and information, and also we've just got so much to teach that sometimes it's hard to find the time.

When asked to describe her teaching, Pamela stated, "It's pretty relaxed; although I looked relaxed, I can get pretty anxious in my head about the content we need to cover". She continued to discuss how she takes her classes seriously because she knows there is content that she is required to cover to fulfill the necessary competencies. Pamela stated that the content of her courses went beyond the competencies; this included additional material she felt that entry-level athletic trainers should know. Pamela indicated that she tried to balance teaching what students need to know in real life versus what they need to know for class tests and the subsequent Board of Certification (BOC) examination.

Matt also stated that he tried to balance the need for content delivery and the engagement of students. He did this by trying to make sure to stress the clinically significant topics in his courses, as opposed to the obscure. He indicated that he always tried to engage students in the material or reengage students, as needed, throughout the semester. For example, he used stories from his past athletic training clinical practice to integrate real life into the content and make the material more meaningful for his students. He illustrated this point when stating, "One thing that people who do a good job of teaching can, they can relate to what's happening, they can bring in stories that are meaningful to the students", and "That's one of the problems with people who have been educators that have not actually practiced in the profession". During class, Matt indicated that he tried to stay aware of his students' engagement of the material and continued to ask for their feedback to allow him to modify the course, if needed, throughout the semester. He stated, "That's one of the dilemmas I face sometimes". He

gave one specific example from his rehabilitation course, stating "I saw how I was doing things was just fizzling…I did a complete 180…I stopped using the book that we were using". Matt stated that because of the lost student engagement, he began to use a different book to guide his lessons for the remainder of the semester. He indicated that by changing everything, the students were reengaged in the material and the class was able to successfully continue for the remainder of the semester.

When discussing the balance of student engagement and learning with the required content, Kristen stressed the importance of relating clinical practice to the classroom. She stated, "The classroom is clinic and the clinic is classroom" and faculty need to stay connected to both aspects in order to "keep it real". She indicated that she tried to engage her students in the required content by involving them in the lesson and making class very interactive.

The importance of critical thinking. While the ATEs who participated in this study did not use the term critical thinking directly, many discussed the importance of having students learn and use critical thinking skills in-depth. For example, Lisa discussed having students "discover" the content; through discovery there was increased engagement and retention of the information. She indicated that she used "thinking questions", discussions, case studies, and scenarios throughout her classes in an effort to have students think about the material being presented. Lisa discussed how she believed this approach gave students the opportunity to "rehearse and elaborate on that content knowledge, as well as apply it". She indicated that her goal was to challenge students.

Lisa further lamented how with technology and an "app" for everything, "We want them to be critical thinking, but then they don't have to be" because students think

they can find a ready answer on the Internet. She continued to discuss how individuals can now input signs and symptoms into a website or phone application and find out a potential diagnosis for any condition. Kristen also questioned how ATEs are developing future athletic trainers if the students always have "protocols that you have to follow". She questioned whether ATEs were just creating "technicians" and expressed her belief that athletic trainers need to be more than technicians. Kristen stated, "I needed to help them to develop a process for thinking and problem solving that started in the classroom if I wanted them to do that in the clinical component". Kristen talked about using "strategic questioning" to bring students "through the different stages of cognitive processing". For example, she indicated that she used worksheets that required identification first, which focus on lower cognitive skills. After that, her strategy involved questioning to use higher cognitive skills, which were more "thought provoking".

Edward reflected on having students discover information and what it meant for him as an educator and for his student as learners. He continued to discuss how he purposefully built critical thinking activities into his courses and tried to help prepare the students in his lower division athletic training classes for higher level thinking as they progress through the program. As he stated it, "Lay the ground work", by which he meant that he tried "to at least give them a taste of what's coming in the curriculum and engage them in some synthesis of information". Edward stated that he wanted his students to be "able to interpret and evaluate information and make decisions", and that he did this by frequently using scenarios as a teaching strategy. He also stated that he

wanted “students to think for themselves and be autonomous learners”. He indicated that he tried to model this process himself, stating:

> It’s important to do that so that the students can from time to time see me think through some problems and weigh and consider the evidence that’s out there, and think about why I might or might not do a certain intervention with a patient.

Edward also described himself as a “facilitator” of the learning experience when discussing working with students from his upper division classes, as opposed to the importance of delivering content to students in his lower division classes.

During the interview, Meghan discussed that “instead of being so content driven…it’s more about critical thinking….More building on what they knew in the past, tying things together”. She continued to describe her teaching as, “Teach like a puzzle, where they have to put the pieces together”. She indicated that she designed tests that are short answer or case analysis to promote critical thinking in her students. She stated that constructivist educational theories have influenced her teaching strategies.

Pamela discussed critical thinking with her students and stated, “I try to get students to think about things in more than one way”, and in class she has tried to “not focus on things that are rote memorization”. She indicated that her teaching strategies involved frequent questioning of students in an effort to make them think about the material and problem solve. Pamela continued to discuss how she likes to have a comfortable classroom environment for her students to learn, but she also likes challenging them with difficult or maybe uncomfortable material to see them work through the problems. For example, Pamela discussed teaching students to take rectal temperatures using a “butt model”. She stated, “I enjoy teaching it because I like hearing

what they think about it and seeing their thought process change when we talk about why it's needed and how important it is and how pivotal it is".

Applicable/Useful/Relevant. The last subtheme that demonstrated the ATEs' mindfulness of their teaching practice was the idea of the content being applicable, useful, or relevant. While their word choice may have varied, all the participants discussed this concept. For example, Ben stated, "I'm always trying when I teach class now to bring it back to 'why does this matter to me?'" He discussed the influence Bain's (2004) book, *What the Best College Teachers Do,* had on his teaching and the use of the question "Who gives a damn?" Ben continued, "So, if I'm teaching you something in class, and you ask me that [who gives a damn?], and it's not relevant to what you're going to do, why am I teaching it?" He indicated that his teaching has evolved from being purely content driven to making sure it is clinically relevant to the students' future practice and their lives in general. When asked what drives his teaching, Ben stated, "I want students, a year later, to still understand the relevance of the course and to still be able to connect it with what's going on in their life or what is going to happen in their profession". Ben repeatedly brought up the importance of connecting his classes to the real world. He stated, "In athletic training classes, I think it's easy for us to do that, because we give them clinical relevance to everything we do".

Pamela repeatedly mentioned making her teaching and the content applicable for her students' future practice and their lives in general. She stated, "I try to be very engaging, and try to make it applicable at times, which may not even make it athletic training applicable, but just to their life in general". The example she used was cranial nerves. She discussed how the students needed to memorize the cranial nerves, not only

because they are an important part of the anatomy, but because students will probably have a question about cranial nerves on the BOC examination. However, according to Pamela, on the athletic field or court, it is not important if the student can list all the cranial nerves when an athlete has a potential head injury. What is important is if the student knows when to refer an athlete to a physician and what should be considered a medical emergency. Pamela said she asks herself the following question when teaching, "What do they need to know if they're going to be a practicing clinician?"

Other examples of study participants indicating that they wanted their teaching to be applicable, useful, or relevant included Lisa discussing the change in her teaching to "a lot more skill, a lot more application". She indicated she stressed application because students need to be able to make decisions on the field, and they cannot rely on technology to make those decisions. Matt also discussed choosing clinically significant topics in class and making his lessons meaningful to students in their professional practice. Edward indicated he made his classes relevant to clinical practice by designing class activities as tools for use in professional practice. For example, Edward had students research and evaluate information; he stated, "They've got to know where to find the information and how to evaluate its quality and whether or not it's good enough information to draw some conclusions". Lastly, when initially asked to describe her teaching, Kristen stated that it was "entertaining and humorous". After some additional thought, she described her teaching as "useful". She explained this further when discussing her goal to make her teaching "real" and having students bring in stories from their clinical experiences related to the topic for the day.

Genuine care for the success and development of their students. The second theme that emerged from the data was the genuine care the ATEs had about the success and development of their students that the ATEs who participated in this study demonstrated. This theme was illustrated through the following four subthemes: (a) student focused teaching, (b) development of skills other than academic, (c) today's students, and (d) student success and good ATCs. The following four sections illustrate the findings from the interview data related to the theme of genuine care for the success and development of their students.

Student focused teaching. The most prevalent subtheme illustrating genuine care for their students was the student-focused teaching that the ATEs who participated in the study described. For example, Meghan indicated her caring for students when she discussed her "transition" from focusing on her own teaching to student learning. She described how she shifted her focus away from herself and on to her students. When asked what drives her teaching, Meghan stated, "Just the kids" and "Seeing as the students try to take it from theory to practice". Meghan stated that she liked watching students learn and, "I think that relationship isn't about the 50 minutes you're in front of the classroom. I think it's about the day to day encounters with these kids that make part of the difference as to whether they perceive you as effective or not". Meghan indicated that she felt that her administrative duties as program director pulled her away from teaching, and she did not get to spend as much time in the classroom engaged with students as she would have liked. Because of this, Meghan made an effort to keep her office door open and allow students to stop by for informal meetings or "just to say hello".

Edward also discussed how he liked seeing students progress as learners; he stated that this was “fulfilling”. He indicated that he helped students in this process by very purposefully tailoring his teaching and activities to the level of his students, while still working to prepare them for the next level of critical thinking and skills to come in their courses. For example, Edward had the students in his lower division classes write “small papers” related to EBP and draw conclusions to help prepare them for the type of work they will be required to do in their upper division courses. Edward also indicated that he felt it was important to connect with students and build a rapport with them. Similar to Meghan, Edward stated, “It’s necessary to remember that education isn’t just about the 50 minutes in the classroom….If any educator thinks they just go to class and then they’re done teaching, that’s a problem”.

Matt indicated that he wanted his students to be good people and he cared about their development beyond the classroom. He stated, “I try to show them that I care. I try to show them that I’m a human being, at the same time I am not a perfect individual”. He admitted to making mistakes and was also open to students making mistakes. He discussed how he was open to students correcting him if he misgraded or was unclear in his wording on a test (if the student did so respectfully). Matt later stated, “I think most of us are in it [teaching] for the reason I said before, we all want to help our students”.

Kristen began her interview with an example of how she cared for her students; she stated, “They talk in their groups because they seem to be a little intimidated to throw answers out in a larger group”. She indicated she wanted to provide a comfortable learning environment that was not intimating for her students. She also discussed purposefully using different technologies and strategies in the classroom in an effort to

stimulate students “to process things differently or retrieve information or make connections through different parts of their brain”. She stated she wanted “something for their brain to hold on to”. Kristen’s use of psychomotor cues, motion, and other strategies in the classroom was a way she demonstrated she cared for her students and their success.

One example of Pamela demonstrating she cared for her students was her use of study guides. She indicated she thought extensively about the use of study guides but, in the end, drew from what she liked and disliked during her undergraduate education. She stated, “I never liked it when the professor just said well study everything”; because of that, Pamela now provides study guides to her students before examinations. She continued to say that her tests really did not contain any surprises, “If it’s important enough, then we’re going to talk about it in class”.

Ben discussed the unique interactions and rapport that many ATEs have with their students. He stated, “I think that, as athletic trainers, we tend to joke around with our students more, we know them on a personal level”. He indicated that he thought this informal interaction was probably different from other disciplines.

Ben further discussed how he purposefully did not introduce any new material during his internship class once the first spring BOC examination window opened. Once students started taking the examination, he did not want them to “freak out” if something they did not know was discussed in class. During and immediately after this examination window, he addressed other, non-examination topics in class, such as personal budgeting, research skills, and ethics.

Development of skills other than academic. The ATEs in this study also indicated that they believed their teaching was about more than just providing their students the required information to pass the BOC examination. For example, Meghan discussed how she believed her teaching methods help build students' confidence in themselves and as athletic trainers. She indicated that she felt her students did not know how much they actually knew about athletic training; she wanted to "show them what they know". Meghan also indicated that she provided her students an environment to learn and to fail; she stated, "I think learning's about taking some chances". Lisa also talked about her classroom as a safe place for students to make mistakes and learn from them.

Lisa described her program as one focused on grades, perhaps because many of the students aspired to enroll in a physical therapy program after graduation. She used the "carrot" of a quiz to motivate and meet the expectations of her students. At the same time, she expressed concern about their sole focus on content. Meghan stated, "We have kids who were 4.0 in the classroom, but my goodness, in the clinical setting they couldn't tie their shoes, and that doesn't make sense to me. I mean, we need to have balance".

Matt also addressed grades and indicated that he felt attending college should be about more than just grades. Matt spent a great deal of time discussing student responsibility and accountability to him as the instructor, themselves, and each other. Matt indicated that his incorporation of responsibility and accountability into his teaching strategy was deliberate. Repeatedly, Matt discussed the need for students to be responsible and accountable, both personally and professionally. Lisa and Pamela also indicated that they wanted to teach their students about accountability and responsibility.

For example, Pamela discussed how things, like due dates on assignments, related to preparing students for future employment.

Edward also discussed the preparation of students for future professional practice. He indicated that he purposefully did not tailor his teaching to individual student's learning styles in a conscious effort to prepare them for the real world, where they will have to work with diverse people. He stated:

> I don't get too hung up on making sure I take every student's learning style and address that because they're going to find themselves working in a lot of different settings, every clinical experience they go to, it's going to be a little different, the other people they interact with will be different learners….I guess to an extent it might be a disservice if all we did was direct activity toward the preferred learning style….I try to mix it up a little bit.

Edward indicated that he wanted his students to be able to adapt to different situations they might encounter within the program and in their future practice and to work well with a variety of people.

Today's students. Another subtheme illustrating the genuine care for the success and development of their students was the ATEs discussion of change in students over the course of their careers. Many of the ATEs interviewed discussed their own age when asked about the changes in the current generation of students. For example, Meghan stated, "Maybe just being older too" and "I use the term [kid], I'm almost 50, so kids are anyone under 30". Pamela stated, "I'm not sure, I'm getting older". Kristen discussed her view that students today "learn very differently" than when she was in school, and "If

I'm not staying on top of that, then I would probably lose my ability to be relevant or to present information in a way that reaches them".

Meghan stated, "You could fight it [the change in students], or you can create innovations in your teaching that makes it more exciting for them". She continued to discuss the importance of technology with this generation of students and her perception that students "want the teaching to be dynamic". Meghan indicated that she believed that students today want to be engaged in the classroom, and she indicated that she provides many activities to allow students to engage in the material. Meghan also discussed how "kids today have a lot more opinions…they want to have a voice, and I think they want to be respected". Because of this change in the students, Meghan indicated she has become "more tolerant, more accepting of a kid who will respectfully disagree or challenge me". She discussed how this is not just about the change in the students, but also the change in herself; Meghan stated, "20 years ago I would get defensive…now I think that kids just truly want to have a voice". She continued to discuss how some people might see this generation negatively and for her "it is what it is". She believes that ATEs need to acknowledge this difference in students today and "change our teaching to meet the needs of these kids and that perspective…engage them…do things where they have their voice…group activities…use technology". Meghan stated that she "didn't really see that as a big negative" and "fighting that is a negative". She continued to say, "I mean, my generation is way different than some of my colleagues' generations, and clearly their kids are different than them, but it's not bad, just different".

Lisa also discussed her belief that teaching in higher education has changed over time because students have changed. Although she later stated:

> You read all the research and you hear about the millennial student and they want to be engaged and they want technology, but time and time again I come into the classroom it's like they just want me to open up their mouth, put the content on a spoon, and shove it down their throats.

Lisa continued to discuss whether this was a product of her grade driven program or society in general. She discussed that while she believes students are different today, so are parents. She stated that many parents of her students call about their children, which did not happen in the past.

Matt also discussed the difference in students and parents today. He stated, "…because their parents and their high school teachers and elementary school teachers never gave them opportunities to make choices. And that's the problem we have with this generation that we teach, is they've been coddled". Matt indicated that he did not "coddle" his students in the classroom. He made sure the students made their own decisions, and he held them accountable.

Pamela discussed her views that today students are less responsible, pay less attention to details, take things for granted, do not have a sense of urgency, and do not appreciate their role as healthcare professionals. Pamela talked extensively on her views about students not appreciating their roles as healthcare professionals. She stated that she believed her students saw themselves as part of the sports team or as a coach, as opposed to a medical professional. Pamela continued to discuss her belief that some students had the "mentality of putting in time, rather than providing patient care". She did state that she saw a "big shift in seniors" about their role as part of the healthcare team. She also discussed her perceived view of students, what she called the "everything will work out

mentality". Pamela indicated that she felt her students had a fear of moving forward, and that was why her students were not applying to graduate school and "not going to their full potential". She said that some students eventually applied to graduate programs, but often too late for the more competitive positions. Pamela attributed this to the students' "everything will work out mentality" and their general lack of urgency. She indicated that she felt this generation of students is not as serious about their future or their careers as students she had taught in the past.

Edward's views on this generation of students were very different than the other ATEs interviewed. He indicated that he thought there was a difference amongst students now and the previous generation, but "in a good way". He called it a "neat change". He stated that students today are not as passive about their learning as the students before, and that today's students show more initiative and responsibility. He stated students today "don't just expect a lecture". He indicated that he thought this generation may have more of a sense of entitlement than the previous, but that was the only negative he brought up during the interview. Edward continued to discuss how he might perceive things differently than his colleagues in other disciplines and how he believed that "athletic training students are different"; his statements reflected a sense of pride in his students. He also discussed how the athletic training education program in which he worked did a good job on the "front end of making them very aware of the expectations that we have for them".

Student success and good ATCs. Also common among the ATEs interviewed, but less explicit, was the importance of student success and the development good ATCs. Lisa said it best, "Student success certainly drives my teaching, the outcome for students

is we want them to be great athletic trainers". Pamela discussed wanting to set students up for success in her classes and in life in general. For example, she indicated that preparing students for future employment though different means (e.g., accountability for assignments) was important to her. Student success was also important to Meghan; she indicated this in her discussion related to providing scaffolding for the work students were required to do in her classes. She indicated that she wanted them to succeed and to accomplish that goal she was willing to work with students to learn and grow as future ATCs. Meghan further indicated her willingness to "touch base" with her students outside of the classroom to make sure they understood information she had presented in class. Similarly, Pamela stated, "I'm always focusing on what's the vibe of the room"; this was one of the ways she indicated she "gauged the understanding of the students".

The importance of student success was also demonstrated by the reflective practice of the ATEs. Edward stated, "Students are the most important" and because of this, he indicated that he critically analyzed his teaching in an effort to improve it. Lisa also indicated a willingness to examine her teaching, specifically when students do not do well on a test; she asks herself, "What did I do wrong?" Meghan discussed changing her teaching over the course of her higher education career and continuously evaluating its content because "I believe that athletic training changes hourly almost". She indicated she wanted to help prepare her students to be good ATCs by providing them with the most up-to-date information. Pamela also addressed her reflective practice when discussing the recent changes in her teaching philosophy and "letting go of the bad students and focusing my energy on the good students".

Meghan's own reflective practice expanded to challenging her students and teaching assistant to reflect themselves. Meghan indicated that she did this purposefully through reflective assignments for her students. With her teaching assistant, she did this through discussions and mentoring. Ben also indicated a value in reflecting on his teaching with his teaching assistant. Pamela assigned reports, through which her students must write reflections on their roles as healthcare providers and their development as future ATCs.

Matt and Edward also indicated they promoted student success and the development of good ATCs by modeling professional behaviors for their students. Edward modeled good professional behaviors, such as research skills, the use of EBP, critical thinking, and decision making for his students. Matt indicated that he tried to "model good behavior, foundational behaviors" personally and professionally himself; this was a way Matt demonstrated he was mindful of his students' development.

Summary

This chapter addressed the findings from the research including the participants and the identified themes. Participants were described in detail. This included: (a) recruitment type, (b) institution type, (c) role at their institution, (d) demographics, (e) level of education, and (f) research interest. The analyzed interview data revealed two common themes among the ATEs who participated in this study: (a) mindfulness of their teaching practice and (b) genuine care for the success and development of their students. Each theme was further broken down into subthemes. The theme of mindfulness of the participants' teaching practice was demonstrated through the following four subthemes: (a) their personal evolution as ATEs, (b) balance of student learning and engagement

with required content, (c) importance of critical thinking, and (d) content being applicable/useful/relevant. The theme genuine care for students was illustrated through the following four subthemes: (a) student focused teaching, (b) development of skills other than academic, (c) today's students, and (d) student success and good ATCs.

Chapter V provides answers to the research questions. A discussion of the findings and their relationship to the previous research are also presented. Lastly, implications of the findings for practice, as well as recommendation for future research, are discussed.

Chapter V

Discussion and Conclusions

The purpose of this study was to examine the understandings that select athletic training educators (ATEs) hold about their teaching in the classroom and what factors influenced their selection of teaching methods. The research questions that guided this study were:

- How do select athletic training educators understand their own teaching?
- What strategies do they frequently use?
- What factors influence their selection of teaching methods?

In an effort to address the research questions, a phenomenological research design was employed. Data were collected from seven athletic training educators throughout the United States. Data included interviews and documents. This chapter is divided into five sections: (a) answers to research questions, (b) discussion of the findings, (c) implications for practice, (d) recommendations for future research, and (e) conclusions.

Research Questions

How do select athletic training educators understand their own teaching?

The understandings that ATEs in this study held regarding their teaching came from their personal reflections about their practice. What was most noteworthy was that the reflections participants undertook relative to the videotapes they produced as part of this study were not necessarily novel. Although they might not have formally articulated their thinking, all participants indicated that they had thought about their teaching throughout their careers in higher education. Indeed, one participant indicated that she maintained a teaching journal.

All ATEs in this study indicated their willingness to change and adapt their teaching. They understood that they had to engage their students in the classroom to be able to deliver the required content. There seemed to be a deliberate attempt to balance engagement and content in their classes; this balance was continuously evolving and was never identified as being perfect. Ben may have said it best, "We [ATEs] have to try to remain open, whether you are a first year teacher in this or you've been doing it for 25 years. I think that the biggest thing that we have to do as higher ed educators is to remain open to new ideas and techniques". As the participants discussed, you cannot "get stuck in a rut" with your teaching methods; these ATEs indicated that their teaching strategies were flexible and constantly evolving.

The participants' teaching also appeared to be very purposeful. They were very attentive to their teaching practice and how it could affect their students. The participants seemed to want to strive for excellence in both their teaching and their students' learning. Three participants (Lisa, Matt, and Pamela) in particular were explicit in their statements that "student success" drove their teaching. These selected ATEs wanted to see their students succeed not only in the classroom, but also during their clinical rotations, and later as certified athletic trainers (ATCs). The participants seemed to understand that their teaching was linked to student success; hence, their purposeful teaching to promote academic success and personal development.

What strategies do they frequently use? The interviews with the participants reinforced the idea that there is no "right" way to teach. As Meghan stated, "Athletic training, there's a million ways to skin a cat". Although she was addressing various right answers to questions her students gave in class related to different athletic training skills,

this was also associated with the idea there is no one right way to teach. The ATEs in this study indicated that they used many different methods and strategies in the classroom to effectively engage their students.

All the participants were mindful of their teaching and its effect on students, but how they chose to deliver the required content and engage their students varied. The variation was not only amongst the participants, but also within many of the participants' own teaching strategies. These included, but were not limited to, small group work, lecture, role-play, and students teaching their peers the material. Many of the participants also discussed their willingness to adapt and modify their teaching during the course of the semester. For example, Matt said he was not afraid to try new things in the classroom and that throughout the semester his class was ever changing. Pamela and Ben also discussed that what works one year might not work the next, so they indicated a need to be flexible with their planning for the semester.

What did seem to be most common among participants was the importance of active learning in the classroom. Many of the videotaped teaching lessons submitted showed the students up and moving throughout the course of the class. If the teaching method used in the videotaped lesson was lecture, the ATEs engaged the students and encouraged their participation in the lesson through direct questions. The ATEs who used lecture and questioning seemed to have good class participation during the videotaped teaching lesson. It must be noted, however, that hands-on activities align with the nature of the discipline and profession of athletic training (Rich, 2006).

What factors influence their selection of teaching methods? Four factors appeared to influence the participants' selection of teaching methods. They included: (a)

their past educational experiences as students, (b) their doctoral programs, (c) learning from "mistakes", and (d) professional mentors. The selected ATEs discussed the influence their previous experiences as students, both at the undergraduate and the graduate levels, had on their efforts to address the needs of the students in the classroom. For example, Pamela discussed extensively how she continued to reflect on what she liked and what she disliked during her undergraduate education when preparing for her classes now. Also common amongst the participants was their specific mention of the impact their doctoral programs, both the research and teaching components, had on their teaching. The participants reflected on the role their research and teaching had on their thinking about the learning process and their development as ATEs.

Participants described in detail how they learned from what they perceived as mistakes. For instance, Matt discussed the change in his teaching from being a "dictator" to being more student-centered after his initial approach to teaching "failed". Kristen also discussed learning how to "frame" her lessons better to aid students in their ability to understand the concepts she was presenting. Matt probably said it best when he stated, "I think the designing of the lesson and what I'm going to do is partially derived by the content, what has worked in the past, and how willing I am to experiment with something in the future". Lisa had a slightly different experience learning from her own teaching. She stated she was suffering from "burnout" which drove her to try new things with her teaching, like a hybrid course, to reengage and reenergize herself.

Each participant in this study also described a mentor or mentors and how these different educators influenced their teaching. For some, the mentor was a past educator who the individual sought to emulate in the classroom. Others discussed connecting with

different ATEs for guidance. What was most noteworthy was that many of the participants mentioned the same names as mentors; thus, it appears that there is a network of ATEs who rely upon each other for support.

Discussion

The participants of this study were not a random sample of ATEs, rather a very deliberate, purposeful sample. They were intentionally selected because they were known leaders in the field, or known leaders recommended them for what they believed the individual could contribute to the study. All participants entered the study having practiced reflection about their teaching prior to the study. Two themes were found in the data: (a) mindfulness of ATEs' teaching practice and (b) the ATEs' genuine care for the success and development of their students. In effect, the participants in this study were using teaching as an essential vehicle to advance the profession of athletic training by way of instilling foundational behaviors in students.

A constant comparison method was used to examine the similarities and differences among participants and groups. For instance, the responses of ATEs employed at research institutions were compared with those of ATEs employed at teaching institutions. With one exception, no notable differences were found among participants or groups. The one participant who stood out as different than the others was Ben. It must be noted that he did not hold a terminal degree, therefore was unable to reflect on his doctoral studies as a potential influence on his teaching. However, while his level of education may have been different than the other participants, his responses and reflections during the interview aligned with the other.

Teaching as an essential vehicle. Common amongst all participants was the perceived importance of the process of teaching. While student success, both in and out of the classroom, may have driven their teaching, how they attempted to achieved success varied. Of note, the variation in teaching strategies was not only among the participants but within the participants themselves. The ATEs discussed many different ways to engage their students, and findings from the data showed there was no perceived right way to teach the course content; rather it seemed that the willingness to adapt their teaching to facilitate student learning was more important. The participants selected their teaching methods based on what they believed was the best way to deliver the content, but they were flexible with that decision. The goal of student success was more important than a predetermined method of delivery.

The importance of using a variety of teaching methods in the classroom was discussed by Brown et al. (1996). Their research showed that the best educators used a variety of teaching methods and the characteristics of the worst instructors included using limited teaching methods in the classroom (Brown et al., 1996). The importance of using a variety of teaching methods was also discussed by McCabe and Layne (2012). McCabe and Layne (2012) and Slate et al.'s (2011) research found that students preferred instructors who were flexible with their teaching as well.

However, findings from these investigators suggested a somewhat mechanical approach to the use of a variety of teaching methods in the classroom. In contrast, Palmer (1990) stated, "Good teaching cannot be equated with technique. It comes from the integrity of the teacher, from his or her relation to subject and students, from the capricious chemistry of it all" (p. 11). He continued to discuss how a method that might

reach one student might not work with another, and that good teachers continue to explore and develop their teaching practice. He stated, "They [good teachers] discover and develop methods of teaching that emerge from their own integrity – but they never reduce their teaching to technique" (Palmer, 1990, p. 11). Palmer's (1998) influential book, *The Courage to Teach*, focused on the idea that good teaching is more than just the delivery of content but involves passion for the subject and students, presences in the classroom, and reflection. The findings of this study support Palmer (1990, 1998), who argued that teaching is more than just certain methods but involves who the teacher is as a person and what he or she believes.

The current literature specific to teaching strategies in athletic training education programs is limited and what is available is mixed. Rich (2006) addressed teaching methods in athletic training classes and found that strategies, such as leading by example, hands-on activities, and the formal authority approach, were the most common. Ray (2006) addressed the changes occurring in athletic training education and higher education in general. With these changes, ATEs need to be willing to adapt their teaching to best reach their students and facilitate their learning. ATEs must become more effective and efficient with their teaching and "become organizers for our students' learning instead of content deliverers" (Ray, 2006, p. 3). Findings from this study provide clear examples of these arguments.

Advancing the profession of athletic training. The profession of athletic training has changed significantly from its beginning in the late 1800s. Over time, athletic trainers have become more than just water boys and coaches. The profession is now a highly specialized allied healthcare field with ATCs practicing in many settings

beyond the traditional sports teams. Athletic training is one of the fastest growing professions in the country. As the profession has developed and evolved, so have the required knowledge and skills for entry-level athletic trainers. Preparation for athletic trainers to enter the profession is no longer accomplished through apprenticeship alone, but is now a balanced curriculum including both didactic and clinical education components. With these changes, the need for critical thinking, decision making, and active learning as part of the educational programs are now more important than ever.

The intense focus on preparing students for the practice of athletic training has many driving forces. These include the increasing demands on the profession. The consequences of the decisions that ATCs must make have increasing legal and safety ramifications. Recently, Mickle (2007) reviewed three categories of laws, including statutory, regulatory, and case, and how each pertain to the profession of athletic training. Mickle stated, "Athletic trainers must clearly understand the professional responsibilities and scope-of-practice limitations that are derived from the applicable types of law" (p. 13). Nowhere else is this more evident than the role ATCs play in the recognition and management of sports-related concussions (Osborne, 2001). As federal and state guidelines and laws continue to be developed, the role ATCs play will continue to evolve. The decisions ATCs make on the field related to concussions are now more important than ever before.

Part of the evolution of the profession of athletic training has involved increasing professionalism and awareness of professional values among ATCs (Burningham et al., 2010; Peer & Schlabach, 2011). Burningham et al. (2010) stated, "Professionalism does not come through receiving a degree, but rather how an individual conducts themselves"

(p. 185). It appears at the time of this study, ATEs were attempting to embed the principles of professionalism and professional behaviors in their teaching practices in an effort to shape their students. The participants seemed to be attempting to advance athletic training through teaching their students about professionalism. This was part of their deliberate practice. The participants did this directly through assignments and class rules and indirectly as professional role models.

Instilling foundational behaviors. Foundational behaviors, as defined by Peer and Schlabach (2011), include the values, attitudes, beliefs, and motivations of professional practice. Peer and Schlabach's research outlined truth and honesty, integrity, respect, accountability, and caring as important professional values for athletic trainers. Berry's (2010a) column, *Educating RARE Students*, included dedication, commitment, responsibility, accountability, and respect as important behaviors of athletic training students and future professionals. While these foundational behaviors are not defined clearly by the NATA, they can be extrapolated from the NATA Code of Ethics (Peer & Schlabach, 2011). In athletic training education programs, these foundational behaviors or professional values are part of the "hidden curriculum"; these behaviors and values are not explicitly taught, but are important to the socialization of the students to the profession (Peer & Schlabach, 2011).

As stated by Peer and Schlabach (2011), "The onus is on the ATEP [athletic training education program] to convey foundational behaviors of professional practice in the classroom and clinical education components" (p. 195). With this hidden curriculum, content is the medium through which to teach the foundational behaviors. Through their educational experiences, Berry (2010a) stated, "They [athletic training students] learn

that a commitment to learning and life results in a level of excellence commensurate with the acceptance and willingness to be responsible, accountable, and respectful to themselves, their peers, and their instructors" (p. 91).

The participants in this study did not appear to conform to the belief that this is a hidden curriculum in athletic training education. Rather they have elevated it to be deliberate and intentional. The ATEs in this study seemed to be consciously instilling foundational behaviors in their students. For some, this seemed very purposeful; Matt even used the term "foundational behaviors" during his interview. For others, teaching their students about these behaviors and professionalism was less direct, but still an important part of their curriculum. Through this component of the curriculum, the ATEs in this study seemed to be attempting to advance the profession of athletic training. They seemed to not only want their students to be successful in school and life, but also wanted to advance the profession through the success of their students; part of this included instilling professionalism and foundational behaviors within their students.

Implications for Practice

The selection of teaching methods by ATEs in this study began with reflective practice and continued with a willingness to adapt their teaching methods. Reflections on teaching by ATEs is the cornerstone of their practice. Athletic training has undergone a transformation in the past several decades. Leaders in the profession have endeavored to change the views of athletic trainers to allied healthcare practitioners. Findings from this study suggest how educators can utilize their teaching practices to help advance the field. Through reflective teaching and willingness to adapt their teaching strategies, the ATEs in this study were able to address the needs of their students as they prepare to be

professional athletic trainers. While their teaching methods varied and no right way to teach was presented, the participants indicated they did what they believed was best for their students. What was right for the participants was reflecting on their teaching practice. For ATEs, reflection should be part of their practice and should begin as they complete their graduate studies. It is recommended that ATEs who direct graduate programs that include teaching assistantships make reflective practice, such as journaling, a formal component of the program.

ATEs are doing more than just preparing their students to pass the Board of Certification (BOC) examination. They are also preparing their students to enter the profession and the workforce in general. Because of this, content knowledge alone is insufficient. The foundational behaviors are essential to ensure that students are prepared to enter the workforce and become contributing members of the profession. As discussed by Peer and Schlabach (2011), the National Athletic Trainers' Association (NATA) should also address these foundational behaviors and create a set of common core values for the profession. Findings from this study demonstrate how foundational behaviors can be explicitly embedded in the athletic training education curriculum.

Mentoring is also an important aspect in the preparation and continued support of ATEs. The ATEs in this study discussed the roles that professional mentors played and the value of discussing teaching with peers; the NATA should promote dialog about teaching amongst professionals. The Athletic Training Educators Conference is an appropriate start. The findings from this study endorse the recently announced NATA Research and Education Foundation new researcher mentor program ("NATA Foundation," 2012). While the program aims to connect new faculty members with

established scholars to address research issues, discussions could occur between mentors and mentees about teaching and reflective practice by the participants.

Recommendations for Future Research

Several areas of further research are warranted upon completion of this study. The first recommendation is to replicate this study design with an expanded recruitment of participants. A larger, random sample could be used in an effort to recruit ATEs with more diverse demographic profiles. ATEs of different ethnic and racial backgrounds should be included. Recruitment of participants from institutions located in all regions of the United States is also recommended.

Also recommended is an examination of the curriculum in athletic training education programs across the country. Programs should be inventoried regarding the extent in which the curriculum includes the foundational behaviors. As stated by Peer and Schlabach (2011), "Today, there are 350-plus CAATE-accredited ATEPS [athletic training education programs] in the U.S. and potentially as many interpretations and assumptions by athletic trainers relative to what constitutes professional core values. This sets the stage for educational confusion and professional ambiguity" (p. 200). It is recommended that Peer and Schlabach's research on professional values be expanded to include the views of ATEs across the country and, more importantly, how ATEs are incorporating the professional values/foundational behaviors within the curriculum at their institutions. As the profession of athletic training grows and becomes more solidified as an allied healthcare field, how ATEs teach professionalism to their students and work to advance the field must also be addressed in the research.

The next area that merits further examination is assessment of student perceptions of effective teaching in the classroom. Previous research is limited on student perceptions of teaching in athletic training education programs. Schellhase's (2009) research included the variable of student evaluations of instructional outcomes in her investigation of teaching styles and the backgrounds of educators, but no significant findings were linked to student evaluations. Future research could investigate standard course evaluations completed by students in athletic training education programs coupled with interviews with students to assess their beliefs about effective teaching in the classroom are also recommended. Students could also be surveyed concerning what characteristics are important to them in ATEs and what aspects of the athletic training education program (e.g., faculty research, clinical rotation opportunities, BOC examination pass rates, job placement, etc.) are most influential in their decisions to attend an institution. The potential for this line of continued research was frequently stated during both pre-interviews with potential participants and the in-depth interviews with study participants.

Lastly, longitudinal studies including the reflections of ATEs in the classroom setting are recommended. This type of research could shed light onto how ATEs' teaching evolves over the course of their careers and the different catalysts for change in teaching over time. Many of the ATEs interviewed for this study addressed the transition of their teaching over the course of their careers. Documenting those reflections over time could bring new insight onto how the process occurs in other ATEs.

Conclusions

The purpose of this study was to examine the understandings that select ATEs hold about their teaching in the classroom and what factors influenced their selection of teaching methods. A phenomenological study with seven purposefully selected ATEs was conducted. Two themes were found in the data: (a) mindfulness of ATEs teaching practice and (b) the ATEs genuine care for the success and development of their students. The participants in this study were using teaching as an essential vehicle to advance the profession of athletic training by way of instilling foundational behaviors in students.

From the results of this study, the following conclusions can be drawn. First, content is not enough in athletic training education programs; foundational behaviors are an important consideration in the curriculum. Effective teaching matters, but it is more than just delivering the required competencies to students. Embedding foundational behaviors into the curriculum is important, but they should not be hidden, rather an explicit component of the athletic training education program.

Furthermore, while no "right" teaching method or strategy was recommended, instructor reflection was identified as the cornerstone of effective teaching. While there may not be one right method to use in teaching athletic training education courses, reflection by the instructor is a central component of teaching practice. What seemed common amongst all participants was the importance of reflection. The ATEs in this study also identified mentoring as essential in their development as instructors. All participants discussed the influence different mentors had on their teaching practice over the course of their careers in higher education.

Lastly, additional research needs to be conducted related to teaching in athletic training education programs. As stated by Knight and Ingersoll (1998), "much of our [athletic training] knowledge base is borrowed from other professions, which is natural for a young profession" (p. 271). There is a need for additional research related to teaching in athletic training education programs.

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Appendix A

Interview Guide, Protocol #:S12-054

1. Tell me about your educational background (undergrad and grad).
    a. Looking back now, how has your educational background and past teachers affected your teaching today?
2. Take me through a chronology of your teaching experiences.
    a. How has your teaching changed since the beginning of your career?
    b. What were the catalysts for the changes in your teaching?
3. Describe your teaching.
    a. What strategies do you frequently used in teaching?
    b. What drives your selection of teaching methods?
4. How does the videotaped lesson fit within the whole course?
    a. Why did you choose this lesson to videotape?
    b. Is this a typical lesson for you? Why or why not?
5. After watching your videotaped teaching lesson, how have your thoughts about your teaching changed?
    a. Would you change anything about your teaching after watching the videotape?
6. What are your thoughts about the process we undertook?
7. What have I not asked you?
8. What else do you want to share?

Appendix B

Institutional Review Board Approval Form

University of Nevada,Reno

Office of Human Research Protection
205 Ross Hall / 331, Reno, Nevada 89557
775.327.2368 / 775.327.2369 fax
www.unr.edu/ohrp

Certification of Approval for New Protocol: Social Behavioral
Social Behavioral Institutional Review Board

Date: December 22, 2011
To: Patricia Miltenberger, PhD Department of Educational Leadership
Copy: Ellen Payne

UNR Protocol Number: S12-054
Protocol Title: How Athletic Training Educators' Understand their Practice of Teaching
Type of Review: 6 & 7 Minimal risk
Approval Period: December 21, 2011 to December 20, 2012

This approval is for:
S12-054ProtocolApplication122111.docx (Protocol application), RecruitmentEmailGroup1.docx (Recruitment materials), RecruitmentEmailGroup2.docx (Recruitment materials), S12-054Consent121411.docx (Consent Form), S12-054VideoConsent121411.docx (Video consent form), InterviewGuide.docx (Research instruments)

Approved number of subjects: 10

The above-referenced protocol was reviewed and approved by one of UNR's Institutional Review Boards in accordance with the requirements of the Code of Federal Regulations on the Protection of Human Subjects (45 CFR 46 and 21 CFR 50 and 56).

PI Responsibilities

- Maintain an accurate and complete protocol file.
- Submit continuing projects for review and approval prior to the expiration date.
- Submit proposed changes for review and approval prior to initiation, except when necessary to eliminate apparent immediate hazards to subjects. Such exceptions must be reported to the IRB at once.
- Report any unanticipated problems which may increase risks to human subjects or unanticipated adverse events to the IRB within 5 days.
- Submit a closure request 10 days after project completion to the IRB.

Reference the protocol number on all related correspondence with the IRB. If you have any questions, please contact Valerie Smith at 775.327.2368.

For Veteran's Administration research only
VA Research: No
Flag VA Medical Record: N/A

Corrected original

Appendix C

Recruitment Email for Initial Participants, Protocol #: S12-054

Dear Dr. _____,

Hello. I am currently a graduate student at the University of Nevada, Reno in Educational Leadership, but my background is in Athletic Training. I am conducting a study investigating how athletic training educators teach in the classroom. You have been selected as a potential participant due to the fact you are a well known leader in the profession of athletic training education. This research project includes an in-depth interview, a videotaped teaching lesson, and syllabus and CV review. This study should take about 5 hours of your time to complete, including recording one of your athletic training classes. The study has been approved by the university's Institutional Review Board and your name and other identifying information will not be used in the study or any related publications.

If you are interested in participating, please let know so we can schedule a pre-interview phone call to discuss the details of this study. I am also looking for additional potential participants and was hoping you could recommend an athletic training colleague that you believe could add to this study. Please let me know if you could recommend anyone. If you have any questions about the project feel free to email me at epayne@unr.edu or call me at XXX-XXX-XXXX. I look forward to speaking with you about this project.

Thank you,
Ellen

Appendix D

Recruitment Email for Snowball Recruited Participants, Protocol #:S12-054

Dear Dr. _____,

Hello. I am currently a graduate student at the University of Nevada, Reno in Educational Leadership, but my background is in Athletic Training. I am conducting a study investigating how athletic training educators teach in the classroom. A colleague of yours recommended I contact you about being a participant. This research project includes an in-depth interview, a videotaped teaching lesson, and syllabus and CV review. This study should take about 5 hours of your time to complete, including recording one of your athletic training classes. The study has been approved by the university's Institutional Review Board and your name and other identifying information will not be used in the study or any related publications.

If you are interested in participating, please let know so we can schedule a pre-interview phone call to discuss the details of this study. If you have any questions about the project feel free to email me at epayne@unr.edu or call me at XXX-XXX-XXXX. I look forward to speaking with you about this project.

Thank you,
Ellen