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ORIGINAL RESEARCH

Professional Master's Athletic Training Programs use Clinical Education to Facilitate Transition to Practice

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Context: Athletic training students' ability to transition into professional practice is a critical component for the future of the profession. However, research on professional master's students' transition to practice and readiness to provide autonomous care is lacking.

Objective: To determine professional master's athletic training students' perceptions regarding how they were prepared to transition to practice as clinicians.

Design: Qualitative study.

Setting: Professional master's athletic training programs.

Patients or Other Participants: Sixteen students, 8 program directors, and 5 faculty members from professional master's athletic training programs.

Main Outcome Measure(s): An online questionnaire was distributed via Qualtrics and analyzed using an inductive technique. Participants responded to a series of open-ended questions related to the structure and curricular offerings of their respective programs. We secured trustworthiness through multiple analyst triangulation and peer review.

Results: We found that both students and faculty identified *clinical education* as the major facilitator in the socialization process used to prepare students for the transition into clinical practice. Three further subthemes emerged: (1) Both stakeholder groups felt that students gained experience through *diverse and immersive clinical education experiences*; (2) Preceptors provided *mentorship*; and (3) Students *developed confidence* to enter clinical practice as a result of these supported experiences.

Conclusions: Professional master's programs provide clinical education experiences designed to help athletic training students gain the skills and confidence necessary to become autonomous practitioners. The diversity and mentorship contained within these experiences facilitates confidence and preparedness.

Key Words: Socialization, mentorship, experiential learning

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INTRODUCTION

Socialization is a popular topic in the literature, with researchers examining how athletic trainers[1–4] and athletic training students[5–13] learn their professional roles and responsibilities. Socialization is often divided into 2 main components, anticipatory and organizational. Before entering a profession, students learn about a future career and the tasks associated with it through anticipatory socialization.[14] Professional socialization, on the other hand, is provided by employers after an individual enters a particular work setting.[14] Both forms of socialization occur in both formal[3,10,15] and informal or flexible[10,15] modes.

As professional-level athletic training educational preparation begins moving away from the undergraduate model toward the graduate level, a need exists to continue studying current professional master's (PM) athletic training programs. It has been speculated[16] that adopting the graduate model will improve professional preparation, allow higher selectivity for prospective students, and align athletic training with other health care professionals. For example, in previous research,[17] program directors of PM athletic training programs believed their programs were able to provide several didactic and clinical education experiences, such as access to simulation manikins or opportunities to engage in research, that were difficult to offer at the undergraduate level in the same capacity for a variety of reasons.

Many athletic trainers previously sought professional socialization through a graduate assistantship because they felt they needed more experience and mentoring before entering independent practice.[18] While future PM students will not have this same graduate assistant experience, several other possibilities exist to help bridge the gap to autonomous practice (residencies, internships, etc). However, it is unknown if current PM students feel prepared for autonomous practice after graduation. Therefore, it is important to learn how students in these programs are prepared for transition into the profession.

A critical component of future professional strength is the ability of students to transition successfully into professional practice. Toward this end, faculty use both formal and informal means to socialize PM students to the demands of their respective athletic training programs.[8] Some[16] have also argued that moving the professional-level degree to the master's level will facilitate students' transition to practice, as they are likely more mature and can attain higher skill competency due to the focused curriculum. Unfortunately, there is currently little research on these students' transition to practice and their readiness to provide autonomous care. Therefore, the purpose of this study was to examine students' perceptions of their PM's athletic training programs to determine which aspects helped prepare them for transition to practice as entry-level clinicians.

METHODS

Research Design

We used qualitative methods to determine how PM students were prepared for the transition to practice. Qualitative methods were an appropriate choice for our study because they can capture the lived experiences of others,[19] are flexible and dynamic, and produce rich description and detail.[20] The socialization paradigm[2,3,6] has been used previously[5,21] to explore the transition to practice and therefore provided the framework for our study by including both students' and faculty members' perspectives.

Participants

Our inclusion criteria were designed to obtain a heterogeneous sample with maximum variation[22] to fully appreciate all aspects of the transition to practice for athletic trainers. Our sample included 16 students and 13 faculty and program directors from PM programs to acquire the vantage points of both the consumer and supplier of educational experiences, to attain a more holistic appreciation from a programmatic perspective, and for data triangulation purposes.[23] The PM students had an average age of 25 $\pm$ 3 years, a self-reported grade point average of 3.8 $\pm$ 0.2, and represented 6 different NATA districts. On average, program directors and academic faculty were 45 $\pm$ 9 years old, had 12 $\pm$ 7 years of experience in athletic training education, and reported 22 $\pm$ 8 years of experience as athletic trainers.

Data Collection Procedures

Before data collection, we piloted the online questionnaire with 1 program director, 1 faculty member, and 2 students. We asked these stakeholders to provide feedback to improve question comprehensiveness and clarity. After incorporating suggestions from the pilot sessions, finalizing the online questionnaire, and securing institutional review board (IRB) approval, we sent email invitations to all program directors of Commission on Accreditation of Athletic Training Education (CAATE)–accredited PM athletic training programs[24] seeking participation. We also sent program directors a separate recruiting email message to forward to their program's students and additional faculty members if they agreed to participate. The survey was distributed and data collected through an online platform, Qualtrics (Provo, UT), to allow participants time to reflect on the questions before responding; we also selected this platform based on the ease of completion and the ability for participants to answer at their leisure. The first portion of the questionnaire consisted of an IRB-approved informed consent form to which the participants had to agree before completing the questions (Table) which followed. Furthermore, participants were numbered before data analysis to protect their identity. Data saturation drove recruitment, which ceased when ongoing data analysis provided no new emergent themes.

Table. Sample Interview Questions

Program Director and Faculty Questions	Student Questions
What factors influence your students' success on the BOC exam?	Do you feel you are prepared to provide a high level of care to your patients upon graduation?
What strategies do you use to help your students prepare to be health care professionals?	Do you feel confident that you can fulfill the roles and responsibilities of being an AT as you enter the profession?
Are your students prepared to handle the responsibilities of a full-time athletic training position? Please explain.	What type of position are you looking for post-graduation? Do you feel your education has prepared you for that position?
What types of positions do your graduates seek immediately following graduation? Are they successful?	Describe your overall commitment to the AT profession. Who or what has influenced that commitment?

Abbreviations: AT, athletic trainer; BOC, Board of Certification.

Data Analysis and Trustworthiness

We used an inductive approach when analyzing the data.[25] The 3-step process began with initial reads of the data. On subsequent reads, we attached codes to the data on a line-by-line basis. Later, we combined codes into categories based on their content. These categories determined the final study themes. We secured data trustworthiness through 2 separate processes. First, the 2 primary authors coded the data independently and negotiated over the coding structure and theme names until reaching 100% agreement. Second, a peer reviewed the questionnaire for clarity and comprehensiveness, providing feedback to improve flow and thoroughness, before data collection, and later she confirmed the coding structure and results. Data source triangulation[23] also provided rigor to our findings by comparing and verifying the emergent themes among the 2 stakeholder groups (PM students and faculty).

RESULTS

Data analysis of both student and faculty responses identified *clinical education* as the overarching theme regarding how PM students are socialized and prepared for the transition to professional practice. While all participants mentioned the importance of clinical education at some point on their questionnaire responses, and while all of the subthemes described elements of clinical education, 62% (8 of 13) of faculty listed it as a primary strategy with which to prepare students for careers as health care professionals. Similarly, 56% (9 of 16) of students identified their clinical rotations as the primary reason they felt prepared to provide a high level of patient care following graduation.

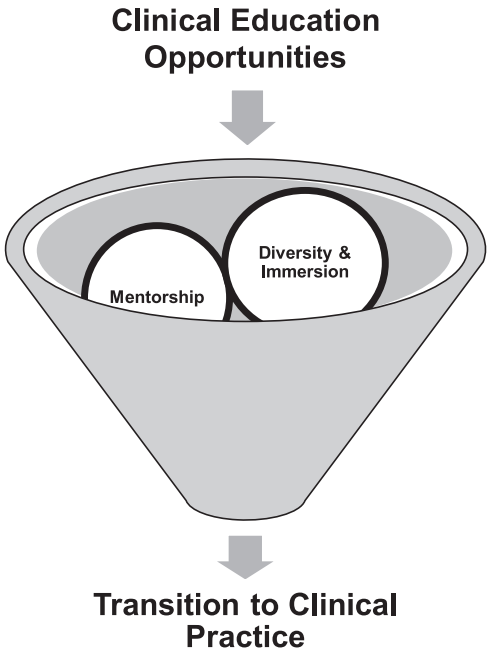
Three subthemes also emerged during data analysis (Figure). Both stakeholder groups felt that students gained preprofessional experience through *diverse and immersive clinical education experiences* and from preceptor *mentorship*. Through these relationships and experiences, students also *developed confidence* to enter clinical practice. The *themes* and supporting quotations add context and are presented below.

Diverse and Immersive Clinical Education Experiences

Our participants identified clinical education opportunities as a main component that facilitated eventual role transition for students. Faculty member 10 shared, "their clinical rotations prepare them to practice clinically." Similarly, when responding to a question about being prepared for clinical practice, student 3 stated "yes [I am ready], because I have had really great clinical rotations with great preceptors." In several situations, the immersion in clinical education came through as particularly important. Program director 8 noted the "second year clinical rotation acculturates AT students into the AT staff at the clinical site," alluding to the fact that students become immersed in their clinical sites. Another student (13) felt similarly as a result of her comprehensive clinical education experiences. She stated, "Yes, I absolutely think I can provide high levels of care in many ways such as manual therapy, injury prevention, etc."

More specifically, our participants spoke about the *diversity of experiences* as the key to helping students be successful as health care providers. Student 10 highlighted the importance of her diversified experiences and the impact that it will have on her readiness to transition, sharing "I do feel prepared. I know how to prevent, perform, and care." Preparedness was founded on her experiences "working with college football athletes, as well as other college athletes, working Special Olympics, working Paralympics, and high school athletics," which gave her experience with a wide variety of sports and patient populations.

Figure. Emergent themes from data analysis.



Program director 5 felt confident that his students were ready to be entry-level athletic trainers. This readiness was attributed to "gaining a ton of practical experiences through clinical education opportunities and rotations." He further explained that his students were as ready "as any student can be because of their different experiences." In general, when describing their experiences and preparedness for clinical practice, our student participants shared feeling prepared because they had seen a variety of conditions, injuries, and aspects of the profession necessary for success.

Mentorship

Faculty and students both alluded to the mentoring relationships that occur during clinical education between students and preceptors as fostering transition to practice through open dialogue on appropriate care. Program director 6 stated that the program she leads prepares students for success as health care professionals by "mentoring, mentoring, and more mentoring with a wide array of preceptors." Similarly, program director 2 stated, "Our clinical preceptors do a great job at guiding our students as they progress through our program and let them practice to their level of education." Mentoring was seen as an important method with which to "solidify" clinical skills and decision-making, both of which are necessary to transition to clinical practice. A student shared this about her preceptors: "the people I have connected with and the countless lessons I have learned [have] prepared me for this profession and will make me a better clinician for it." Another student noted that her preceptors had provided mentoring to help prepare her for her future career. She stated, "I have met some great ATs through clinical rotations. They had the most influence on me." It was clear that supervision also played an important role in the preparation of future health care professionals. One program director thought her students were prepared for independent professional practice because of the "level of supervised autonomy at our clinical sites." Similarly, a faculty member stated, "placing them [students] with preceptors who allow them more autonomy prior to graduation" allowed students to develop the skills required to be competent health care professionals.

Development of Confidence

A majority of our student participants felt confident to fulfill their athletic trainer roles and responsibilities. They linked this confidence to the positive experiences they had at their clinical sites. Student 11 shared, "I do feel confident. I have lots of good practice at clinical sites ... seeing the progress I have made this year gives me confidence that I can and will successfully do my job." Echoing that clinical sites have built her confidence, student 6 stated she also felt prepared because she felt "like my clinical [experiences] have helped with real-life experiences that I will later see in a job setting." Overall, students agreed that the time engaged in learning during clinical education experiences built confidence, preparedness, and awareness of their skills and roles.

Our students' reflections demonstrated that learning opportunities provided by their PM athletic training programs had prepared them to transition to autonomous clinical practice. Student 3 discussed her readiness, saying "My program and preceptors prepared us well for the real world." Likewise, student 13 stated, "I think that when I enter the workforce I will be able to fulfill my responsibilities." Student 8 was more than ready, as she was aware of the expectations placed upon her and has "the knowledge and skill base and my clinical rotations give me ample amounts of practice."

The 8 program directors and 5 faculty members all expressed confidence that their students were confident and prepared to manage the responsibilities of a full-time athletic training position. Many of these educators identified clinical education as the primary reason their students were prepared for a career in athletic training. Program director 5 articulated this by simply saying, "Clinical rotations prepare them [students] to practice clinically." The students agreed, such as student 13, who said, "I think that my clinical experiences at [site names] have really helped me adapt as an athletic training student and learn specific treatment methods to provide evidence-based medicine to my patients." Similarly, student 11 shared, "I do feel prepared. I have dealt with acute injuries to chronic rehab and took care of a variety of patients and emotional states."

DISCUSSION

Clinical education has been described[26] as the foundation through which athletic trainers are exposed to the profession and develop the skill sets fundamental to their success as independent practitioners. Although each educational program has autonomy in terms of how it meets the CAATE standards, some discussion, although circumstantial or at best subjective, suggests that the reduced time needed in the classroom for fulfilling general education and basic exercise science coursework requirements associated with PM programs creates a superior infrastructure on which to provide greater clinical education experiences.[27] Professional master's program directors identified clinical education as a strength due to the variety of sites they have available and the ability for students to apply didactic knowledge to reinforce learning.[17] Furthermore, the preceptors who mentor PM students are viewed as acting as positive professional role models for students,[17] and these relationships foster a supportive environment and improve student retention.[28]

Our findings also explored student-perceived benefits of their PM athletic training program on their successful transition to clinical practice. This transition was fortified by role-immersion clinical education experiences, mentorship, and supervision, which built confidence in their professional skills. This information is helpful, as it allows programs to evaluate their current clinical education infrastructure and determine areas on which to build to promote critical thinking and skill development for successful transition to clinical practice.

Having an opportunity to experience real-life patient interactions when preparing to become athletic trainers is not a unique finding, but it does continue to support the importance of clinical education and the need for hands-on learning. Much like the work of Mazerolle and Benes,[29] our study's findings illustrate that diversity and mentorship form the bedrock on which self-confidence and readiness to practice clinically are developed. Assimilation into the athletic trainer role and feeling ready to practice autonomously can be accomplished by providing a diversity of experiences[29,30] and mentoring.[29] Newly credentialed nurses, like our participants, demonstrate similar confidence levels because they too had

gained a variety of exposures to patient care situations,[31] which allowed them to feel confident to handle similar situations once they were credentialed.

Likewise, mentoring continues to be viewed as a valuable resource for newly credentialed health care and medical providers,[32] as it helps them gain confidence, ease into transition, and improve skill competence.[32–34] Direct role modeling and positive interactions between students and preceptors help promote confidence and readiness to transition to autonomous practitioners.[35] As illustrated by our participants, mentoring provided by preceptors provided role modeling needed to facilitate competence and confidence—something also found to occur at the professional bachelor's level.[11] Fundamentally, mentoring is a key socializing agent that can stimulate transition to clinical practice.[29] Although a majority of the research has been conducted at the bachelor's level, in addition to the current study, applications from the existing literature can be pragmatic for professional master's athletic training programs. In fact, mentoring (formally or informally) can assist athletic trainers in any role transition[33,34]; however, novice practitioners appear to benefit from it the most, as they are also trying to gain competence and confidence for the first time.[34]

Recent evidence[36] also suggests that mentoring received in the clinical education setting can assist students in developing motivation and commitment to the field of athletic training. The development of these relationships with preceptors, who are often identified as mentors,[11,37] is critical for persistence in the workforce,[28] as these personal relationships can foster camaraderie and passion for the athletic trainer role.[38]

Limitations and Future Directions

We found that clinical education was the most important aspect of the educational PM program that prepared students for the transition to practice. However, recruited individuals had yet to fully transition to practice. Therefore, future research should include interviews with PM program graduates to determine whether they were in fact ready and if those previously identified influencing factors remained constant for them. We also suggest completing a longitudinal study regarding the role that clinical education experiences have with regard to the transition process, allowing exploration of perception changes after role inductance, since research[39] suggests that this transition usually takes 6 to 12 months. While we did use data source triangulation by including both students and program faculty, preceptors emerged from the data as a third key constituent group. Therefore, gaining their insights through future research could be important too. Lastly, clinical education coordinators may also have valuable insight into the transition to practice experience, but they were not specifically identified in this research.

CONCLUSIONS

Professional master's programs provide clinical education experiences designed to help students gain the skills and confidence necessary to become autonomous practitioners. Providing students with appropriate supervision, while simultaneously allowing them the opportunity to practice their skills during clinical education experiences, appeared to be most helpful. Diversity of immersive clinical settings and preceptor mentorship provided the substance behind successful clinical education experiences and facilitated student confidence. Therefore, program directors should carefully select clinical education sites based on the relationships that can be fostered and the environment provided by preceptors.

REFERENCES

1. Mazerolle SM, Bowman TG, Dodge TM. The professional socialization of the athletic trainer serving as a preceptor. *J Athl Train*. 2014;49(1):75–82.
2. Pitney WA. Professional socialization of certified athletic trainers in high school settings: a grounded theory investigation. *J Athl Train*. 2002;37(3):286–292.
3. Pitney WA, Ilsley P, Rintala J. The professional socialization of certified athletic trainers in the National Collegiate Athletic Association Division I context. *J Athl Train*. 2002;37(1):63–70.
4. Pitney WA, Mazerolle SM. Organizational socialization of athletic trainers working in the clinical context. *Athl Train Sports Health Care*. 2012;4(6):265–274.
5. Bowman TG, Klossner JC, Mazerolle SM. The doctoral student experience: facilitators and barriers to anticipatory faculty socialization. *Athl Train Educ J*. In press.
6. Klossner J. The role of legitimation in the professional socialization of second-year undergraduate athletic training students. *J Athl Train*. 2008;43(4):379–385.
7. Mazerolle SM, Bowman TG, Dodge TM. Athletic training student socialization part I: socializing students in undergraduate athletic training programs. *Athl Train Educ J*. 2014;9(2):72–79.
8. Mazerolle SM, Bowman TG, Dodge TM. Athletic training student socialization part II: socializing the professional master's athletic training student. *Athl Train Educ J*. 2014;9(2):80–86.
9. Mazerolle SM, Dodge TM. Considerations for the use of the observation experience to aid in early socialization and retention of athletic training students. *Athl Train Educ J*. 2014;9(2):54–58.
10. Mazerolle SM, Eason CM, Clines S, Pitney WA. The professional socialization of the graduate assistant athletic trainer. *J Athl Train*. 2015;50(5):532–541.
11. Pitney WA, Ehlers GG. A grounded theory study of the mentoring process involved with undergraduate athletic training students. *J Athl Train*. 2004;39(4):344–351.
12. Bowman TG, Mazerolle SM, Dodge TM. Perceptions of the benefits to using a secondary admissions process in undergraduate athletic training programs. *Athl Train Educ J*. 2016;11(1):32–37.
13. Bowman TG. *Perceptions of Athletic Training Education Program Directors on their Students' Persistence and Departure Decisions* [dissertation]. Charlottesville: University of Virginia; 2012.
14. Teirney WG, Rhodes RA. *Faculty Socialization as a Cultural Process: A Mirror of Institutional Commitment*. Washington, DC: George Washington University, School of Education and Human Development; 1993. ASHE-ERIC Higher Education Report 93-6.
15. Thrasher AB, Walker SE, Hankemeier DA, Pitney WA. Supervising athletic trainers' perceptions of graduate assistant athletic trainers' professional preparation. *Athl Train Educ J*. 2015;10(4):275–286.
16. Pitney WA. Requiring professional athletic training programs at the post-baccalaureate level: considerations and concerns. *Athl Train Educ J*. 2012;7(1):4–10.

17. Bowman TG, Pitney WA, Mazerolle SM, Dodge TM. Description of professional master's athletic training programs. *Athl Train Educ J*. 2015;10(1):39–46.
18. Mazerolle SM, Dodge TM. National Athletic Trainers' Association–accredited postprofessional athletic training education: attractors and career intentions. *J Athl Train*. 2012;47(4):467–476.
19. Fraenkel JR, Wallen NE. *How to Design and Evaluate Research in Education*. 3rd ed. New York, NY: McGraw-Hill; 1996.
20. Pitney WA, Parker J. Qualitative inquiry in athletic training: principles, possibilities, and promises. *J Athl Train*. 2001;36(2):185–189.
21. Holcomb JD, Selker LG, Roush RE. Scholarly productivity: a regional study of physical therapy faculty in schools of allied health. *Phys Ther*. 1990;70(2):118–124.
22. Creswell JW, Plano Clark VL. *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: SAGE Publications; 2007.
23. Pitney WA, Parker J. *Qualitative Research in Physical Activity and the Health Professions*. Champaign, IL: Human Kinetics; 2009.
24. Commission on Accreditation of Athletic Training Education. Search for accredited programs. http://caate.net/search-for-accredited-program/. Accessed August 3, 2015.
25. Thomas D. A general inductive approach for qualitative data analysis. *Am J Eval*. 2006;27:237–246.
26. Commission on Accreditation of Athletic Training Education. Standards for the academic accreditation of professional athletic training programs; 2012. http://caate.net/wp-content/uploads/2015/12/2012-Professional-Standards.pdf. Accessed March 30, 2016.
27. Mazerolle SM, Bowman TG, Pitney WA. Multistakeholder perspectives on the transition to a graduate-level athletic training educational model. *J Athl Train*. 2015;50(9):964–976.
28. Bowman TG, Pitney WA, Mazerolle SM, Dodge TM. Program directors' perceptions of reasons professional master's athletic training students persist and depart. *Athl Train Educ J*. 2015;10(1):57–64.
29. Mazerolle SM, Benes SS. Factors influencing senior athletic training students preparedness to enter the workforce. *Athl Train Educ J*. 2014;9(1):5–11.
30. Dodge TM, Mazerolle SM, Bowman TG. Variability in clinical integration achieved by athletic training students across different clinical sport assignments. *Athl Train Educ J*. 2015;10(1):75–81.
31. Dyess SM, Sherman RO. The first year of practice: new graduate nurses' transition and learning needs. *J Contin Educ Nurs*. 2009;40(9):403–410.
32. Scott ES, Smith SD. Group mentoring: a transition-to-work strategy. *J Nurses Staff Dev*. 2008;24(5):232–238.
33. Thrasher AB, Walker SE, Hankemeier DA, Pitney WA. Supervising athletic trainers' perceptions of professional socialization of graduate assistant athletic trainers in the collegiate setting. *J Athl Train*. 2015;50(3):321–333.
34. Mazerolle SM, Bowman TG, Klossner JC. An analysis of doctoral student's perceptions of mentorship during their doctoral studies. *Athl Train Educ J*. 2015;10(3):227–235.
35. Mazerolle SM, Dodge T. Role of clinical education experiences on athletic training students' development of professional commitment. *Athl Train Educ J*. 2015;10(2):138–145.
36. Dodge TM, Mazerolle SM. Preceptors' influence on athletic training students' development of excitement and commitment to the field of athletic training. *Athl Train Educ J*. 2015;10(1):18–24.
37. Pitney WA, Ehlers GG, Walker SE. A descriptive study of athletic training students' perceptions of effective mentoring roles. *Internet J Allied Health Sci Pract*. 2006;4(2):1–8.
38. Mazerolle SM, Benes SS. Factors influencing senior athletic training students' preparedness to enter the workforce. *Athl Train Educ J*. 2014;9(1):5–11.
39. Zyzanski SJ, Williams RL, Flocke SA, Acheson LS, Kelly RB. Academic achievement of successful candidates for tenure and promotion to associate professor. *Fam Med*. 1996;28(5):358–363.