Newly Credentialed Athletic Trainers’ Perceptions of Professional Preparation for Their Role as Collegiate Graduate Assistants

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Context: The professional preparation of newly credentialed athletic trainers (ATs) has been passionately debated. Understanding how newly credentialed ATs feel they are prepared will help enhance professional preparation.

Objective: Explore newly credentialed ATs’ perceptions of their professional preparation for their role.

Design: Phenomenological qualitative.

Setting: Phone interviews with graduate assistant ATs in the collegiate setting.

Patients or Other Participants: Nineteen collegiate graduate assistants (15 female, 4 male; average age = 23 ± 0.15 years; National Collegiate Athletic Association Division I: 13, II: 3, III: 2, National Association of Intercollegiate Athletics: 2; postprofessional athletic training program: 6).

Main Outcome Measure(s): Participants were recruited via an e-mail from the National Athletic Trainers’ Association database sent to all certified students. Data were collected via phone interviews, which were recorded and transcribed verbatim. Interviews were conducted until data saturation occurred. Data were analyzed through phenomenological reduction, with data coded for common themes and subthemes. Credibility was established via member checks and peer debriefing.

Results: Two themes emerged: facilitators and barriers. Overall, participants felt academically prepared for their role, but preparedness was often dependent on the facilitators of academic rigor, hands-on opportunities in clinical education, and their preceptor. Barriers included a lack of rigor in the academic setting, lack of active opportunities in clinical education, the culture of clinical experiences, and incongruence. Incongruence existed when students were exposed to all the competencies during didactic education, but never gained experience with some skills (eg, rehabilitation, documentation, communication) if situations never arose or they were not actively involved clinically.

Conclusions: Athletic training students are being exposed to a variety of learning experiences academically, but often do not gain clinical experience if situations do not arise or preceptors do not allow active participation. To ensure new ATs are prepared, academic programs need to ensure rigor and place students with preceptors who provide active learning opportunities.

Key Words: Professional education, academic and clinical incongruence, qualitative research

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KEY POINTS
- Newly credentialed athletic trainers feel prepared overall to assume their roles as graduate assistants in the collegiate setting.
- New athletic trainers desire rigorous professional education programs and hands-on clinical experiences to better prepare them for their roles.
- Inconsistencies exist between the myriad of skills learned in the classroom setting and experienced in the clinical setting, in which some skills learned in the classroom are never experienced clinically. Athletic training programs should find ways to provide experience in skills that are not often encountered in the clinical setting.

INTRODUCTION
An important aspect of new athletic trainers’ (ATs’) transition to clinical practice is how they are socialized into their roles and the profession. Socialization is the process by which an individual learns the roles and responsibilities of his or her professional position while acquiring knowledge, skills, and attitudes associated with the profession.1–3 Professional socialization has multiple phases whereby an individual moves from anticipatory socialization to organizational socialization. Anticipatory socialization occurs prior to an individual entering an organizational setting and encompasses envisioning the role and formal preparation.4 Anticipatory socialization includes the preparatory steps taken prior to entering the organization, and in the case of newly credentialed ATs, anticipatory socialization includes their professional athletic training preparation. This professional preparation occurs in an athletic training program that has been accredited by the Commission on Accreditation of Athletic Training Education (CAATE) and consists of planned, supervised educational activities to prepare students to take on the roles and responsibilities of a newly credentialed AT.5,6 Organizational socialization occurs after the individual enters the organizational setting, in which the individual is able to learn and adapt to their position through formal orientation and mentoring.4,7

There are many skills associated with being an AT aside from those tested on the Board of Certification exam, such as the ability to think critically to solve problems; communicating professionally with patients, physicians, coaches, parents, etc; care for patients; being committed to the profession; and managing time effectively.9 While passing the Board of Certification exam ensures the minimal competence to be an AT, prior research shows many newly credentialed ATs need more preparation in communication,9,10 making independent decisions,9,10 and managing time effectively.9,11 Supervisors and employers report that new ATs are academically prepared, but they are not receiving autonomous experiences during their professional preparation, especially in decision making, communication, time management, rehabilitation, and organization and administration.9,10,12

This is a crucial time in athletic training education, as educational standards are evolving and professional programs are transitioning to the professional master’s level. Curriculums are being redesigned to accommodate new standards and institutional requirements for graduate level education. Understanding the current perceptions of professional preparation from newly credentialed ATs will provide educators with a benchmark to show how prepared new ATs feel to fulfill their role and areas in which preparation could be improved upon. In a previous study, we interviewed GAs in the college setting to explore their professional socialization.13 In addition to discussions about organizational socialization, participants provided abundant data about their perceptions of their professional preparation for their role. The purpose of this paper is to describe newly credentialed collegiate ATs’ perceptions of their professional preparation for their role as a graduate assistant (GA) in the collegiate setting. Although the educational model is continuously evolving and is transitioning to the professional master’s level, this study provides insight into how newly credentialed ATs feel they are prepared for their roles through the current baccalaureate educational model, which may influence curricular and clinical education design when transitioning to the professional master’s level by outlining perceived strengths and weaknesses of current professional education.

METHODS
The data presented in this paper are a part of a larger study examining the professional socialization of GA ATs in the collegiate setting.13,14 This study employed a qualitative research design to explore the GAs’ perceptions of their professional socialization and preparation. A qualitative approach was used to allow for a deeper exploration and understanding of the GAs’ experiences. The methodology guiding this study was transcendental phenomenology, which aims to explore the lived experience of a phenomenon.15 Institutional review board approval was obtained before initiating this study.

Participants
Inclusion criteria consisted of GAs employed in the collegiate setting and providing patient care for an intercollegiate athletic team. Graduate assistants were defined as individuals who were enrolled as graduate students while also employed as GA ATs providing patient care to an intercollegiate athletic team. This excluded internships, residencies, and fellowships. The population was limited to GAs in the collegiate setting to explore their professional socialization.13 The population was limited to GAs in the collegiate setting to explore their professional socialization.13 Institutional review board approval was obtained before initiating this study.
and ensure saturation from the setting of interest. Participants were recruited via purposive and snowball sampling techniques. An e-mail blast was sent from the National Athletic Trainers’ Association to 1286 ATs in the membership category of “certified student.” Athletic trainers were excluded if they were not GAs providing patient care in the collegiate setting or they were not in their first professional position following certification. In addition to the recruitment e-mails, participants were asked to provide names of colleagues who fit the inclusion criteria and would be interested in being interviewed. Nineteen collegiate GAs (15 female, 4 male; average age = 23 ± 0.15; National Collegiate Athletics Association [NCAA] Division I: 13, II: 3, III: 2, National Association of Intercollegiate Athletics: 2; postprofessional athletic training program: 6) participated in this study. Individual participant demographics are presented in Table 1. Each participant was assigned a pseudonym. Data saturation guided the number of participants. Interviews were conducted until data saturation occurred.

**Data Collection Procedures**

Graduate assistants who fit the inclusion criteria and who were interested in participating in this study contacted the primary investigator (A.B.T.). Participants were then contacted to confirm the inclusion criteria, obtain consent, gather demographic information, and schedule an interview. The consent form was sent to the participants via e-mail and reviewed with the participant prior to the interview. Data were collected via one-on-one semistructured phone interviews using an interview guide. Interviews lasted 45–60 minutes. All interviews were recorded and transcribed verbatim. The interview guide was constructed based on prior socialization data. The interview questions were designed to explore the socialization of GAs and were open ended and general to allow for rich, thick descriptive data to understand the phenomenon. Before data collection occurred, 3 experts in athletic training research and qualitative research reviewed the interview guide. To ensure clarity of the instrument, a pilot study was conducted with 3 GAs who fit the inclusion criteria. The use of an expert panel and small-scale pilot test contributed to the process of further refining and revising the interview questions. None of the data gathered in the pilot study were included in the results. For this section of the study, we focused on data obtained from the following semistructured interview questions: (1) How do you feel you were prepared for your roles as a GA prior to arriving at your institution? (2) How do you feel you were prepared for all of your clinical duties? (3) What areas do you wish you had further instruction/experience prior to becoming a GA?

**Data Analysis and Credibility**

Data were analyzed via the descriptive phenomenological method as described by Giorgi, which includes bracketing, coding meaning units, developing themes, and developing a description of the phenomenon. Emanating from Husserl’s approach to phenomenology, Giorgi’s structured data analysis focuses on the meanings and descriptions of phenomena and how the same experience can be manifested differently for each participant. The fundamental principal of Giorgi’s phenomenology is to stay true to the facts and how the facts are presented. Following the steps outlined by Giorgi, each transcript was read in its entirety to gain an understanding of the socialization experience. Each transcript was then coded individually. The next step in the data analysis process was to identify an overarching theme for the codes. Codes were

| Participants (Pseudonym) | Age | Sex | Setting | Undergraduate Institutional Division (NCAA) | Years as AT | Year as GA | Program Type |
|--------------------------|-----|-----|---------|-------------------------------------------|-------------|------------|--------------|
| Amanda                   | 23  | F   | DIII    | DI                                        | 1.5         | Second     | NAT          |
| Michelle                 | 24  | F   | DI      | DI                                        | 2           | Second     | NAT          |
| Charlotte                | 24  | F   | DI      | DIII                                      | 2           | Second     | NAT          |
| Victoria                 | 23  | F   | DIII    | DIII                                      | 1.5         | Second     | PPAT         |
| Kara                     | 23  | F   | DII     | DII                                      | 1.5         | Second     | NAT          |
| Emily                    | 24  | F   | DII     | DII                                      | 3           | Second     | NAT          |
| Lydia                    | 26  | F   | NAIA    | DI                                        | 1           | First      | NAT          |
| Jack                     | 24  | M   | DI      | DI                                        | 1.5         | Second     | NAT          |
| Helen                    | 23  | F   | DI      | DI                                        | 1           | First      | NAT          |
| Madeelyn                 | 23  | F   | NAIA    | DIII                                     | 2           | First      | NAT          |
| Natalie                  | 22  | F   | DI      | DII                                      | 1           | First      | PPAT         |
| Ella                     | 25  | F   | DI      | DI                                        | 2           | Second     | NAT          |
| Mindy                    | 22  | F   | DI      | DI                                        | 1           | First      | PPAT         |
| Sophie                   | 24  | F   | DI      | DI                                        | 2           | Second     | NAT          |
| Jonah                    | 22  | M   | DI      | DII                                      | 1           | First      | NAT          |
| Alison                   | 23  | F   | DI      | DI                                        | 1           | First      | NAT          |
| Andrea                   | 22  | F   | DI      | DI                                        | 1           | First      | PPAT         |
| Kirk                     | 22  | M   | DI      | DII                                      | 2           | Second     | PPAT         |
| David                    | 23  | M   | DI      | DI                                        | 2           | Second     | PPAT         |

Abbreviations: AT, athletic trainer; DI–III, National Collegiate Athletics Association Division I–III; F, female; GA, graduate assistant; M, male; NAIA, National Association of Intercollegiate Athletics; NAT, nonathletic training; NCAA, National Collegiate Athletic Association; PPAT, postprofessional athletic training.
reorganized to fit in themes. Themes were then organized to form a description of the phenomena.

Credibility was established through peer review and member checks. During the interviews, the interviewer followed up and summarized responses to ensure clarity. Participants were able to clarify immediately as needed. Additionally, each participant was given the opportunity to review their transcript and make corrections and clarifications as needed. No corrections beyond typographical errors were required. Four experts in athletic training research and qualitative research provided peer review. Each peer reviewer was given a coded transcript and a description of the codes, themes, and subthemes that emerged. The peer reviewers ensured there was coherence between the themes and the transcripts and that the transcripts were logically coded.

RESULTS
Two themes emerged that described the perceptions of professional preparation of GAs in the collegiate setting: (1) facilitators and (2) barriers. Subthemes supported the themes to describe the professional preparation of newly credentialed ATs. Contributions to the preparation of newly credentialed ATs and preparation needs are provided in the Figure. While not emergent as a theme, participants provided information regarding learning needs during professional preparation. Recommendations based on these needs are outlined in Table 2.

Facilitators
The primary factors that facilitated preparation for our participants were academic rigor, active clinical opportunities, and their preceptor. In general, most of our participants felt prepared to assume their roles as GAs in the collegiate setting.

Academic Rigor. One of the facilitators of professional preparation was academic rigor. Participants felt that programs maintaining high standards and ensuring rigor provided greater preparation. Natalie commented, “Like any new [AT], I have things I need to work on or improve upon, but I do feel like I was exposed to everything [in my professional program] that I need to do my job now.” Ella shared similar feelings:

I was prepared pretty well. I knew what was expected of me, and I knew I was going to have to work a lot of hours. I feel like my undergrad did a great job of preparing me for emergency preparedness, and my educational background, my research background prepared me to be a GA.

Participants also felt academic rigor needed to be maintained in order to ensure students with academic knowledge but inadequate clinical skills were not passing the examination and providing patient care. David expressed a need for all programs to have a consistent level of rigor. He stated:

There needs to be more consistency among the programs. My undergrad did a phenomenal job in preparing from an educational perspective, but some other [GAs] I’ve interacted with have felt overwhelmed because their undergrad programs weren’t able to relay the information effectively or they didn’t have the same quality of educational background. I know for a fact I was better prepared with the knowledge base than some of my [current GA] classmates.

In order to ensure preparation, programs need to ensure students are actually proficient in skills prior to documenting them as competent.

Active Clinical Opportunities. The second subtheme that emerged as a facilitator was active clinical opportunities. This subtheme is described as the ability to have active, hands-on opportunities during clinical education. Participants described various factors that impacted clinical opportunities, including the size of the institution and number of students at the clinical site. Participants also discussed that their preceptor impacted clinical opportunities; however, the impact of the preceptor was so salient that it is a subtheme and will be discussed in the next section.

Participants discussed that they were more prepared if they were able to be actively involved during clinical education. Sophie commented:

Preparation is very dependent on your clinical rotations as an undergrad, more so than what is in the classroom. Classroom learning is fairly uniform because CAATE has to dictate what
you have to learn. Being a prepared GA depends a lot upon what you were able to do in your clinical sites. A lot of it has to do with what you're doing. Do you have the hands-on experience? Are you getting to communicate with coaches, or are you just in this really passive role? I think the less passive your role is as a student, the more successful you'll be as a GA.

Participants felt that being the only student or an upper level student allowed them to get more opportunities in the clinical setting. Emily commented:

During my senior year, I was the only student at 1 of the rotations. That was really beneficial for me to start really practicing those skills I had developed. Some of my other GAs here have expressed that they wished they had more of an opportunity to be more autonomous as a senior. They were still in a setting where there were 4 or 5 other students.

Andrea felt having more students at her clinical site as a senior helped her develop leadership skills. She commented:

My last year I worked with football, and I was 1 of the older students. I was the head athletic training student. I learned how to work with others and to be able to take a lead role and rehabilitation.

The size of the institution also impacted learning in the clinical setting, as participants felt that smaller schools allowed them to be more active during clinical education. Sophie commented:

I was lucky enough to go to a university that allowed me to have an authoritative position. I was able to make decisions, to go through complete rehab protocols, not on my own. I was supervised, but I made decisions when to progress somebody or when to regress them. I was allowed to talk with coaches whereas I'm noticing in the Division I setting, where God forbid the student talk to the coaches about anything. In my undergraduate setting, I got to do a lot of evaluations, not just mock evaluations, but real life on real athletes who are hurt. I'm extremely grateful because, without some of the experiences I had there, I definitely wouldn't be as confident or wouldn't be the [AT] I am now.

Similarly, Andrea felt her smaller school setting provided her with more hands-on opportunities than her peer GAs received:

I went to a smaller school, so I was actually able to do full rehabs with my athletes under the supervision of my preceptor. Coming from a smaller school and having more hands-on experience definitely helped. My last semester, I was at a high school, and so I was definitely able to do those acute evaluations and to be able to work a lot with the athletes. What's helped me the most is not just having a scenario situation, but an actual clinician-patient experience.

Role of the Preceptor. The final subtheme that contributed to learning in the clinical environment was the role of the preceptor. As previously mentioned, the preceptor impacts the ability to be active in the clinical setting, but the impact of the preceptor as a facilitator of preparation went beyond merely providing active opportunities; therefore, a separate subtheme was warranted. Participants felt the quality of their preceptor greatly impacted their learning, in providing hands-on learning opportunities, as discussed previously, and using downtime effectively. In addition to providing opportunities, some preceptors worked with the athletic training students on establishing goals and then providing opportunities to meet those goals. Sophie commented:

I wanted to improve upon communicating not only with coaches, but with parents. In my senior year, my preceptor allowed me to communicate with the coach and give her the injury report each day before practice. So I got that experience before I was a GA.

Preceptors who facilitated learning also used downtime effectively. Helen commented:

I wouldn't say I was 100% confident in my preparedness, but I would say that it was above average because I had to do evaluations on the spot. We had quizzes all the time at my clinical site that put me on the spot and really made me realize this is how your life is going to be as an AT. My preceptor did a very good job at preparing me that way.
Participants felt their preceptors had a large impact on their learning; therefore, some expressed preceptor selection should be more stringent to get the best available preceptors. Helen commented:

The selection process for the preceptors that are used could be more selective. For my undergraduate program, we had maybe 50 different preceptors, and some of them were [ATs] that were only in the profession for 2 years. It's good to have a diverse collection of preceptors, but you want to basically select ones that are going to help your athletic training students to become well rounded and actually prepare them.

Barriers

The second theme that emerged was barriers to professional preparation. This theme described aspects of didactic and clinical education that hindered the participants' level of preparation. In contrast to the facilitators, 4 subthemes emerged: (1) lack of rigor, (2) lack of active opportunities in clinical education, (3) culture of clinical experiences, and (4) academic and clinical incongruence.

Lack of Rigor. Participants felt programs that did not maintain rigor were not as effective in ensuring newly credentialed ATs were adequately prepared. While most participants felt they were prepared in many aspects, there were some instances in which rigor was not maintained, especially in terms of passing proficiencies, thus impacting their preparation. Emily commented:

I think you're putting a lot of trust in each individual program, and they might have subpar testing on some things. I have passed proficiencies by the skin of my teeth that I don't think I would have passed me for, which is why I can't do a shoulder evaluation to save my life, but it's one of those things that the professor on that particular day was fed up and tired and wanted to go home, so he just passed me.

Other participants expressed similar feelings, and often they merely “checked off” proficiencies instead of learning the material. Andrea commented:

We had a bunch of just standards. With the way my undergrad was set up, it was just, okay, here's a checklist of what you have to do to complete this proficiency. Get it done. It became more of just getting something done rather than learning the material.

Participants felt programs should maintain high standards during proficiency examinations to ensure newly credentialed ATs have the adequate skills.

Lack of Active Opportunities in Clinical Education. The second barrier that emerged was a lack of active opportunities in clinical education. This barrier describes clinical experiences in which students are not able to practice their advanced athletic training skills, such as performing evaluations, making decisions, or developing and advancing rehabilitation programs. Within this barrier, participants felt they were not given opportunities in the clinical setting, which was dictated by their preceptors. Some participants felt better prepared because they had active clinical experiences, while participants that did not have as many hands-on opportunities during the clinical experience did not feel as well prepared. The amount and quality of active learning experiences were often coordinated by the preceptors. Some preceptors allowed for more active experiences than others. Jack discussed that he was often limited by what his preceptor would allow him to do, especially because he was in the Division I setting. He stated:

As a student, you really don’t get that chance to get to evaluate injuries unless your certified hands them to you, but when does that happen? They're not going to say, “I'm not going to look at you. Here, senior student, you do it.” They're never going to do that. It’s hard to do as a senior athletic training student or even a junior athletic training student in Division I sports because it’s so high profile and the certified [certified ATs] are so protective, even being able to tape more as undergrads because certified [certified ATs] want to do it themselves. They're not going to trust you to do it. Are you kidding me?

Jonah shared similar experiences of how his preceptor limited his opportunities for active learning:

At some of the places that I worked in undergrad, I didn’t get as good of an experience as I should’ve gotten. That rotation with the preceptor, I didn’t really learn that much. It was almost like I had a wasted semester where I could’ve been learning things. I didn’t have the best preceptor. I didn’t feel confident in his abilities as an [AT], so I didn’t feel comfortable wanting to learn too much from him as a professional. He didn’t really give me the opportunity to work with him. He was very much just a, “Let’s do your check-offs, and you just kind of sit there doing coolers, you know. You can stretch someone every once in a while.” He wasn’t very good preceptor.

Lydia agreed, stating, “Depending on the clinical site, the preceptors still did everything, and we kind of were just like a gopher to go to something or assist in treatment and watch, a lot of hands off stuff.”

Some of the areas in which participants felt they lacked active learning experiences were in communication with coaches and rehabilitation. Participants expressed that, if they had gotten more active experience in those areas, they would have been better prepared upon certification. Jonah stated:

I didn’t get much experience with coaches. I never interacted with any coaches, and so when I got to my graduate assistantship, have to talk to coaches was almost kind of foreign to me and what their expectations were.

Kara commented, “I would’ve liked to have worked a little bit more with rehab before getting into it. It’s hard to do a rehab program when you really haven’t had to do that in the past.”

Culture of Clinical Education. The third subtheme that emerged was the culture of clinical education. While this may appear similar to the subtheme lack of active opportunities in clinical education, this theme is related to the culture, philosophy, and mindset of clinical experiences, which is directly related to the athletic training student’s role in the clinical setting. Many participants felt their professional preparation was hindered because of the culture of clinical education. Some participants felt they were viewed as a labor force to provide support to the athletic training staff instead of viewing clinical education as a learning experience. Michelle commented:

I know there were many times at my undergrad that we were there well over 30 hours a week, whether it be because of the
Participants expressed they were often not involved in evaluations or the decision making process, but instead provided hydration services. Regarding how her clinical experiences impacted her preparation, Amanda commented:

If they had given us more opportunity to make decisions, or at least the opportunity to think about it, it would have helped a lot more. Even the opportunity to discuss, like, “Hey, this is the scenario. What do you think we should do?” Even after the fact, after an injury happens, pulling us aside and saying, “Okay. This is the scenario. What do you think we should have done differently? What do you think?” As opposed to having us stand there passing out water.

While the number of hours was briefly discussed by participants, the main factor contributing to learning was the ability to perform skills. Michelle commented:

Just being productive and making good use of their time rather than just having the sheer number of hours. Quantity and quality go hand in hand, but for athletic training, you want a lot of quality repetitions versus rather than just having 1000 hours of clinical time because that clinical time could be making Gatorade or cleaning coolers. I don’t find that very academically enriching. I mean, anyone can do that.

Participants felt that, if they were allowed to be actively involved in the patient care aspect of their clinical experiences, they were better prepared than if they spent the majority of their clinical education experience doing other tasks.

Academic and Clinical Incongruence. The final sub-theme that emerged was academic and clinical incongruence, which describes the gap between what was learned in their courses and labs and what they experienced during clinical education. Participants learned skills such as evaluation and treatment and administrative tasks such as documentation, communication, and emergency situations in their academic setting, but some experiences were lacking in clinical education. Many participants expressed areas in which they gained knowledge of content through courses, coursework, and laboratory experiences; however, there were many content areas in which they were not able apply those concepts in the clinical setting. Specific areas in which participants felt they could not gain authentic clinical experience were rehabilitation techniques, psychosocial intervention and referral, communicating with coaches and physicians, documentation, and other administrative tasks. Lydia shared:

Having actual hands-on opportunities for documentation with everything. Writing like your initial evaluations and having more opportunities come up with actual rehab plans and having them progress would’ve been a good opportunity for me to experience. I felt underprepared for coming up with rehab plans and the flow of a rehab program.

Charlotte commented:

I wish I would have had more preparation in sport psychology, not only to diagnose when someone is having issues and you need to refer them, but also how to implement sport psychology into athletic training more, such as goal setting and positive self-talk. I wish I would have had more preparation in that.

Andrea commented: “[When communicating with coaches], it may have been just a role-playing situation. It gave you exposure, but not necessarily experience to it.” Ella commented:

Every coach has a different personality, so I don’t know how you would prepare for that as an undergrad because I did not have a lot of interactions with my coaches as an undergrad student. I don’t know how you would prepare for that in a classroom setting or even with scenarios. You can put it on paper all you want, you know, for assignments, but to actually have to deal with it is a little bit different.

In regards to administrative tasks, Kirk stated:

We were really not exposed to the electronic medical record system unless you were in the doctor’s clinic. We did not really have anything to do with insurance, referrals, so a lot of the administrative side of things was not as well prepared as the clinical side. I mean, I had a class that was administration of athletic training, but a lot of it was more oriented around the theoretical side of it, not necessarily the practical applied side of it. So we never practiced doing an insurance referral within the university. We got taught how to document a SOAP [Subjective, Objective, Assessment, Plan] note, but some of the more formalized pieces were not highlighted as well as they could have been.

Additionally, the many skills learned in academic settings easily transfer over to the clinical setting; however, there are some skills in which participants did not gain experience because they were not frequently used in the clinical setting or the situation never arose while they were in the clinical setting (eg, spineboarding, anterior cruciate ligament rehabilitation). Victoria commented:

There have been times in class when we’ve been talking about something, and I’m like, “Oh, I don’t remember learning that at all.” For example, joint mobs, we went over that, and I’m like, “Aw, man, I don’t remember seeing people use joint mobs in clinical practice.” So then trying to implement that and deciding if I want to implement that in my practice was kind of a difficult thing for me because I couldn’t just draw off of what I’ve been around and what I’ve seen.

While there were gaps between academic and clinical preparation as described above, sometimes academic and clinical incongruence was due to factors outside of the student’s and preceptor’s control, such as not gaining exposure to various situations (eg, spineboarding, cardiopulmonary resuscitation, progressing a patient through a postoperative rehabilitation) or situations occurring at times incongruent with the athletic training student’s progression (eg, seeing an anterior cruciate ligament tear prior to learning how to assess knee injuries). Andrea commented, “I don’t know how that preparation can be taught because it’s just more exposure and experience. With some of my situations, you can’t understand it until you experience those situations.”
as they once were. Our findings revealed newly credentialed ATs working as GAs in the collegiate setting feel they were prepared in general; however, this was often dependent on the facilitators of academic rigor, clinical opportunities, and preceptors. There were barriers to the participants’ perceptions of overall preparation and some areas in which participants felt they did not gain adequate experience during clinical education. As athletic training education continues to evolve and new curricular standards are developed, these results should be considered to benchmark how newly credentialed ATs perceive their preparation levels and how professional education can be improved to further prepare new ATs to assume their roles.

Because some of the facilitators and barriers were dichotomous, the discussion is presented with academic rigor and clinical opportunities in the clinical setting as both facilitators and barriers. Academic and clinical incongruence will then be discussed as a barrier.

### Academic Rigor: A Facilitator and Barrier

Participants reported they felt well prepared overall and were exposed to almost everything in the academic setting they needed to be successful at the entry level. This is a consistent finding with supervisors of GA ATs in the collegiate setting, who felt the academic preparation of GAs is better than it has ever been in the history of the profession, yet there are areas in which GAs need more clinical experience. Many of our participants noted this was dependent on the rigor of the program. Participants expressed the need for rigor in professional programs, especially in terms of ensuring competence and proficiency in clinical skills. Participants found that, once they were engaged in clinical practice, some of their skills were not as strong as they should have been. Some participants expressed instances in which they should not have passed their competencies, yet they were passed because an instructor may have been too lenient or could not dedicate the time necessary to ensure competence. Without adequate rigor, athletic training students may pass competencies even if they are not fully proficient, which can impact clinical practice upon graduation. This impacts the level of care provided to patients and could even be dangerous in emergency situations. Similarly, supervisors of GAs reported that preparation was often dependent on the program from which they graduated. Supervisors acknowledged that some programs have more difficulty ensuring students are learning the appropriate knowledge and skills to be entry level clinicians. Participants also noted inconsistencies with preparation, some academic programs leading to better preparation.

The need for academic rigor is not limited to athletic training education, as medical education also notes the need for rigor at the premedical and medical education level as well. Globally, medical education programs have adopted competency-based education to ensure rigor, rigorous assessment methods, and apply competencies to medical practice. Athletic training follows a competency-based educational model using the Competencies to ensure new ATs have the knowledge, skills, and clinical abilities to provide athletic training services. However, these only provide the minimum criteria for professional preparation. Individual programs are tasked with ensuring competence in clinical skills prior to students sitting for the Board of Certification exam. This provides programs with autonomy and allows individual programs to determine their instruction practices and assessment criteria. While this may lead to some inconsistencies between professional preparation of graduates from various programs, it does allow for programs to go beyond the minimum standards and provide a stronger education. Our participants felt they were exposed to many different educational opportunities in the academic setting, and having high educational standards enhanced their level of preparation.

With the transition to the professional master’s and evolving curricular standards from the CAATE, athletic training programs can use this opportunity to fully evaluate and redesign their curriculums to fit the new standards and enhance rigor. Program alumni practicing in various settings and employers could be surveyed to determine areas in which they feel preparation needs to be enhanced. Clinical placements and preceptors could be chosen and evaluated to assess if the clinical sites and preceptors provide authentic and quality learning experiences. Further research should be conducted to examine specific aspects of rigor within athletic training programs and how to enhance rigor.

### Clinical Opportunities: Role of the Preceptor, Level of Involvement, and Culture of Clinical Education as a Facilitator and Barrier

The clinical education component is vital in the professional preparation of ATs, providing athletic training students with the opportunity to apply skills in an authentic environment. Our findings also show that the amount of learning and preparation gained in the clinical setting can be both a facilitator and a barrier and is dependent on the role of the preceptor, level of involvement, and culture of clinical education.

#### Role of the Preceptor

Preceptors are vital to athletic training student learning and socialization. Helping athletic training students develop excitement and commitment to the profession, and assisting with transition to practice for newly credentialed athletic trainers. Preceptors also serve an important role as mentors for athletic training students and influence their career decisions after graduation. Preceptors can positively impact learning in the clinical setting by providing supervised autonomy consistent with the level of student and stimulating critical thinking skills. Newly credentialed ATs whose preceptors allowed them to be actively involved with patient care (e.g., conducting injury evaluations, making decisions, communicating with coaches) felt more comfortable making decisions and providing patient care during their transition to practice. Our results are consistent with previous research, as the preceptor is extremely important to preparation and impacts preparation both positively and negatively. Participants reported preceptors who allowed them to conduct evaluations, make decisions, and determine treatment plans while being supervised and receiving feedback were more ready to assume their roles.

While there are many ATs serving as very effective preceptors, this is not always the case. For many preceptors, their role as a preceptor is secondary to their patient care duties, and their
priority is patient care and returning athletes to play as efficiently and effectively as possible. Preceptors often encounter role strain when they have clinical education responsibilities. Many athletic departments are not well staffed enough for staff ATs to fulfill all of their patient care responsibilities and still have adequate time to provide mentoring and truly educate athletic training students. Prior research found that preceptors cannot always capitalize on teachable moments in the clinical education setting because their priority is to provide patient care, and they have limited time to engage students in learning opportunities. Athletic trainers will continue to have difficulty providing mentoring and appropriate supervision and teaching during clinical education experiences until athletic training departments increase their staff size.

Because of the preceptor’s vital role in clinical education, it is important for athletic training programs to select and actively develop the best preceptors. Athletic training programs may currently be limited in their preceptor selection because of location and/or timing of clinical experiences that overlap with general education requirements. As athletic training programs transition to the master’s level, preceptors can be selected, and clinical education experiences can be restructured to provide the best learning experiences for athletic training students. Preceptors in different areas of the country can be selected, as can clinical settings that coincide with athletic training student interests, such as performing arts or professional sports, which may otherwise be limited because of location. Athletic training programs should select preceptors who understand the importance of the role and can provide learning experiences to fit the needs and expectations of athletic training students.

**Level of Involvement: Clinical Opportunities and Lack of Opportunities in Clinical Education.** Our findings show that the more active students were in the clinical setting and the more opportunities they were given, the better their professional preparation. These opportunities included ways in which participants were able to make decisions, practice their skills, and take on a position of authority. Research examining the transition to practice for newly credentialed ATs in the secondary school setting found similar results, in which students were given control as seniors, which helped develop confidence. Similarly, prior research examining the perceptions of the culminating clinical experience with senior athletic training students shows that supervised autonomy, in which students are able to make clinical decisions while being supervised, led to increased levels of confidence. Active clinical opportunities also help develop excitement about the profession.

In contrast to level of involvement being a facilitator, if students are not given as many active learning opportunities, the level of involvement is also a barrier. Historically, athletic training students were a valuable resource to athletic departments as “first responders” and a “workforce” to alleviate some of the patient care responsibilities of staff ATs. There is a distinction between clinical education and merely being present as a workforce or first responder; however, this distinction is not always evident in athletic training clinical education. Participants felt that clinical experiences, in which their role was to provide water or be a much-needed body to provide managerial services, were not as academically enriching as those experiences in which they were able to provide athletic training services under preceptor supervision with feedback. A recent study examined senior athletic training students’ perceptions of their preparedness to enter the workforce and found senior students felt their preparedness was dependent on the quality and variety of clinical experiences they gained. Other research found monotonous clinical experiences in which students were inactive or only responsible for water distribution duties led to frustration and poor clinical experiences.

Anecdottally, many ATs discuss ways in which hands-on opportunities for students are limited at larger institutions with professional caliber athletes. Our findings support this, as participants discussed that some opportunities were limited because of the institutional characteristics, such as size of the institution. Research examining the amount of time spent in active learning during clinical experiences found athletic training students assigned to clinical experiences in the NCAA Division III setting had significantly more active learning time (percentage of total time) than athletic training students in NCAA Division I settings. Previous research found monotonous experience, being unengaged, and being treated as “glorified water boys” caused frustration with new graduates of “big time athletic” institutions. This also limited some patient interactions, in which the athletic training student felt like they were kept on a short leash and not given many independent opportunities, especially with scholarship athletes. Participants in our study expressed similar concerns with NCAA Division I athletics, in which they spent a great deal of time with field preparation and water duties instead of clinical education. This will be further discussed in the culture of clinical education subtheme, as the institutional division often impacts the culture within the clinical experience.

**Culture of Clinical Education.** Our findings show that the philosophy of clinical education impacted participants’ professional preparation. If clinical education was viewed as truly educational and allowed students to be active in the clinical setting, participants felt more prepared than if the preceptor and/or institution’s perception of clinical education was to gain hours without gaining actual hands-on, authentic experience. In order for transfer of knowledge to occur from the didactic setting to the clinical setting, students must actively participate; merely observing is not sufficient for learning to occur. A recent study examined senior athletic training students’ perceptions of their preparedness to enter the workforce and found the students felt the clinical rotations and preparedness were affected by their preceptors’ clinical education philosophy. Worthwhile clinical experiences are those in which students can remain engaged in providing health care instead of amassing hours. As employers of new ATs, supervisors of GAs also felt the culture of clinical education was important, and because of the limited number of hours students are able to be engaged in clinical education, they should be actively learning and not merely obtaining hours in which they are unengaged. If preceptors viewed clinical experiences as educational, providing learning opportunities and the ability to do more than “grunt work,” participants felt more prepared. This is similar with our findings, as participants who were required to be an “extra body for treatment” or spend their clinical hours passing out water instead of being active in the clinical setting felt their preparation could have been improved if they were involved in the patient care aspect of the clinical setting. Supervisors of
GAs felt institutions need to have athletic training students for the right reasons, which is to focus on educational preparation instead of using students as cheap labor pools. While an athletic training student will likely not be engaged at all times during clinical experiences, athletic training students should not be viewed as a workforce. Athletic departments should consider hiring student workers to complete these managerial tasks so that athletic training students can spend more time in clinical education with direct patient care. Also, programs could discontinue placing students in an environment where little learning occurs.

To ensure students are receiving the best level of preparation, athletic training programs should seek to only use clinical sites that view clinical education as educational and provide quality experiences. Athletic training programs should enhance communication with students and preceptors to ensure worthwhile clinical experiences. If clinical experiences lack active learning opportunities, further preceptor development should be implemented to mitigate negative experiences. If clinical experiences cannot be improved, programs should consider using different preceptors and clinical sites. Anecdotally, some programs are opting to not use their own university athletics because of negative clinical experiences, often resulting from the culture and philosophy of clinical education in which students are only doing grunt work or “manual labor” not associated with athletic training clinical practice. Of 2 programs in which 1 of the authors has been associated, pulling students from university athletics with a workforce philosophy improved the clinical experience and preparation for students. As the profession makes the transition to the master’s level, this allows much more flexibility when planning clinical experiences. Programs can opt to use clinical integration or clinical immersion models. With the clinical immersion models, students are immersed full time into the clinical setting without taking classes concurrently or taking a few courses online. With this model, students are not limited to geographically convenient clinical sites, and programs can instead use clinical sites with effective preceptors who view the clinical experience as truly educational.

**Academic and Clinical Incongruence: A Barrier to Professional Preparation.** Participants felt they were exposed to knowledge and skills in the academic setting; however, there were some areas in which they did not gain experience in the clinical setting. Despite having standardized requirements for education, some programs have had difficulty ensuring students are obtaining adequate clinical experiences and skills required for clinical practice. Often, academic and clinical incongruence were due to factors outside of student and preceptor control, such as not gaining exposure to various situations (eg, spineboarding, cardiopulmonary resuscitation, progressing a patient through a postoperative rehabilitation, psychosocial intervention, and referral situation) or situations occurring at times incongruent with the athletic training student’s progression (eg, seeing an anterior cruciate ligament tear prior to learning how to assess knee injuries). Teachable moments are sometimes missed because of timing of a situation. While there were inherent limitations to congruence, there were other areas in which academic and clinical incongruence occurred because students were not given certain opportunities, such as with communicating with coaches or participating in organization and administration aspects of patient care.

As previously mentioned, the areas in which participants felt weaker were in the areas of communication, organization, and administration, and rehabilitation. Interestingly, the areas in which participants felt weaker were also the areas in which they felt there was academic and clinical incongruence. Employers have also cited these as areas of weakness. Participants expressed these were areas of weakness because they felt they did not get adequate clinical experience in these areas, especially in interpersonal communication. Employers consistently rate interpersonal communication as important for ATs, yet this has been continuously cited as an area of weakness for new ATs. Graduate assistant ATs report that communicating with coaches and parents is challenging because they had never gained that experience during their professional preparation. Preceptors and athletic training students should actively seek opportunities to communicate with stakeholders. Preceptors could initially communicate with a coach or physician to determine if there was an appropriate time for communication to occur. The first time, the student could observe the preceptor’s communication. Following those situations, the preceptor could plan ways in which a student could communicate with a coach, such as providing an injury update for a patient with the preceptor present. As the athletic training student develops confidence and competence with communication, they could receive more opportunities to communicate. Preceptors should also use communication opportunities to discuss appropriate types and timing of communication.

Another area in which academic and clinical incongruence occurs is with organization and administration, another commonly cited weakness for newly credentialed ATs. Students may not see the administrative aspect of their preceptor’s role because they are engaged in other aspects of clinical education. Athletic training programs and preceptors could engage students in the administrative aspect by requiring an administrative project in which they could follow 1 patient’s progress administratively by ensuring proper documentation of the evaluation, treatment, and rehabilitation process, making a referral, ordering a diagnostic test, communicating with the team physician, communicating with the insurance specialist, and other administrative tasks involved. Athletic training students could also be involved with the inventory and ordering process, and the preceptor could discuss the bid process of that institution. Consistent with our findings, research shows other areas in which ATs do not feel well prepared are pharmacology, general medical conditions, nutrition, psychosocial intervention and referral, health care administration, professional development and responsibility, organization and administration, and providing patient care in emerging settings. Further research should examine best practices for teaching these important concepts in the clinical setting.

To further combat academic and clinical incongruence, athletic training programs could consider restructuring clinical education experiences. Athletic training programs could implement the clinical immersion model, in which athletic training students are immersed in clinical education full time, allowing them to experience all aspects of the ATs’ role. Another option would be to restructure clinical experiences to focus on completion of proficiencies instead of obtaining a certain number of hours. During the clinical experience, patient encounters could be tracked and evaluated...
to ensure athletic training students are implementing competencies during clinical education.\(^{53}\)

**Limitations and Future Research**

One of the biggest limitations in this study is that we only interviewed GA ATs working in the collegiate setting. With the changes in educational model, the graduate assistant model will no longer exist. Despite this limitation, we feel the results of this study are still useful because, as athletic training programs make the transition to the postbaccalaureate level and restructure their programs, they can use these results to show which areas new ATs feel prepared and which areas need improvement. Our findings can also provide information to administrators when programs are making large curricular changes, such as implementing the immersion model in the clinical setting. Future research should explore the perceptions of newly credentialed ATs graduating from professional master’s programs. Another limitation is that our participants were only employed in the collegiate setting and had been in their first 2 years of employment. While this is a limitation, we wanted to examine ATs who are actually immersed in the traditional collegiate setting, not those who are about to assume their roles. Because of this, we were able to gain more understanding of their preparation, as they were able to reflect on their first years of practice to determine their actual level of preparation. They were able to explain which areas they were prepared in and which areas they wished they had gained more preparation, after they were actually able to use their skills and knowledge. We only examined those in the collegiate setting because many in this setting have been vocal about the level of preparation.\(^{10}\) Future research should examine perceptions of professional preparation from individuals employed in other settings working with various populations (eg, pediatric, nonathletic) and from individuals graduating from professional master’s programs.

Future research could explore ways to improve preparation in areas in which newly credentialed ATs do not feel as prepared, such as rehabilitation, communication, organization and administration, and psychosocial intervention and referral. Other health care professions and many athletic training programs use simulations and standardized patients\(^{54,55}\) to expose students to various types of skills and fill in any educational gaps. Research could also analyze the number of and types of procedures students perform on patients while engaging in clinical education in various settings and clinical education models. Our study did not consider varying clinical education models, such as the immersion clinical education model or the competency-based instead of hours-based models. Future research should further explore these options and how these models can impact professional preparation.

**CONCLUSIONS**

Newly credentialed ATs felt their professional preparation was good, and they felt overall well prepared to assume their roles as entry level ATs; however, this was dependent on their professional program and their clinical experiences, especially their preceptor. Athletic training programs should aim to limit the amount of academic and clinical incongruence to assure athletic training students are getting the optimal preparation. As athletic training programs transition to the professional master’s level, program personnel should enhance academic rigor, evaluate their clinical placements and preceptors to use the best, and strengthen preparation in areas of weakness, including professional communication, organization and administration, and rehabilitation. Our results and the previous studies examining perceptions of professional preparation should be considered, as the same weaknesses are consistently cited.\(^{9,10,12,56}\) As curriculums are redesigned and enhanced, emphasis should be placed upon these areas of weakness, especially interpersonal communication. Athletic training education is at a unique and exciting time during its evolution, and professional programs should use this opportunity to provide the highest possible level of education to meet the constantly expanding scope of practice and adequately prepare newly credentialed ATs.

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