Clinical Teaching Roles of Athletic Trainers

Danny T. Foster, MA, ATC
David K. Leslie, PhD

ABSTRACT: Studies of clinical teaching roles have not appeared in the athletic training literature. The purposes of this study were to: 1) describe clinical teaching roles of Midwest ATCs, and 2) determine the effect of educational preparation on teaching activities and opinions of ATCs. A three-part questionnaire was returned by 154 ATCs (78%) in NATA District 5. The questionnaire included demographic, teaching, and opinion items. More than 50% of the ATCs were teacher-certified and the majority had a master's or higher degree. Most ATCs clinically supervised between one to eight students who received clinical instruction about 20 hours weekly. The ATCs who taught clinically either presented information or directed tasks from five to six Role Delineation Domains. They used three or more teaching methods and six or more audiovisual aids with their presentations. The ATCs saw the importance of clinical education and the responsibility to present clinical information, and expressed positive opinions about academic preparation for clinical teaching. Those with teaching degrees felt more prepared to teach ($p<.05$) than did nonteachers. Teachers conducted clinical teaching activities similar to nonteachers. We concluded that less experienced athletic trainers feel educationally prepared and enjoy clinical teaching as much as their more experienced peers. The ATCs with a teaching background presented a broader content through more mature teaching methods than did nonteachers. It appeared that adequate preparation for teaching and the attainment of an advanced degree may inspire confidence in clinical teaching. These attributes may become important characteristics to look for when recruiting clinical instructors.

Dan Foster is program director and athletic training education and associate director with Athletic Training Services at the University of Iowa in Iowa City, IA.

David Leslie is coordinator of the Physical Education Teacher Education Program at the University of Iowa.

Certified athletic trainers (ATCs) prepare students for the athletic training profession, in part, through clinical instruction (2-4,13). ATCs instruct students in professional knowledge and skills (13), but how the ATCs fulfill the role of clinical instructor is not known. Teacher preparation and the experience of the ATC may become important issues in the recruitment of effective clinical instructors as many institutions begin to appraise the development of athletic training educational programs.

This study was conducted in order to determine: 1) the clinical teaching roles of Midwest ATCs, and 2) the effect of educational preparation on the ATC's teaching activities and opinions.

Methods

We developed and tested a questionnaire through a cross-sectional pilot study of ATCs. Experts in athletic training education confirmed content validity and item reliability. Cronbach's Alpha measured item internal consistency (1) and coefficients ranged between 0.52 and 0.82.

The questionnaire had three sections: demographic items, teaching activity items, and opinion items. Current employment, academic preparation, and teaching experience were items for demographic comparisons. Respondents who taught in clinical settings completed the teaching activity items in the second part. In this part, we asked about teaching content, teaching methods, and audiovisual aids. To arrive at a single teaching activity score, we combined response item scores in part two. In the last part, we asked for the respondent's opinion on eight clinical teaching statements.

We selected a simple random sample of 197 ATCs from the Mid-America Athletic Trainers' Association (District 5 of the NATA) membership. ATCs returned 154 questionnaires (78%). Qualitative questionnaire items described the proportion of respondents at different levels of employment, academic preparation, and teaching experience. Using Biserial and Spearman Rho correlation coefficients, we assessed the relationships within and between the three sections of the questionnaire. We used the descriptive item levels as independent variables and the teaching activity score and opinion rating as dependent variables in one-way analysis of variance (ANOVA).

Results

Describing clinical teaching roles was our first objective. Student supervision items showed that although 96 respondents (63%) supervised athletic training students, only 50 (33%) sponsored students for the NATA certification. Athletic training services combined with student athletic trainer supervision accounted for more than 20 hours weekly. Of the 80 ATCs (52%) who taught clinically, 70 (89%) taught student athletic trainers for less than half of their work time.

Positive relationships were found between ATCs' clinical work hours and both the students under direct supervision ($p=.46$, Spearman Rho) and their clinical teaching responsibility ($r_b=.59$, Bi-serial). The R^2 association (9) among demographic variables was less than 35%.

The 80 ATCs broadly taught from the six Role Delineation Domains (2) (5.4 $\pm$1.3), with clinical teaching time averaging 21.0 hours ($\pm$17.4, range 1-80) per week. From the five options listed, the ATCs used three different teaching methods (3.2 $\pm$1.1). The most popular method was Trainer-dominated Communication (n=66, 82%). This teaching method was described as a combination of lecturing, telling, and presenting. Regardless of the clinical teaching method, the 80 ATCs made use of an average of 6.1$\pm$3.1 audiovisual aids, range 0-12 (maximum of 14 listed).

We found positive correlations between audiovisual aids and both the Role Delineation Domains ($p=.52$) and teaching methods ($p=.53$). Domains correlated positively with weekly hours spent on task content ($r_b=.47$). The R^2 association among clinical teaching items was less than 29%.

Clinical teaching opinion from part three was scored on a continuous scale, with ATCs indicating definite opinions ($F(1,153)$ $p<.05$) for seven of the eight statements. The 154 respondents agreed that athletic trainers have a responsibility to instruct students in clinical knowledge and skills (2.0 $\pm$0.9). They indicated that they enjoyed clinical teaching (2.5 $\pm$0.8), and that it held a value of importance equal to other duties that respondents performed with athletes (1.6$\pm$1.4). The respondents felt somewhat academically prepared to teach clinically (0.7$\pm$2.0), believed they had time to do so (-0.5$\pm$1.9), and felt that clinical teaching was not difficult (-1.4$\pm$1.6). When asked to compare the formal classroom setting to the more informal clinical setting, respondents were undecided about the similarity of setting organization (-0.1$\pm$1.8).

We conducted various one-way ANOVAs to determine the effect of educational preparation and experience on Midwest ATCs' teaching activities and opinions. The teaching activity scores are summarized in Table 1. Inferences about these data have been guarded because sample sizes were sometimes less than 30. Scores were higher, however, for respondents who had a master's or higher degree than for respondents with a baccalaureate degree ($F(1,77)=5.50$, $p<.02$). There were no differences when other categories of academic preparation and experience were compared.

When the 80 clinical teachers were grouped for experience comparison, the ATCs with less than 6 years' experience felt that they had less time for clinical instruction than did older ATCs ($F(1,79)=7.36$, $p<.008$). No other differences were found between less experienced and more experienced ATCs.

Respondents with teaching degrees placed higher importance on clinical teaching than did nonteachers ($F(1,153)=6.44$, $p<.01$) (Table 2). The teachers disagreed strongly with the statement, "clinical teaching is difficult," when compared to the responses of nonteachers ($F(1,153)=4.59$, $p<.03$). The teachers also felt more confident about their academic preparation to teach clinically than did nonteachers ($F(1,153)=9.71$, $p<.002$). Finally, teachers had stronger opinions that the organization of the clinical teaching setting was similar to that of the classroom than did nonteachers ($F(1,153)=4.93$, $p<.02$).

Table 1.—Effect of Teaching Preparation, Experience, and Clinical Workload on Teaching Activity Scores

Groups	n[a]	Mean	±SD	F
Baccalaureate Degree	26	-0.36	0.9	5.49[b]
Master's or Higher Degree	52	0.18	0.7	
No Teaching Degree	28	-0.25	0.8	2.72
Teaching Degree	50	0.14	1.1	
No Clinical Education Course	41	-0.16	0.9	2.31
Clinical Education Course	37	0.18	1.1	
Taught Classroom < 5 Years	32[c]	0.03	0.9	0.20
Taught Classroom > 5 Years	32	0.14	1.0	
Clinical Work Time				
Low (1-20 hours/week)	20	0.27	1.1	1.27
Medium (21-40 hours/week)	36	0.17	1.1	
High (more than 40 hours/week)	22	-0.03	0.7	

Note: Teaching Activity Scores were expressed as a standard score with Mean=0, SD=1.

[a]Two respondents did not complete all items in part two; therefore, their data were removed from this analysis.

[b]A difference ($p<.05$) was observed between entry-level and higher degree levels for Teaching Component Scores.

[c]Twenty-four respondents who teach students in the clinical setting had not taught in formal classroom settings.

Discussion

In 1990, the NATA Board of Certification, Inc revalidated the Role Delineation for athletic trainers (2). The 1990 revalidation data (n=424, 42% response rate) showed demographic descriptions similar to those of our survey respondents. Importance ratings by the Role Delineation respondents on the Education and Counseling Domain compared similarly to our opinion results. Midwest ATCs considered clinical instruction as important as other tasks they performed with athletes (n=154, m=1.6$\pm$1.4). The Role Delineation respondents believed that education and counseling contributed to the critical success of the entry-level trainer. Criticality was described as the extent to which task incompetence would cause harm to the public. The Education and Counseling Domain was established as critical to the entry-level athletic trainer's success, but low when compared with the other five domains (n=424, m=4.0, 4=Great Harm). In spite of the high criticality, the Role Delineation respondents rated education and counseling the least important to successful performance (n=424, m=3.4, 3=Important). The importance scale in the Role Delineation ranged from Not Important (0) to Extremely Important (5).

Our study differed from the Role Delineation education and counseling frequency rating. The Role Delineation respondents reported that typical entry-level ATCs spend 9% of their time performing education and counseling tasks (n=416, m=9.4%). This domain included five abilities in counseling, two in student athletic trainer instruction, and one in continuing education. The domain organized 56 knowledge and skill abilities into eight tasks. Our results showed that 101 ATCs (63%) spent over 30% of their time with clinical instruction. Newly-certified ATCs were no different than established ATCs in time allotted for clinical instruction. Midwest ATCs may have placed a higher importance on clinical instruction by representative time than did the Role Delineation national sample. Because our study involved a cross-section of experience levels of ATCs and concentrated on clinical teaching, the results may have been biased in favor of broader educational content and more teaching time. Our results appear consistent with those of

Table 2.—Opinions of Respondents With and Without Teaching Degrees

Item	With Degree[a] Mean	±SD	Without Degree[b] Mean	±SD
Clinical teaching activities with student athletic trainers are as important as other activities that I perform with athletes.	1.8[c]	1.4	1.2	1.4
Clinical teaching of student athletic trainers is difficult for me.	-1.6[c]	1.5	-1.1	1.6
I was academically prepared by my education to teach student athletic trainers in the clinical setting.	1.1[c]	1.9	0.1	2.1
Clinical instruction uses the same organization as classroom instruction.	0.1[c]	1.9	-0.5	1.5

[a]n=93
[b]n=61
[c]A difference ($p<.05$) was observed on these opinions between athletic trainers with teaching degrees and athletic trainers without degrees.

other health care professionals who devote 10% to 40% of their clinical service time to teaching students (7,10,15). We feel confident that time indicators showed actual activity of Midwest ATCs because three questionnaire items cross-validated time allotments of the ATCs and the questionnaire response rate was representative of District 5 ATCs.

Some health care professionals supervise only a few students during the time that they have patient care duties (7,10,15), but in this study ATCs supervised nine students or more (n=17, range=9-21+). The ATCs supervising a large number of students taught for about the same time period per week (20 hours) (n=17, m=21.8, ±14.9) as those ATCs who supervised fewer students. These ATCs may be efficient with their contact time or may coordinate supervision with other ATCs. Another explanation for supervisory time commitments is exposure benefit. The ATCs may have considered clinical teaching to mean daily exposure to problems encountered by athletes and coaches. Draper (3) noted that daily exposure often has meant allowing students to work on their own. In Draper's study, the ATCs who approached clinical teaching in this way gave students little input to professional and technical development. Most Midwest ATCs who teach clinically present information about clinical subjects or instruct students to perform a certain task or series of tasks. This instructor-dominated method of clinical instruction is similar to instructional methods for the classroom setting. We can neither define the complexity nor the simplicity of the mentorship provided by these athletic trainers. Systematic exposure and progression, recommended by the NATA (13), may encourage a form of clinical organization that enables the ATCs to feel confident and to teach efficiently.

Athletic trainers approach the combined service and education roles differently than other health care professionals (5-7,10,14,15). The NATA combines and supports teaching objectives in professional competencies (2,13), while other health professions typically do not concentrate on teaching methods in their professional preparation (11,15). The NATA identifies competencies in instructional methods for entry-level readiness. Instruction about these competencies may be included as part of a course or may be broadened into a semester-length teaching methods course.

ATC respondents are not similar to other health care professionals in their background preparation to teach, even though their clinical teaching roles are similar. They considered clinical instruction an important service despite the time and the preparation required and the anticipation of a potentially volatile and unpredictable work setting. Perrin and Lephart (11) and Weidner (16) suggest that lack of instructor experience and differences in student backgrounds are two important reasons to maintain frequent clinical faculty meetings. Given the complex nature of the clinical setting and therefore clinical instruction, we agree that students be mentored in their clinical teaching. Although not addressed in this study, further investigation might determine the contribution of clinical instructor experience and instructional methods on student board examination scores and on performance evaluations of graduates.

Conclusions

This study describes clinical teaching roles of athletic trainers. The ATCs with teacher preparation and experience develop broader clinical instruction activities and have stronger positive clinical instruction opinions than do athletic trainers without teaching backgrounds. Young athletic trainers with less than 6 years' experience have difficulty finding time for clinical teaching. Athletic trainers with a master's or higher degree show broader teaching activities than athletic trainers with baccalaureate professional preparation. We did not attempt to identify master teachers of athletic training students nor did we address comparisons between teaching roles and educational outcomes.

Teacher preparation and post-baccalaureate education appear to be desirable qualities to look for when hiring ATCs if clinical teaching experience and breadth of teaching activities are important. We make this recommendation with some caution since categories of teaching activities and opinions of clinical teaching have not been related to the benefits of maximum educational outcomes. At present we suffer from an incomplete understanding of the specific practices of clinical teachers, and must rely on an appreciation of the consistently high practice standards developed within the corp of athletic training professionals (8).

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