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A Professional Learning Plan has Value in Guiding the Continuing Education of Athletic Trainers: A Pilot Study

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ABSTRACT

Purpose: The purpose of this investigation was to pilot the use of and explore the feasibility of an individualized professional learning plan (PLP) designed to guide the continuing education of athletic trainers (AT) based on their individual learning needs and explore the participants' perceptions of its usefulness and feasibility. Method: A sample of 18 ATs (11 males and 7 females) completed the PLP and follow up the survey. Of these 18 individuals, five were also interviewed regarding their experience. The PLP Follow-up Survey consisted of 10 demographics items and 11 Likert-scale items (strongly agree = 5, strongly disagree = 1) assessing experiences with the PLP. Inductive analysis was utilized to analyze the qualitative data. Descriptive statistics were utilized to analyze the quantitative data. Results: Ninety four percent (94%) of the survey respondents agreed or strongly agreed that the concept of having a PLP would assist in developing meaningful continuing professional education. Also, 78% agreed or strongly agreed that the PLP could aid with their selection of future continuing education. Three themes emerged from the qualitative data: 1) identifying learning needs; 2) planning continuing education; and 3) flexible guidance. Conclusion: The survey data and themes capture participants' experience related to believing that the PLP was helpful in assisting ATs in identifying and self-analyzing individual learning needs and providing planning strategies to address these needs. Moreover, participants utilized the PLP to help guide their continuing education and also found it flexible enough to adapt based upon individual workplace challenges and financial considerations.

INTRODUCTION

Athletic training is a recognized allied health care profession practiced by athletic trainers who collaborate with physicians to optimize activity and participation of patients and clients. Athletic training encompasses the prevention, diagnosis, and intervention of emergency, acute, and chronic medical conditions involving impairment, functional limitations, and disabilities.¹

Like many healthcare professions both national and international, prior to becoming credentialed, licensed or certified individuals are required to demonstrate a minimal level of professional competence. In the United States (US) this is accomplished by graduating from a Commission on Accreditation of Athletic Training Education (CAATE) accredited program and passing the Board of Certification (BOC) national certification examination. Once credentialed, athletic trainers (ATs) must now engage in continuing professional education (CPE) which has been described as instruction that enlightens an individual in a particular area of professional knowledge or skills. CPE must be completed and documented within a given time period through predefined continuing education units (CEUs) to maintain the athletic training credential. The accumulation of CEUs is one way to insure public safety.

Health care professionals may not plan continuing education based on maintenance and development of competence.² Instead, continuing education is viewed by many to simply satisfy a requirement often mandated by a regulatory board (BOC, state licensing board). Unfortunately, most continuing education programming involves CEU credit for "seat time" rather than documented learning or improved patient care.³ There is an over-dependence upon lectures, which may not be beneficial for all individuals due to different learning styles and learning needs. CEUs are often accumulated to satisfy a licensure and/or certification requirement, rather than to prevent professional obsolescence. This is the crux of the problem for many professions where CPE is mandated. Pijanowski suggests that adult learners need to actively participate in planning their educational events to make them more effective and meaningful.³ A deliberate cycle of learning that involves recognizing learning needs, planning their CPE activity based on those needs and job performance, and reflecting on the learning outcome(s) would be more beneficial for all those involved in CPE.

Recognizing this issue, disciplines such as General Medical Physicians (national and international), Registered Dietitians, Nurses, and Dental Hygienists have begun to research and/or implement the use of a portfolio for individual learning or an education plan to guide and facilitate independently planned continuing education.⁴⁻⁹ These are tools used to assist professionals in planning their continuing education based on personal learning needs. Some disciplines such as Physician Assistant now also require a recertification exam to demonstrate continued clinical competence.¹⁰ Although some allied health professions have found value in utilizing learning plans, the athletic training profession has not explored its use. The purpose of this investigation, therefore, was to pilot the use of an individualized professional learning plan (PLP) designed to guide the continuing education of ATs based on their individual learning needs and explore the participants' perceptions of its usefulness and feasibility.

METHODS

Participants

All AT credential holders in good standing with the BOC and residing in the National Athletic Trainers' Association (NATA) Districts 1 (US of Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island and Vermont) and 2 (US states of Delaware, New Jersey, New York, and Pennsylvania) (5,698 total) were invited to participate. Inclusion criteria were included planned attendance at the 2005 EATA meeting, and a willingness to engage in the personal learning plan (procedures explained below). Therefore, only 18 individuals (11 males and 7 females) completed this pilot investigation. Five of those individuals also completed a phone interview. The mean age of the PLP participants was 36.4 ± 9.4 years of age (Mean age \pm SD) with an average of 12 ± 8.9 years of experience as an AT. Ten participants (55.6%) attended an accredited athletic training education program (NATA, CAAHEP), while 8 (44.4%) followed an internship route to BOC certification. All participants were Caucasian. Table 1 presents employment demographics.

Table 1. Employment Demographics

Setting	n	%
High School	3	17
High School/Clinic Outreach	1	5.5
Middle/Junior High School	1	5.5
College/University	11	61
Other - Private K-12 School	1	5.5
Other - Private Practice	1	5.5
Total	18	100
Job Title	n	%
Athletic Trainer & Educator	7	39
Head Athletic Trainer	8	44
Staff Athletic Trainer	2	11
Other - Owner	1	6
Total	18	100

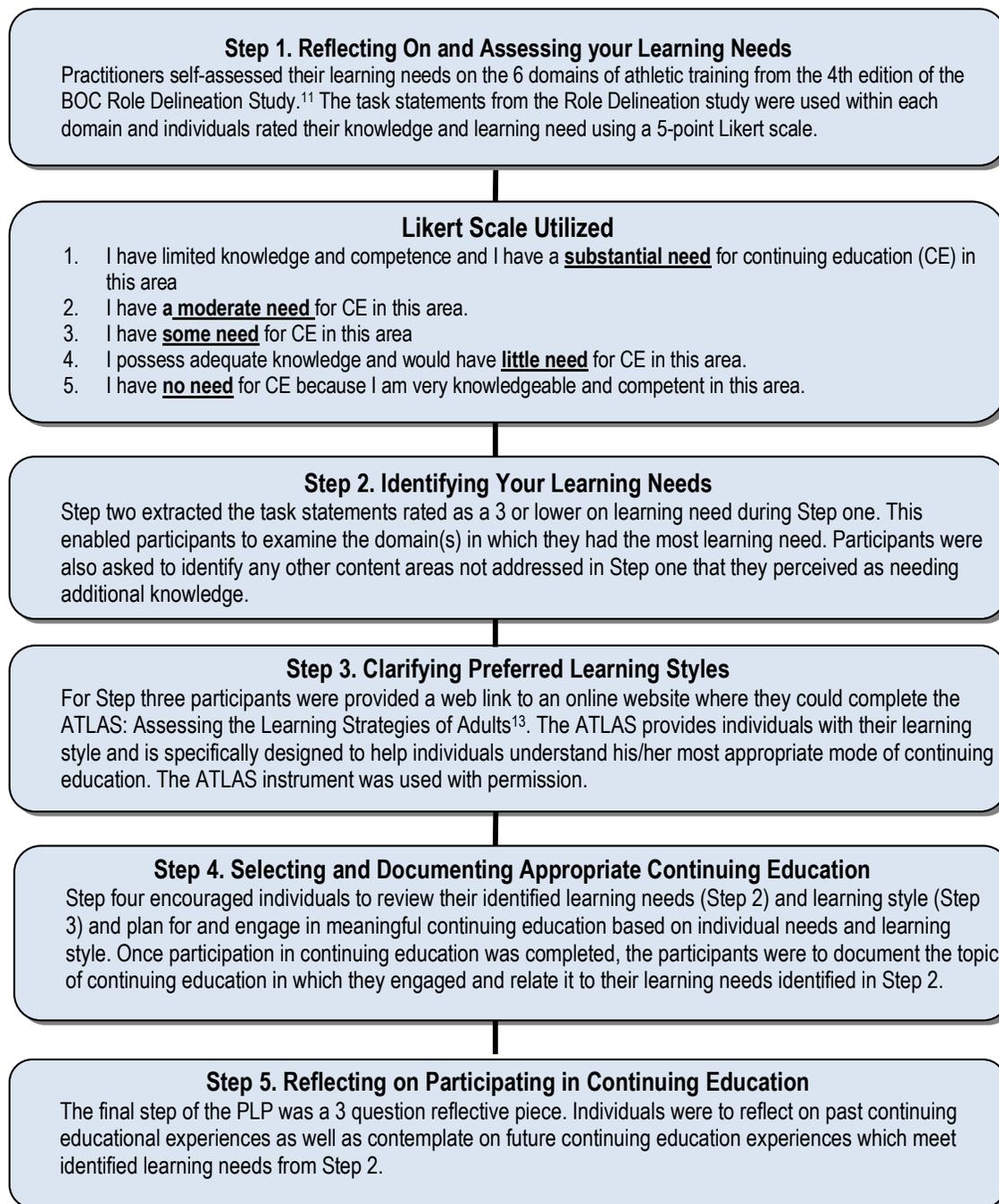
Instrumentation

Three instruments were used as part of this study. These included the: 1) the PLP, 2) PLP Follow-up Survey, and 3) semi-structured interview questions.

Professional Learning Plan.

The PLP is a five step, self-reflective instrument designed to guide participants through a deliberate pre-planned continuing education learning cycle (3 years). After reviewing 2 existing portfolios used by dietitians and physicians, the PLP was developed specific to AT. In step 1, the participant rated their individual learning needs (using a 5-point Likert scale; Figure 1) based on the content from the BOC *Role Delineation* (BOC-RD) *Study 4th Edition*.¹¹ For example, participants were asked to rate their individual learning needs on BOC-RD tasks such as "maintain clinical and treatment areas by complying with safety and sanitation standards to minimize the risk of injury or illness." Step 2 detailed self identified areas of weakness based on the participant's answers to step 1. Step 3 directed the participant to the online **Assessing The Learning Strategies of Adults** (ATLAS) to assist individuals in understanding their preferred learning strategies.¹² The ATLAS classifies individuals into three types of learners. First are navigators who are focused learners who chart a course for learning and follow it. Second are problem solvers, who are learners that are critical thinkers and enjoy testing assumptions and generating alternatives. Third, engagers, who are passionate learners who love to learn, learn with feeling, and learn best when actively engaged in a meaningful manner. The ATLAS was used and continues to be a reliable and valid method for determining an individuals' learning strategy and is available in online format.^{13,14} The ATLAS was included in the PLP because many modes (engaged learning, lecture, hands on workshop) of continuing education exist and conceivably the learning style information may assist learning in making appropriate selections of continuing education sessions. In step 4, the participants documented their appropriate continuing education based on the individual learning needs and learning strategy from steps 1-3. In step 5, participants reflected on past continuing education experiences as well as contemplating future continuing education based on information from step 2. Figure 1 represents each of the five steps of the PLP. Total time to complete varies based on the thoughtfulness of the respondent.

Figure 1. The 5 Steps of the PLP



Initially, a version of the PLP with all five steps was developed. Each individual step of the instrument as well as the instrument as a whole was examined for face and content validity by four AT credential holders who were experts in the field of athletic training education and the BOC-RD.¹¹ Following the construction and validation of the PLP instrument as a Microsoft Word document, an on-line version was created and hosted on the BOC website. Based on recommendation from the panel, the PLP was revised to address issues such as the flow of the instrument, clarification of wording, and improving instructions. Participants completed steps 1-3 prior to attending the 2005 Eastern Athletic Trainers' Association (EATA) annual meeting and the remaining steps 4-5 following the meeting.

PLP Follow-up Survey. The second instrument developed was the PLP Follow-up Survey. The PLP Follow-up Survey was also examined for face and content validity by four AT credential holders who were experts in the field of athletic training education and the *BOC-RD*.⁹ The PLP Follow-up Survey gathered participants' experiences with the PLP. The PLP Follow-up Survey consisted of 10 items collecting demographic characteristics of the participants' age, years of experience, current job setting and title, and ethnicity. In addition, 11 Likert scale items (strongly agree, agree, neutral, disagree, strongly disagree) assessed the participant's beliefs about their experiences with the PLP as well as the helpfulness of each component of the PLP (see Table 2). Lastly, participants were asked if they would be willing to participate in phone follow-up interviews and provide the necessary contact information.

Procedures

Institutional Review Board approval was obtained at the initiation of the study. During December 2004, 5698 emails were sent out inviting all AT credential holders in good standing with the BOC and with a valid email address in District 1 and 2 of the NATA to participate in this study. To allow for the highest possible participant pool, 5698 solicitation emails were sent even though approximately 1000 individuals attend the EATA meeting annually. This email stipulated inclusion criteria (in good standing with the BOC, in District 1 or 2 of the NATA, valid email address, and willingness to engage in the PLP process) and detailed the purpose and procedures of the study. The study was restricted to Districts 1 and 2 because the meeting organizers identified the domains of practice that each educational session addressed for attendees and volunteered to use the conference as a pilot study test site for the PLP.

Initially, 66 participants responded via email expressing interest in the study. Interested participants were emailed a consent form. From those participants, 32 returned signed consent forms. Once consent forms were returned signed, the participants were e-mailed a username and password to log onto the PLP instrument. Prior to attending the EATA meeting participants were required to complete Steps 1-3 of the PLP. To ensure Steps 1 and 2 were completed, the primary investigator logged onto the participants accounts (using untraceable usernames and passwords) and verified both steps were completed. Step 3, assessing individual learning strategies by using the online ATLAS instrument, was optional and not monitored. Participants were encouraged, if they were unaware, to assess their learning strategies prior to attending the EATA Symposium.

The 2005 EATA meeting planners reviewed the content of each educational session in order to identify the BOC-RD domain(s) addressed in each educational session. Each practice domain was identified on large a poster board outside of each education session. To provide additional information to ATs prior to the meeting, the practice domains of athletic training were sent via email on the D2 Wire (District 2 email list-serve sent to District 1 and 2) to all District 1 and 2 members. Lastly, the practice domains were included in the 2005 EATA meeting registration packet. The addition of the practice domain information was an important aspect of the study in that the PLP helped practitioners identify learning needs related to the domains, and then in selecting appropriate continuing education sessions at the EATA meeting. After the EATA meeting, the participants were emailed a prompt to complete Steps 4 and 5 of the PLP and the PLP Follow-up Survey. Completion of this investigation consisted of completing Steps 1 through 5 as well as the PLP Follow-up Survey. Eighteen participants (11 males, 7 females) completed this investigation.

A total of 18 participants represent a very small percentage of the 5698 who initially were invited to participate in the study. This is a low response rate; however, on average, approximately 1,000 attend the EATA conference each year which represents under 1/5th of those who initially received email solicitation. One criteria to participate was attendance at the EATA meeting. Moreover, the study involved effort prior to attending the EATA meeting and a follow up survey and interview post EATA attendance, thus we expected a fair amount of attrition due to the inherent nature of the study.

Approximately six weeks following completion of the PLP Follow-up Survey, individuals who reported an interest in a participating in a phone interview were contacted and interviewed. Eleven participants who completed the investigation indicated they were interested in a follow-up phone interview. Five of those individuals participated in a semi-structured phone interview. The participants were asked the following four questions: 1) what are your overall impressions of the PLP? 2) In what way was or was the PLP helpful? 3) Do you feel that the portfolio can help you plan the rest of your continuing education for this CEU reporting period? 4) What changes would you suggest to the PLP? Only five of the 11 individuals who expressed an interest in participating in an interview actually did so. The scheduling and time constraints on behalf of the primary researcher, participant, or both interfered with the ability to conduct an interview with all 11 participants who initially agreed to an interview. Though five participants is a small sample, qualitative research does not typically utilize large sample sizes.¹⁵ Also, the results of the 5 semi-structured interviews was very consistent between the participants.

Data Analysis

This was a mixed methods study as quantitative and qualitative data were gathered for this investigation. Quantitative data from the PLP Follow-up Survey were analyzed with descriptive statistics, specifically frequency, percentages, means, and standard deviations. Qualitative data from the phone interviews underwent an inductive analysis consistent with basic interpretive qualitative inquiry using a pragmatic lens.¹⁵⁻¹⁶ The data were read, meaning units were identified, those meaning units were then labeled, analyzed for redundancy, and themes were identified.¹⁷ Multiple analyst triangulation was performed, whereby three different analysts (three members of the research team) with formal training and experience with qualitative research independently evaluated the data to ensure an accurate interpretation of the results. In instances where interpretations slightly varied, the coding and categorization of data was negotiated until full agreement was met. Member checks were performed after all data were transcribed.¹⁵ Each participant examined his or her transcript to ensure it was accurate, and the emergent themes were accurate based on their experiences.

RESULTS

Quantitative Data

The PLP Follow-up Survey results are presented in Table 2. The results reveal that 78% (n=14) of the participants agreed or strongly agreed the PLP helped guide their selection of continuing education. Overall, 94% (n=18) agreed or strongly agreed that having a PLP to guide a credential holder through the continuing education process has merit. Seventy-two percent (n=13) strongly agreed or agreed that the PLP would help with their selection of future continuing educational experiences. Overall, 94.4% (n=17) believed that the PLP, as currently organized, should be made available to all ATs for use on a volunteer basis. Seventy two percent (n=13) of the respondents also stated that having the athletic training practice domains identified at the district meeting was helpful.

Table 2. Follow-up Survey Question

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	n	%	n	%	n	%	n	%	n	%
I believe the professional learning plan helped me select the topics for my continuing education.	0	0	3	17	1	5	12	67	2	11
I believe the professional learning plan helped me to identify my learning needs.	0	0	1	6	2	11	9	50	6	33
I believe the use of the professional learning plan facilitated my ability to reflect on my overall continuing education needs related to Domain 1, Prevention of Athletic Injuries and Illnesses.	0	0	0	0	2	11	11	61	5	28
I believe the use of the professional learning plan facilitated my ability to reflect on my overall continuing education needs related to Domain 2, Recognition, Evaluation, and Assessment.	0	0	0	0	3	17	11	61	4	22
I believe the use of the professional learning plan facilitated my ability to reflect on my overall continuing education needs related to Domain 3, Immediate Care.	0	0	0	0	4	22	9	50	5	28
I believe the use of the professional learning plan facilitated my ability to reflect on my overall continuing education needs related to Domain 4, Treatment, Rehabilitation, and Reconditioning.	0	0	0	0	3	17	11	61	4	22
I believe the use of the professional learning plan facilitated my ability to reflect on my overall continuing education needs related to Domain 5, Organization and Administration.	0	0	0	0	2	11	11	61	5	28
I believe the use of the professional learning plan facilitated my ability to reflect on my overall continuing education needs related to Domain 6, Professional Development and Responsibility.	0	0	0	0	2	11	12	67	4	22
I found the identification of the Domains on the EATA program helpful for selecting continuing education programs that addressed my learning needs.	1	5.5	1	5.5	3	17	10	55	3	17
I believe the use of the professional learning plan will help me with selection of my future continuing educational experiences.	0	0	1	6	4	22	6	33	7	39
Overall, I believe the concept of having a professional learning plan to guide a credential holder through the continuing education process has merit.	0	0	0	0	1	6	9	50	8	44

When asked whether the ATLAS learning styles instrument was beneficial to help select their learning activities, 66.7% (n=12) participants answered yes. Those 6 individuals answering “no” to this question indicated a variety of reasons presented in Table 3. Many of these individuals already had a good understanding of their learning style and, thus, the information provided was not helpful.

Table 3. Reasons the ATLAS learning styles instrument was not beneficial

"Previously known information"
"I was already aware of the type of learner I am and what type of activities I benefit most from."
"Just because I learn in a certain fashion didn't change how the presentations were done."
"I chose activities based more on interest than learning style"
"I have always taken my continuing education seriously. Prior to the Atlas and the PLP I had already had a plan to review and attend lectures based on interest and areas of need. The PLP and Atlas just reinforced that my choices were correct to begin with."
"I felt it was very vague and I had to strongly think about which categories I thought I should fit into - I felt that I could have fit into more than one and thus I did not feel that it was a super strong indicator of my means of learning"

Qualitative Data

From the phone interviews, 3 themes emerged from the data: 1) PLP is helpful in identifying learning needs, 2) PLP facilitates the planning of continuing education, and 3) the PLP provides flexible guidance. The themes are presented here with supporting data.

The PLP is helpful in Identifying learning needs

Participants overall valued the PLP as it assisted in both identifying and self-analyzing individual learning needs while also providing strategies to address these needs. Not only was the process valuable for identifying learning needs, but it seemed to facilitate self-reflection. For example, one individual responded by discussing the challenge of the entire self-reflective process.

"I thought it (the PLP) was interesting...maybe I felt a little uncomfortable at times answering things....to be self critical at times can be easy....but then when you get down to being self-critical in your professional knowledge can make you a little uncomfortable...that made me sit and reflect a little bit on certain things...it made me feel a little uncomfortable to admit that."

Similarly, another participant commented that the PLP helped to clarify his/her individual strengths and weaknesses:

I definitely like the goal setting format, kind of makes you have to be more aware of the strengths and weaknesses. Which I think is good for everybody. It's probably pretty easy to get caught up, you wind up just going to conventions, you know there are a lot of social aspects involved and stuff like that.

Likewise a different participant commented that the PLP was a useful self-evaluation tool:

I had to sit down and evaluate myself a little bit...when I actually sat there and thought about my learning styles and try to figure out what [content area] would be a better area or lecture to go to if you will...where my weaknesses were...I thought it was beneficial. [It was] very simple; wasn't difficult at all. I like the fact that it was very easy to follow...I think that...it made me think a little more about the schedule of the day rather than...I typically look through and see something of interest...and I probably got in a habit of going to a lot of the similar lectures over the years at symposiums because there are certain things that interest me...and I would probably go and see if there is anything new in that area and I probably wasn't really looking at other areas as much. So it kind of helped me to refocus on some of the other areas that perhaps I hadn't been looking at or listening to recently.

Clarifying learning needs allowed participants to look ahead to continuing education programs and be more selective of course offering. How this influenced their planning is highlighted in the following theme.

The PLP facilitates the planning of continuing education

The PLP allowed the participants to modify their individual CPE activities and plan for future CPE based on the self-assessment (Step 1 of the PLP) of the domains of athletic training. Part of this planning was identifying the domains that corresponded with the presentations. Three participants reported changing the focus of their continuing education while at the EATA meeting and attending sessions based on self-assessed learning needs instead of interest.

"[the PLP] did definitely change the focus I went into EATA with; I actually changed some of [the] seminars I went to, probably initially picking out of interests and stuff like that, and then going more with, I'll call it a weakness, you know the things that [were identified] as weaknesses and think well this would probably be better to go to,"

"Normally I just go to what sounds interesting and never really paid attention to what the lecture is, and [the PLP] gave me a better feel for what lectures and meetings I should be attending, to get the most benefit"

"I sat down and I actually planned through the whole conference to what meetings ahead of time would be more beneficial to me and stuck with it as opposed to picking (educational sessions) on a whim"

As previously stated, a unique feature of the 2005 EATA meeting was that each presentation was clearly identified according to the athletic training practice domain it represented according to the 4th Edition of the RD. This unique feature was received well by the participants, as it assisted them in planning and executing appropriate continuing education.

"The domains were definitely helpful, refreshing. There was even that listing in the back of the packet that said domain one and it listed, which talks were in domain one and which in two, that was helpful, it fits a bit multi-topic seminar like the NATA, or EATA, it makes things easier. I think anything like that which would make it easier would definitely make people more compliant with it (the PLP) obviously, it seems like a little thing (to identify the Domains), but that definitely helped."

Not only did the identification of the RD practice domains assist in planning but also updated and educated experienced participants as to the RD practice domains.

"I think part of it too, is some education for athletic trainers...on knowing what is in each domain....particularly for individuals like myself who have been certified for so long you're your attending a huge conference and you're looking at what's being offered, especially something like nationalto be able to say that this session pertains to Domain 4, this session Domain 2."

In summarizing this emergent theme, the PLP was instrumental in facilitating effective planning of continuing education programs.

The PLP provides flexible guidance

Participants utilized the PLP to help guide their CPE and also found it flexible enough to adapt based upon individual workplace challenges and financial considerations. One stated:

"What I wouldn't like to see is for the BOC to lock you in to a specific series of courses, lectures or topics that you must participate in after completing this portfolio. At the High school setting, so much happens in that year there might be work stuff that is really pertinent to a rash of injuries that you are having or something like that. I would hate to see you sort of being stuck saying you have to fill these areas."

Another commented on the PLP being a guide to CPE decisions.

I liked (the PLP) as a guide. Because I think sometimes people get stuck that go to the same conference every year, you know, I really like this one I'm going to go every year, and maybe there is material that they are missing and maybe there are other work shops that they could be going to or different things they could be doing to enhance what you are doing in your work setting and it's going to be different for everyone who works setting obviously."

Apparent in the data categorized in this theme was a need to maintain a level of flexibility to meet individual learning needs. While a PLP helps identify weaknesses and learning needs, there was a hesitancy to have a prescriptive plan in place for athletic training professionals to address those weaknesses and needs.

DISCUSSION

The purpose of this pilot study was to evaluate the feasibility of an individualized PLP as a means to engage athletic training credential holders to plan their continuing education based on learning needs. The results of this study suggest that the use of a tool such as the PLP is feasible and has merit in guiding ATs through the continuing education process. Furthermore, the majority of the participants found the PLP assisted them in reflecting and identifying individual learning needs and selecting continuing education activities appropriate to those needs as well as individual learning strategies or styles. Three of the participants disagreed that the PLP helped them plan their continuing education. Perhaps these individuals already had an indication of their learning needs.

A majority of the participants felt the PLP aided in identifying their individual learning needs according to the 4th edition of the BOC-RD. Specifically, the participants felt the PLP assisted in identifying and self-analyzing individual learning needs through the use of a self-reflective process. This finding is consistent with that of Evans, Ali, Singleton, Nolan, and Bahrami who examined the effectiveness of personal education plans in continuing professional development of physicians.⁵ They found that personal education plans were positively received by participants because the plan was tailored to the individual's needs. This allowed the participants to plan appropriate continuing education that resulted in changes in patient care as well as individual personal development.

In this investigation, the participant's learning needs emerged as a direct result of being able to critically self-evaluate or reflect on his/her current level of need for continuing education according to the knowledge of and skill in statements identified in Step 1 of the PLP. For some, this process was an uncomfortable experience. It required thought not only about their current level of knowledge, but about their professional behaviors and patient interactions and to admit that their professional knowledge or behavior is not at a desirable level. For some, the self-reflection, in conjunction with the other components of the PLP, assisted in refocusing attention on areas of weakness and selecting CE programs (at the EATA program session) that normally would have been ignored due a preconceived notion that one was competent in this area. Failing to reflect on one's competency and learning needs may result in situations whereby an individual does not adequately identify a learning deficiency or weakness.

Self-reflection is a process which allows individuals to revisit past experiences and/or events, which over time leads to a greater understanding of one's experiences or knowledge. Reflection of day-to-day activities and professional practices encourages identification of gaps in knowledge and skill and can lead to finding the best and most appropriate means of addressing these needs. Self-reflection often precludes the need for uncomfortable negative feelings or confrontations from individuals in supervisor roles. The reflection process also equips learners with the knowledge of what works best for their learning style and encourages application of new knowledge to their practice.¹⁸ This understanding and new interpretation of past experiences also helps to bring about changes in a participant's professional and personal behaviors, which helps to protect all stakeholders, particularly the public.^{18,19}

Results of the study suggest that participants modified their 2005 EATA programming selections based on their results experienced with step 1 (reflecting on and assessing your learning needs) and 2 (identifying learning needs) of the PLP. It was our hope that using the ATLAS learning strategies inventory would play a role in planning continuing education. Participants generally felt it was helpful to guide their continuing education decisions. In addition, participants reported planning future CPE activities based on the results of the PLP. For these participants continuing professional education now has meaning rather than selecting CPE activities at random, often without any thought towards one's development of continued professional competence.² Instead of simply satisfying a requirement mandated by a regulatory board, practitioners now have a tool to engage in meaningful learning that may in fact change patient care.

This is consistent with previous research examining CPE. Research has shown that professionals value CPE and believe it has a purpose; however, learning must have meaning and it must be applicable to an individual's situation. Westberg and Jason found medical students who were allowed to identify individual deficiencies and strengths were more willing to take "ownership of their learning needs."²⁰ As ownership increases, medical students felt more responsible for increasing and changing in professional behaviors. Another investigation with physicians found that following their experience with personal education plans, the plan was valued because they now had a desire for professional development directly linked to the improvement of patient care.⁵ The PLP allows for this ownership. It empowers and engages practitioners into their own learning process. It allows the opportunity to identify individual strengths and learning requirements, plan learning, and critically analyze these experiences using a meaningful, deliberate, self-reflective process. The use of a PLP can then facilitate more relevant CE activity that has been identified as a deterrent to continuing education among athletic training professionals.²¹

The 2005 EATA meeting assisted in facilitating in planning appropriate, meaningful CPE as this was the first time that we are aware a state, regional, or national meeting displayed the BOC-RD practice domains that pertained to each educational session. Overall participants found this feature helpful. Some participants commented on how they enjoyed being exposed to the current athletic training practice domains, as some had not looked at them since their professional education. We speculate those that did not feel the practice domain information was helpful were either already familiar with the practice domains and/or were unable to find them in the 2005 EATA meeting.

Participants reported that the PLP helped guide their CPE activity while also adapting to each individual based on workplace, learning need, and financial considerations. Participants enjoyed having options for acquiring their continuing education rather than having their programs mandated or dictated. The PLP also provided an opportunity for participants to realize that they do

not need to and should not attend a conference or workshop just because it is convenient. Matching learning needs with appropriate continuing education programming and learning strategy helped to give meaning to the educational process. This appreciation of a flexible method of engaging in professional development has also been found when personal education plans were utilized with physicians.⁵

The cost of attending many continuing education programs including registration, travel, lodging, and food can be cost prohibitive for many athletic trainers. Therefore, many athletic trainers look for low cost, easily accessible continuing education programming. For many this means attending a state, district, or national meeting regardless of the content presented. However, conferences and workshops are not the only avenue to acquire CEUs. Credentialed ATs have many other options, such as practicum by design, cooperative learning, and home study. In all likelihood, different learning styles will benefit from different CPE modes. For example, the use of learning style instruments such as the ATLAS can help learners understand if they are navigators, problem solvers, or engagers. Navigators may benefit from very structured continuing education programs that do not involve group work. Problem solvers tend to focus on critical thinking tasks and use resources to solve problems. Individuals need to be engaged in active learning strategies.¹² A majority of participants believed the ATLAS learning strategies information was helpful for them. For those that did not benefit, it was clear from their comments (Table 3) that they already had an understanding of their learning preferences. Thus, we conjecture that the PLP can be a useful tool to empower an individual to identify learning needs, learning strategies, and then create a program around this rather trying to fit their needs into someone else's program. An important caveat is that the course programming and design must fall within the professional domains of the BOC's current BOC-RD.

Suggestions for Improvement

During the interviews, the participants reported some helpful suggestions to improve the PLP for the future. Due to these suggestions, Step 4 has been clarified as to which and how much CPE documentation is necessary. While participants generally agreed that the inclusion of the ATLAS helped in selecting appropriate continuing education sessions, several indicated they were already aware of their learning style. Rather than including this as a required step, consideration should be given to having this instrument as a reference tool for individuals to use if they wish to explore or are unsure of their learning style.

LIMITATIONS

Though promising, the findings should be interpreted with caution as there are three key limitations. First, participants self-selected their involvement into the study and the response rate was low; thus there is a potential for sampling bias. The findings of this study cannot be generalized beyond these survey and interview participants. Second, this study was conducted at the District 1 and 2 meeting only, and this venue was purposely selected because of the identification of practice domains associated with each educational session. The findings may not be extrapolated beyond these districts. Third, the study utilized only one mode of continuing education (large conference) and the findings from the participants can only apply to using the PLP in that context. A larger study across all districts with substantially more participants would be necessary to further clarify the feasibility of the PLP. Moreover, the use of the PLP with other modes of continuing education (on-line learning, workshops) needs to be explored. The results from the findings are helpful for gaining insight and understanding, but may not be generalizable to all contexts.

IMPLICATIONS

The limitations of the study are such that it is not clear whether an instrument such as the PLP should be used for all athletic trainers. However, many of the participants agreed it should be made available on a voluntary basis to guide the CPE process. Thus the PLP was viewed positively by the ATs and may help to guide the selection of CPE activity. Should the PLP be used even on a voluntary basis, it will be necessary to periodically update the instrument to reflect the most current edition of the BOC-RD. Also, it is strongly recommended that continuing education providers clearly identify the athletic training practice domain that their program/sessions address. Perhaps, too, additional CEU credit could be given for individuals who utilize and fully complete the PLP. Such credit may add incentive for deliberately assessing learning needs, selecting continuing education programs based on those needs, and reflecting on the learning outcomes.

Although the participants in this study did not report time as concern, the time required to plan meaningful continuing education and properly document these plans using techniques such as portfolios and professional learning plans has been reported in the literature as a limitation.^{4,6,22} The process of completing the portfolio or plan is time consuming, and it is difficult to find protected time during work hours to complete the required materials.^{4,22} However, not all professionals agree with this sentiment. Physicians completing the portfolio process believe the value of the process outweighs any fears of time commitment.²² The time to complete the portfolio was not that intrusive. In our study one plausible explanation for why this was not reported as a concern

was that the PLP was completed online, requiring very little writing compared to traditional pen and paper learning plans and/or portfolios.

CONCLUSIONS

The use of CPE as a means to ensure that credential holders stay abreast of the latest knowledge and current skill sets in the field of athletic training mirrors those requirements utilized by other professions. Athletic training, along with other professions, lacks adequate evidence as to whether the accumulation of CEUs maintains an individuals' competence. The use of a PLP offers a way to base CPE on learning needs rather than other factors such as interest, tradition, cost, and location.

Certified athletic trainers are adult-learners serving diverse employment settings with differing personal and professional goals, learning styles, and levels of professional competence. The focus of the PLP is to identify individual learning needs and facilitate reflection on professional practices, identifying one's current learning styles. By participating in CPE programs based on learning needs, the practitioner will embrace their new knowledge in the professional setting, thereby increasing the level of competence. This pilot study is an initial first step in examining the use of a personal learning plan. Further studies examining the usefulness of the PLP to guide CPE requires not only a larger, diverse sample, but requires examining multiple modes of continuing professional education (workshops, home study, seminar) as means to promote learning as well as determining if the PLP can actually guarantee clinical competence.

REFERENCES

1. Athletic Training Terminology. Available at: http://www.nata.org/about_AT/terminology.htm. Accessed September 1, 2009.
2. Lenburg CB. Promoting competence through critical self-reflection and portfolio development: inside the evaluator and outside context. *Tenn Nurse*. 2000;63(3):11,14-15,18,20.
3. Pijanowski K. Continuing professional education in continuing medical education in transition: the education of a new paradigm. In: Young WH, ed. *Continuing Professional Education in Transition: Visions for the Professions and New Strategies for Lifelong-Learning*. Malabar, FL: Krieger; 1998.
4. Curtis A, While R, Pitts J, Ramsay R, Attwood M, Wood V. An evaluation of the use of a workbook, professional development: a guide for general practice, in continuing professional development. *Educ Primary Care*. 2004;15:39-49.
5. Evans A, Ali S, Singleton C, Nolan P, Bahrami J. The effectiveness of personal education plans in continuing professional development: an evaluation. *Med Teach*. 2002;1:79-84.
6. Saidi G, Weindling AM. An evaluation of a national scheme for continuing professional development (CPD) for career grade doctors: the royal college of paediatrics and child health's programme for paediatricians evaluated by focus group methodology. *Med Educ*. 2003;37:328-334.
7. Commission on Dietician Registration. Professional Development Portfolio Guide. Available at: <http://www.cdmnet.org/pdrcenter/portfolioTOC.htm>. Accessed September 1, 2009.
8. Tryssenaar J, Gray H. Providing meaningful continuing education in a changing long term care environment. *J Nurses in Staff Dev*. 2004;20:1-5.
9. Bilawka E, Craig BJ. Quality assurance and dental hygiene. *Int J Dent Hyg*. 2003;1(4):218-222.
10. National Commission on Certification of Physician Assistants Re-certification Overview. http://www.nccpa.net/REC_overview.aspx. Accessed September 1, 2009.
11. National Athletic Trainers' Board of Certification. *Role Delineation Study*. 4th ed. Philadelphia, PA: FA Davis; 1999.
12. Conti GJ. Assessing the learning strategies of adults. Available at: <http://www.conti-creations.com/atlas.htm>. Accessed September 1, 2009.
13. Conti GJ. Identifying learning strategy preferences. Available at: <http://www.conti-creations.com/Identifying%20Learning%20Strategy%20Preferences--Conti.pdf>. Accessed September 1, 2009.
14. Conti GJ. Development of a user-friendly instrument for identifying the learning strategy preference of adults. *Teach and Teach Educ*. 2009;25(6):887-896.
15. Merriam SB. *Qualitative Research and Case Study Applications in Education*. 2nd ed. San Francisco, CA: Jossey-Bass; 1998.
16. Creswell JW. *Qualitative Inquiry & Research Design: Choosing Among Five Approaches*. 2nd ed. Thousand Oaks: Sage; 2007.
17. Thomas DR. A general inductive approach for qualitative analysis. Available at: <http://www.fmhs.auckland.ac.nz/soph/centres/hrmas/docs/Inductive2003.pdf>. Accessed September 1, 2009.
18. Grant A, Dornan TL. What is a learning portfolio? *Diabetic Med*. 2001;18(1):1-3.
19. Melograno VJ. Designing a portfolio system for K-12 P. E.: a step-by-step process. *Meas Phys Educ Exerc Sci*. 2000;4(2):97-115.
20. Westberg J, Jason H. Fostering learner's reflection and self-assessment. *Fam Med*. 1994;26(5):278-282.

21. Hughes B. Identifying attitudes and deterring factors towards continuing education among certified athletic trainers. *Internet J Allied Health Sci Pract.* January 2005;3(1).
22. Austin Z, Marini A, Desroches B. Use of a learning portfolio for continuous professional development: a study of pharmacists in Ontario (Canada). *Pharm Educ.* 2005;5:175-181.