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Strategies for Facilitating Athletic Training Clinical Instruction

Pradeep R. Vanguri, PhD, ATC¹

Jeff Konin, PhD, ATC, PT²

1. Assistant Professor, Clinical Coordinator, Athletic Training Education Program, Department of Orthopaedics and Sports Medicine, College of Medicine, University of South Florida, Tampa
2. Associate Professor, Executive Director, Sports Medicine and Athletic Related Trauma (SMART) Institute, Department of Orthopaedics and Sports Medicine, College of Medicine, University of South Florida, Tampa

United States

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ABSTRACT

Purpose: Athletic training education programs ensure the training of clinical instructors through annual workshops designed to familiarize them with athletic training clinical standards and guidelines. An opportunity exists for these workshops to enhance education related to instructional strategies and development. Unfortunately, many clinical instructors lack sufficient time to attend workshops and classes. This research integrates on-line discussion boards as a supplemental tool with in-class workshop sessions. The purpose of this study was to investigate the interaction of clinical instructors through on-line discussion boards.

Methods: This research component, in conjunction with a larger project incorporating an in-class clinical instructor workshop, utilized on-line discussion boards to present a unique method of data collection. Qualitative methods from this research included gathering discussion board transcripts from a group of clinical instructors enrolled in an on-line WebCT course. **Results:** Data collected from the discussion boards identified themes that developed from the content analysis. Themes revealed through the transcripts of each discussion board linked issues presented in the in-class sessions. In addition, these discussion boards provided supplemental interactions supporting the need for increased interactions between clinical instructors. **Conclusions:** Additional time outside of the clinical setting allows the clinical instructors to interact with a variety of topics including their personal experiences with athletic training students, insight into these experiences, and instructional strategies used with these students. These on-line discussions created a supplemental time for these clinical instructors to communicate their ideas after attending the in-class sessions.

INTRODUCTION

Clinical instructors guide athletic training students through experiential learning in an ongoing process of providing direction and feedback.¹⁻² Athletic training education programs ensure the training of clinical instructors through frequent workshops designed to familiarize them with athletic training clinical standards and guidelines.³⁻⁴ Although these workshops may typically include an update on policies and procedures, an opportunity exists for further education related to instructional strategies and development. Unfortunately, many clinical instructors lack sufficient time to attend workshops or classes, and the need for a new approach exists to support this vital aspect of the educational process. A traditional single-session workshop delivery method may not successfully contribute to the acquisition and retention of these instructional strategies.⁵⁻⁶ Furthermore, additional interactions through an on-line peer-to-peer community of athletic training clinical instructors lends itself to a unique learning environment that may include discussions on a variety of athletic training student issues including personality, learning styles, communication, and feedback.^{1,7,8}

Some published literature has been found relating on-line discussion boards and clinical education.⁹ This preliminary research does not investigate the development of on-line content for clinical instructors in conjunction with an in-class workshop. Similar to faculty development efforts implemented by colleges and universities, successful clinical instructor workshops increase the acquisition of knowledge by the participants.⁵⁻⁶ Delivering the workshops for clinical instructors with a series of on-line sessions will significantly increase the amount of interaction between the instructor and participants over a given period of time, as opposed to one individual workshop. This supplemental interaction allows further dialogue between the participants. Research also indicates that adult learners require similar instructional strategies and techniques compared with traditional students to acquire knowledge, such as peer-to-peer interaction.⁸ The instructional strategies included in this research provide additional time and practice of teaching skills through the support of peer-to-peer interaction. In addition, the on-line environment for adult learners empowers participants to voice their opinions and share ideas beyond a single day interaction facilitated by an instructor.

KOLB'S EXPERIENTIAL LEARNING CYCLE

One of the major aspects of this research project is a learning style inventory that addresses the varying styles of athletic training students. Kolb's work on learning styles and the experiential learning cycle provided a framework for the clinical instructor workshop. Kolb's Experiential Learning Cycle includes four stages that follow each other: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation (Table 1).¹⁰

Table 1. Kolb's Four Stages of the Learning Cycle¹⁰

Stage	Description
Concrete Experience	Emphasizes personal involvement with people in everyday situations. Relies more on feelings than on systematic approach to problems and situations.
Reflective Observation	Understands ideas and situations from different points of view. Relies on patience, objectivity, and careful judgment, but not necessarily action.
Abstract Conceptualization	Involves using logic and ideas rather than feelings to understand problems or situations. Relies on systematic planning and develops theories and ideas to solve problems.
Active Experimentation	Takes an active form of experimenting with influencing or changing situations. Practical approach. Concerned with what really works as opposed to watching.

An initial Concrete Experience allows the learner to experience new content through a distinct event.¹⁰ According to the Experiential Learning Cycle, this event is followed by a period of Reflective Observation on the experience.¹⁰ This period of reflection allows deeper thought on the content delivered. Following this stage, the learner applies the new content to any previously known theories or concepts, or Abstract Conceptualization, to the information acquired from the recent experience.¹⁰ Further digesting the content through conceptualization allows the learner to connect to the final stage of the Experiential Learning Cycle. Through Active Experimentation, the learner implements the recent content in a similar learning environment.¹⁰ This leads to another Concrete Experience, which begins another Experiential Learning Cycle and solidifies the previous content learned. The time frame on this cycle is contingent upon the depth of the topic. Kolb's Experiential Learning Cycle is impacted by different learning styles, as each individual enters the cycle at different stages listed in Table 1. An accurate assessment of learning styles prepares an educator to implement various strategies to adapt to each individual learner.

One method of assessing learning styles is David A. Kolb's Learning Style Inventory (LSI), based on the ability to identify how a person deals with ideas and day-to-day situations.¹⁰ This assessment also provides insight on how the Experiential Learning Cycle impacts each individual. The test is a 12-item questionnaire in which respondents are asked to rank-order four sentence endings based on their preferences for each item.¹¹ After rank-ordering each item, the respondents must then total the scores of four columns, which correspond to four learning modes—Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. From these learning modes, Kolb's LSI identifies four learning styles: Converger, Diverger, Assimilator, and Accommodator.

Using this instrument, educators gain an understanding of the student learning process and learning preferences, which increases the ability to maximize learning.¹¹ Through several studies, Kolb's LSI (1985) showed moderate reliability as well as high face validity and is used extensively in research.¹²⁻¹³ A study conducted by Leaver-Dunn et al. (2003) investigated the learning styles of athletic training educators who attended the 1999 National Athletic Trainers' Association Educators' Conference.¹⁴ According to this study, 76% of the athletic training educators who attended this conference were Convergents or Assimilators, which fell on the abstract end of the learning styles.¹⁴ Athletic training students revealed that their findings were a more equal distribution of all four of Kolb's learning styles.¹⁵ As clinical instructor teaching styles are often based on their learning

styles, this study suggested a greater awareness of differences between instructors and students that may improve instructional methods.

Adult Learning Theory

In comparison to the learning theory of students, adult learning theory also reveals the needs and motivations of adults as students. Also known as andragogy, this adult learning theory is the science of understanding and supporting the life-long and life-wide education of adults.^{9,16-18} Adult learners are often self-directed and prefer to participate in discussions and problem-solving, rather than passive listening. This type of learner is also interested in practical application of new skills based on real-life experiences. The motivations for adult learners differ from “normal” students, as they prefer to seek out and demand learning experiences. Additionally, adult learners benefit most from receiving instructional strategies and techniques specific to their needs such as time to assimilate and place into action newly learned skills.^{9,16-18} As an example, coursework and activities that relate to real-world experiences provide greater depth of understanding for these learners.

Curriculum development for the adult learner requires similar planning in any field of study. In building a curriculum that centers on adult learners, the interests and opinions of current faculty members who communicate with these adult learners should be included.^{6,19} In one study of medical faculty, their needs were identified as instructional skill development, socialization, and mentoring.²⁰ Based on the needs of faculty members, many institutions have established development centers to accommodate faculty needs. Faculty development centers help improve teaching styles and their impact on faculty instructional behaviors.⁵ Newer faculty development programs in the medical field incorporate fewer large-lecture sessions and place more emphasis on small-group teaching, problem based learning, critical thinking, personal reflection, use of computers, and computer-based instruction.¹⁶

Workshops continue to serve as one of the main methods of instruction for faculty development, as faculty members are able to have hands-on experiences with new programs, methods of instruction, and ideas with their peers.⁶ This interaction among peers encourages the integration of technology into the curriculum by faculty. However, a one-time workshop does not necessarily account for the different faculty learning styles and limit the acquisition and retention of instructional behaviors.⁵⁻⁶ Some faculty development programs incorporate on-line courses, self-paced courses, and one-on-one sessions to accommodate for other faculty who may not be comfortable in a workshop. In comparison to students, adult learners must also be educated with various techniques to accommodate for individual learning styles and be receptive to new content.²¹⁻²⁶ To motivate faculty members, new content must be reinforced, respite in content, and relevant to subject matter. Implementing a unique program that romances adult learners to facilitate new instructional behaviors will also improve retention rates. In many ways, faculty development is similar to teaching college students and must incorporate similar unique approaches other than workshops to disseminate information.²¹⁻²⁶

Gardner and Harrelson suggested the need for athletic training clinical instructors, typically adult learners, to recognize that the developmental stages of students are also essential to their learning.¹ Using the situational leadership model, the authors identified four developmental levels that progress from rule-dependent behavior to higher levels of thinking: D1, D2, D3, and D4. Two major variables within these developmental levels include *competence*, the knowledge and skills a learner brings to a task demonstrated by performance, and *commitment*, the combination of the learner's motivation and confidence. Low levels of competence and high levels of commitment identify those students at the D1 level, whereas high competence and high commitment are consistent with the most advanced level D4. The D2 and D3 levels are seen as intermediate stages of competence and commitment. Throughout the various developmental levels, a clinical instructor must anticipate fluctuating levels of competence and commitment from the student. Through an understanding of the various developmental stages (directing, coaching, supporting, and delegating) a clinical instructor may be better prepared to implement different instructional styles similar to these stages. These styles accommodate students with low competence and high commitment through high competence and high commitment. Several researchers also identified the importance of understanding learning and teaching styles of both the clinical instructor and the student, and suggest that as athletic training students demonstrate varying levels of competence and commitment, clinical instructors must understand these differences to better accommodate each student.¹⁻²

MENTORING CLINICAL INSTRUCTORS

Clinical education is a vital component of any athletic training education program and all clinical instructors must be prepared to effectively demonstrate teaching skills. Clinical instructors must provide a variety of instructional strategies and personal qualities to accommodate the needs of athletic training students. Weidner and Henning addressed the issues of clinical instruction by identifying nine categories of characteristics needed to develop effective clinical instructors (Table 2).²⁷

Table 2. Nine Categories of Characteristics to Develop Effective Clinical Instructors²⁷

Category	Characteristic
1	Legal and Ethical Behavior
2	Communication
3	Interpersonal
4	Supervision
5	Instruction
6	Evaluation and Assessment
7	Clinical Competence
8	Administrative
9	Professional Development

From Table 2, an example of the legal and ethical behaviors practiced by clinical instructors includes adhering to individual state regulatory laws and the Board of Certification requirements. Through effective mentoring and guidance, each clinical instructor should develop an understanding of all these characteristics.

Supervisory and instructional skills contribute to the mentoring relationship between clinical instructors and athletic training students in athletic training education. As each student completes various academic coursework, the clinical component of athletic training education includes clinical practice under direct supervision of a Certified Athletic Trainer (ATC). All accredited athletic training education programs under the guidance of the Commission on Accreditation of Athletic Training Education (CAATE) have established standards and guidelines surrounding direct supervision.²⁷ This requirement ensures that a clinical instructor will be present at all times to intervene in any situation with an athletic training student. If clinical instructors are not present to directly supervise athletic training students, they are not able to implement effective instructional skills, another important characteristic of clinical instruction.²⁷ Clinical instruction allows students to process the knowledge acquired from classroom learning and enhance the athletic training experience through teachable moments that occur on and off the field. A clinical instructor should have an understanding of the various skills, experience, and knowledge levels of the athletic training student that he or she is supervising. These instructional skills facilitate student learning by connecting the athletic training student to the clinical education experience. The responsibility for allowing students' connection to their clinical education experience falls on the clinical instructor's ability to incorporate effective instructional skills.²⁷

Knowledge of evaluation and assessment skills in athletic training allows the clinical instructor to provide feedback on the performance of the student on various clinical proficiencies and scenarios within athletic training. Evaluation of clinical performance assesses competence in athletic training through either formative (immediate feedback given) or summative (assess overall clinical performance) evaluations.²⁷

Proper feedback between the clinical instructor and the student results from communication on the student's performance. The more consistent the level of communication and feedback, the more the student will be able to learn from negative and positive experiences. This characteristic of clinical instruction relates to clinical competence as a demonstration of appropriate evaluation and assessment skills necessary for all certified athletic trainers. Maintaining a current level of BOC certification demonstrates to athletic training students that clinical instructors ensure their own clinical competence.

In addition, CAATE accreditation standards require an evaluation of students by their clinical instructor, as well as an evaluation of the clinical instructor conducted by their athletic training students. Through assessment forms developed by all athletic training education programs, a measure of the process of clinical instruction is documented each academic semester. These evaluations are included in the CAATE accreditation standards and must evaluate the overall effectiveness of clinical instruction.

METHODS

The research methods for this study included an on-line discussion board for a group of clinical instructors from a larger study incorporating in-class workshop sessions. While the larger study utilized a four-session in-class workshop on instructional strategies, a select group of clinical instructors were allowed access to an on-line WebCT course and discussion board. WebCT, now owned by Blackboard, is an on-line course management system that allows instructors to post content on-line, administer exams and quizzes, and utilize discussion boards.²⁸ This system provides a number of unique tools and content areas for instructors to offer their course completely on-line or provide supplemental information to their in-class sessions.

As part of a larger study investigating the acquisition of instructional strategies, this aspect of research focused on the online discussion board component in conjunction with an in-class workshop.²⁹ The same experimental group of clinical instructors, who attended all four in-class sessions of a workshop, also participated in the supplemental on-line discussion boards. Overall, the experimental group included the 11 clinical instructors located at on-campus clinical sites. The control groups were not included in the workshop or the discussion boards. The CI in the control group was located at off-campus clinical sites that included professional settings of a small college, high school, and clinics. A wide variety of professional and educational experience, gender, age, and ethnicity existed in both groups. From the previous study with workshops, these groups were selected to limit interaction amongst the participants based on their clinical site locations.

Data collected from the WebCT discussion boards identified themes that developed from the content analysis. This qualitative process entailed grouping the data into individual words and then coding these words into specific categories depending on their frequency of use. The initial step of this analysis included the development of a basic list of all terms used in each of the responses.³⁰ All open-ended responses from the WebCT discussion board for each subject were coded using content analysis based on the type and frequency of responses.³⁰ Overall, there were five WebCT discussions for all subjects who participated in this aspect of the study. This method allowed for a controlled method of data collection that did not limit the depth of responses to the research question. Without limits imposed by multiple-choice, yes/no, or Likert-type questions, subjects were granted full autonomy from the researcher to share their insights for the benefit of other subjects. All data used in this analysis were the original text written by the subjects themselves and were not altered by the researcher. For purposes of the on-line discussion boards pseudo-names were used to report the data to protect the identity of the participants.

Clinical instructors were each given access to a password protected WebCT course accessible via the Internet from any computer. Upon completion of their in-class session, clinical instructors were asked to log in to the secure WebCT course with an opportunity to express any additional insight in exchange for one Continuing Education Unit (CEU) per discussion post, totaling a possible four CEUs. Each discussion post corresponded with the in-class topic of the week and included a 300-word minimum for each post as well as a 50-word minimum for responses to other participants. Each individual was required to post their own message as well as respond to other participants to receive full credit. Only those individuals who completed all four discussion posts earned full CEUs. These incentives were provided in conjunction with the in-class workshop to facilitate participation from the experimental group. The Institutional Review Board for the Protection of Human Subjects approved this research project.

Each of the four in-class sessions prompted additional interaction and brainstorming through the on-line discussion boards. Table 3 indicates a description of the in-class activities that were used to develop the discussion board responses.²⁹

Table 3. In-Class Activities to Prompt On-line Discussions²⁹

Stage	Description
Time Management Session	Interactive discussion on good and bad time management skills including controllable and uncontrollable "time-wasters." Brainstorming activity to list good and bad "time-wasters" from their experiences. Discussion between the clinical instructors on their experiences with athletic training students.
Learning Styles Session	Completion of Kolb's LSI to determine the learning styles. Identify areas of Kolb's Experiential Learning Cycle which best suited their learning style. Teach a concept based on specific learning style.
Instructional Strategies Session	Redefining various learning styles from Kolb's LSI. Provide the clinical instructors with learner centered instructional strategies.
Communication Skills Session	The issues of establishing eye contact during communication, listening versus hearing, and appropriate etiquette for conversation. Providing feedback for students incorporated two concepts: positive feedback and feedback for improvement.

The topics listed in Table 3 served as discussion themes for the clinical instructors who accessed the on-line discussion board. Each thread was titled similar to the in-class sessions: Time Management, Learning Styles, Instructional Strategies, and Communication. Instructions for these discussion board themes were similar for each thread including a 300-word minimum for each post as well as a 50-word minimum for responses to other participants. Again each individual was required to post their own message as well as respond to other participants to receive full credit to earn CEUs. Instructions for each discussion post were similar to the following post from the first discussion thread:

After session 1, describe your understanding of time management strategies and tell us how they will help you as a clinical instructor. Your response should be 300 words or more. In addition to your comments, respond to at least 2 other individuals who post a response, using 50 words or more.

Each participant was given a full week to complete each discussion board post, but participants were not prevented from returning to a previous discussion board post to share additional insight or make any editorial changes. Only those individuals who completed all four discussion posts earned full CEUs. The researcher monitored all discussion threads throughout the week. There was no additional facilitation given after the initial instructions to prevent any interaction from the participants.

Transcripts were taken directly from the on-line discussion boards, downloaded into a text file, and then uploaded to QSR*N6 (NUD*IST Software). Data collected from the discussion boards identified themes that developed from the content analysis.³⁰ This qualitative process entailed factoring the data into individual pieces of information, then coding them into specific categories depending on their frequency of use. All open-ended responses from the discussion boards for each subject were coded using content analysis.²⁹ Themes were reviewed by athletic training educators to ensure consistency and accuracy with the original transcripts. This grouping method provided organization for the various subtopics that developed in each content area.

RESULTS

Of the eleven clinical instructors in the experimental group, eight participated in some aspect of the on-line discussion board, while only four completed all four of the discussions. These supplemental sessions provided additional insight into the content areas presented during the in-class sessions.

Time Management On-line Discussion Results

The thread on time management included a good on-line discussion from the clinical instructors. The five main themes in time management identified from the on-line discussion included balance, trial and error, setting priorities, learning from others, and being flexible. Several responses from the clinical instructors indicated balance as a necessary aspect of effective time management. This concept of balance was introduced in-class, and was reflected by the participants on the need for balance between career and professional life. The importance of balance in time management was very similar to the importance of setting priorities for athletic training students. Setting priorities establishes a sense of organization to those tasks that are to be completed on a given day. One clinical instructor shared insight into setting priorities with organizational skills: "Another concept from the in-class session that was reflected in the on-line discussion was the need for flexibility." One clinical instructor summarized the need to be flexible with her responsibilities by stating, "Do what needs to be done and be 'flexible' with the rest." The three concepts of balance, setting priorities, and flexibility were discussed during the in-class session and were directly reflected on-line. Through the on-line discussions, other concepts relating to time management were identified, including trial and error, and learning from others. Through trial and error, several clinical instructors shared their insights on how this has helped them improve their time management skills.

One of the more frequently discussed themes under time management on-line related to trial and error. Many of the on-line responses indicated learning from other people as one of the most beneficial methods in developing time management skills, especially with athletic training students. Since clinical instructors serve as mentors for athletic training students, their ability to directly shape behaviors relates to their own personal sense of organization. The concepts of time management were discussed in class and were further discussed on-line by the clinical instructors in greater depth. As they reiterated the concepts of balance, flexibility, and setting priorities, they also shared their practical experiences on other issues. Drawing from their clinical experiences, these clinical instructors shared their insight on learning from others and trial and error for incorporating time management skills. The on-line discussion of time management continued the dialogue created from the in-class sessions and created greater depth on this issue.

Learning Styles On-line Discussion Results

The instructions for the learning styles on-line discussion also required each participant to post a minimum of 300 words from their own reflection, and two 50-word responses to other individuals on the discussion board. Using the QSR*N6 (NUD*IST Software) the transcripts were grouped into five themes: personal learning style, student learning style, effective use of time, study time, and communication. As discussed during the in-class session, identifying personal learning style provided significant information for the clinical instructors. Other clinical instructors in this group shared this sentiment for understanding personal learning styles. PM stated, "The thing I like best about this inventory is that by graphing your answers you are actually able to visually see how set you are in that particular learning style." Kolb's LSI uses graphs to allow users to observe all other learning styles as well as how their style differs from others. This reflection also discusses the importance of understanding other learning

styles when compared to personal learning styles. This was discussed during the in-class session as each clinical instructor completed the LSI and read the descriptions of how others learn best when compared to each other.

After gaining an understanding of personal learning styles, the clinical instructors were able to have a better understanding of their students' learning styles. Upon learning this information, many of the clinical instructors were interested in the learning styles of their athletic training students using Kolb's LSI. As each athletic training student is assigned to a clinical instructor for a clinical rotation, the clinical instructors expressed their interest in meeting with the athletic training students about their learning styles. This understanding of student learning styles was another area of interest for the clinical instructors on the on-line discussion board. Personal and student learning styles were the two main themes that developed from the on-line responses. Opinions expressed in this discussion indicated a strong interest in providing the appropriate learning experience for each athletic training student. This session provided the background information for different learning styles, which led to the next session on instructional strategies to accommodate these styles.

Instructional Strategies On-line Discussion Results

The main discussion theme identified in the on-line discussion was the need for variety with instructional strategies. Having completed Kolb's LSI, these clinical instructors expressed their interest in implementing a variety of instructional strategies with their athletic training students. One of the most well-balanced responses on incorporating a variety of instructional strategies was shared by one participant stating:

"What is my purpose as an Athletic Trainer Instructor? Being a clinical instructor, the main goal I want to get across to the student is the application. If I could use an analogy of a buffet food bar, the Injury pyramid if you will; the (Bread) 6-11 injuries group is the chronic, we get a lot of the same things. The (fruit) 2-4 lower body injuries and the (Vegetable) 3-5 upper body injuries occur in sport specific teams (swimming). Our (milk/meat) 2-3 injury groups are the treatment and/or rehab and the surgery cases. The (fats) or top of the pyramid is the injuries that occur to the athlete and can no longer return to participation. So how is this like a buffet line? Well when we perform our craft, we take a little from each group of the pyramid to make the athlete healthy. When we take too much from one group, then we become unhealthy or do not think outside the box. Our job is to teach the student athletic trainer the proper usage or the proper amount of servings in the pyramid. Think about it."

This analogy for implementing instructional strategies using the food pyramid was appreciated by all of the other clinical instructors on-line. Many of them were able to identify with using a variety of instructional strategies, similar to the variety incorporated into the food pyramid. The response also served to perpetuate further discussion of the topic of instructional strategies in the clinical setting. A number of the participants expressed their interest in their responses and shared how this response had provided another viewpoint. This on-line discussion focused on implementing a variety of instructional strategies to accommodate for the diverse learning styles presented through Kolb's LSI.

Communication Skills On-line Discussion Results

Using the QSR*N6 (NUD*IST Software), the main discussion themes identified in the on-line discussion were verbal and non-verbal communication and feedback. Reflections on the activities in the session prompted further discussion on-line. This balance between positive feedback and feedback for improvement was reflected as a necessary component with athletic training students. Verbal and non-verbal communication was another issue raised on-line, based on the experience with athletic training students. These on-line discussions further reflected the issues of verbal and non-verbal communication as well as feedback and feedback for improvement. Although these discussions did not include references to learning styles, this was reflected in class as the clinical instructors felt communication strategies were similar to addressing personal learning styles. As each student's learning style reflects his/her ability to obtain new knowledge, communication strategies address the need to identify which method of communication fits best with each student. These on-line discussions supported the acquisition of knowledge from the communication skills session.

Although the control group did not participate in the on-line discussions, the main purpose of this experiment was to assess the acquisition of knowledge from the initial session to on-line posts. The observations made from the on-line discussion boards promoted increased interaction and dialogue from the clinical instructors when given a theme in class and asked to share further dialogue on-line. The new ideas and concepts developed using the on-line discussion further supported the acquisition of knowledge from the participants in the experimental group. Future research may also investigate additional methods from this study to reveal the impact of on-line discussion boards used with in-class sessions.

DISCUSSION

The major benefit of this study includes successfully increasing the interaction between all of the clinical instructors involved in the experimental group through the supplemental on-line sessions. Using the topics from the in-class sessions and developing a format to guide the on-line discussions, primarily served to open the initial dialogue. The unique format of these supplemental sessions fostered greater depth of discussions amongst clinical instructors using this asynchronous format. When presented with specific instructions and measures for completion of each on-line assignment, the initial post created brief discussions that only met the minimum requirements. Upon further interaction, the clinical instructors embraced the full potential of the on-line environment by sharing many anecdotal lessons they had learned from their own experiences. Both new and experienced clinical instructors were able to equally share their thoughts about clinical education from the variety of their experiences. Most importantly, the tone of the dialogue remained positive and supportive throughout the entire four weeks of their participation enabling the freedom of ideas and experiences.

Depending on the nature of the clinical sites for each program, some clinical instructors may share offices, attend daily meetings together, and interact professionally in their various clinical settings. However, based on the responses to these discussion boards, it is apparent that their discussions specific to clinical education are limited and may not include the entire group, and the advice from the experienced clinical instructors may only benefit a small group. In contrast, some clinical instructors may work at remote settings having no interaction with other clinical instructors. Using on-line discussion boards creates an environment for the exchange of ideas to occur inclusive of all clinical instructors to contribute and observe. Including both new and experienced clinical instructors also supports the mentoring relationships essential to enhance clinical education.²⁶⁻²⁷ As stated previously, increasing the interactions between these clinical instructors served as an invaluable aspect of this research project to promote these mentoring relationships.

One final discussion post was given as final part of the larger study involving the workshop and discussion boards. This post was introduced as an open ended forum to provide feedback for the future. A final discussion post from one of the participants summarized the importance of fostering interaction between new and old clinical instructors:

"I am glad to see that this was a positive experience for everyone. It goes to show that we do have barriers between generations and that communication skills is so important, whether we are working with new students, new grad assistants, and like myself, new staff assistants. There are various stages in our profession and communication is so important for growth and the relationships we build while here."

The impact of this statement supports the need for a forum to exchange ideas between clinical instructors at all levels of professional development. Clinical instructors from this study reacted favorably to their involvement in this project and recognized the value of the open dialogue between their peers.

Future Considerations

The inclusion of both control and experiment group of clinical instructors using the discussion boards would further enhance the significance of this research with regards to levels of interaction. Although the on-line discussion boards were a component of a larger study, the potential exists to explore the type of interactions that occur between both new and experienced clinical instructors in an on-line environment to support positive mentoring relationships. Specific to methods from this study, the addition of a 2 weeks time frame between assignments given may accommodate for increased participation. Although some clinical instructors stated their interest for the discussion boards initially related to their ability to earn additional CEUs, all of them stated their opinions changed to opportunity to interact with their peers as a major outcome from their involvement.

CONCLUSIONS

On-line discussions foster mentoring relationships amongst clinical instructors. Additional time outside of the clinical setting allowed clinical instructors to discuss a variety of topics including their personal experiences with athletic training students, insight into these experiences, and instructional strategies used with these students. This on-line environment allowed clinical instructors to openly create dialogue amongst their peers to enhance the understanding of clinical education. By supplementing interactions between clinical instructors, this provided additional time for clinical instructors to read all posts, reflect on the dialogue, and submit additional comments.

On-line discussion boards provide an open forum for all participants to express their opinions. Providing this opportunity to share ideas on a discussion board utilized a unique method to facilitate continuous interaction, connecting the participants to the learning process, and allowing them to take an active role in their learning. No longer must instructors endorse passive

instructional strategies for the variety of learning styles presented in classrooms and workshops. Engaging learners through active teaching strategies produces the best possible environment to facilitate learning.

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