3-1-2007

A Mandala: A diagram of the clinical education experience in athletic training

Steve Cernohous
Northern Arizona University, Steve.Cernohous@nau.edu

Sharon A. West-Sell
University of the Pacific, swest@pacific.edu

Athletic Training Education Journal; 2007;2(Jan-Mar):10-15

www.nataej.org

A Mandala: A Diagram of the Clinical Education Experience in Athletic Training

Steve Cernohous, EdD, ATC, LAT*; **Sharon West,** PhD, ATC†
*Northern Arizona University, Flagstaff, AZ; †University of the Pacific, Stockton, CA

Objective: The objective of this paper is to present the practical use of a Mandala that: 1) provides opportunities for athletic training students to explore, reflect on and appreciate their clinical experiences; 2) provides educators with a model to understand and value athletic training student experiences; 3) organizes and captures factors and associated relationships that influence the athletic training student's clinical experience; and 4) provides impetus for further research and discussion between and among athletic training educators.

Background: Athletic training educators often find it difficult to demonstrate and assess the behavioral component of learning. Creative teaching strategies and exercises that help athletic training students develop interpersonal competence, self-awareness, and self-reflection are needed in athletic training education. One approach to address this need is to employ the practical exercise of creating athletic training student Mandalas; portraits of self-expression and interpretation of their athletic training clinical experience.

Description: The Mandala of Clinical Education depicts the individualistic and complex elements of the athletic training student clinical experience. It is a manifestation of a milieu of intrinsic and extrinsic elements, personal experience, and established research. The athletic training student is positioned in the center of the Mandala, embraced by contributing elements and the wholeness of the clinical experience. The artistic design reveals a series of gates, doors, and portals in which the elements of the student's experiences interact and serve as a point for self-reflection.

Conclusion: Mandalas allow the athletic training student and educator opportunities to explore, understand, and value all clinical experiences in athletic training. Mandalas may also facilitate athletic training students developing interpersonal competence, self-awareness and self-reflection, all of which are key components to the foundational behaviors of professional practice.

Key words: clinical instructor, experiential learning, athletic training student, reflective learning

Introduction

The clinical setting as a learning environment has been a staple of many health care professional educational programs.[1] In many cases the clinical environment maintains a significant portion of an athletic training student's educational experience. Much research has focused on various aspects of clinical education including evaluations of the clinical education environment,[2,3] evaluation of athletic training students' clinical learning experiences,[4] clinical instructor behaviors,[1] learning styles in the clinical setting,[5] using the preceptor model in the clinical setting,[6] roles of the athletic trainer-therapist in clinical settings,[7-9] and effectiveness of the clinical instructor from a athletic training student perspective.[10] A fundamental goal of this research in clinical education is to appreciate and improve athletic training student learning and experiences. The diversity and amount of stimuli that athletic training students are exposed to in the clinical environment suggests that the larger picture be addressed as a way to better understand the entirety of their experience, especially as it relates to critical thinking skills and reflective practice.

Athletic training education often emphasizes the cognitive and psychomotor learning domains which focus on foundational knowledge and skill acquisition. Although not specifically addressed in the Fourth edition of the Athletic Training Educational Competencies,[11] the affective domain of learning remains an instructional objective for many athletic training educators. The recent adoption of the Foundational Behaviors of Professional

Steve Cernohous has been an Assistant Professor and Clinical Coordinator at Northern Arizona University since 2005 and an athletic trainer since 1997, working primarily in the university and college settings. Steve.Cernohous@nau.edu.
Sharon West has been the ATEP Director at the University of the Pacific since 2000. Swest@pacific.edu.

Practice[11] has provided an additional opportunity for educators to adopt non-traditional learning exercises. Additionally, the challenges that educators face in demonstrating, teaching and evaluating elements of the Foundational Behaviors of Professional Practice provides for a platform for non-traditional pedagogical exercises. The need for creative learning strategies to help athletic training educators assist athletic training students in developing interpersonal competence, self-awareness, and self-reflection and the apparent lack of research focusing on development of the Foundational Behaviors of Professional Practice provided the impetus for this paper. The use of Mandalas, religious art forms of introspection and self-reflection, is one strategy that may help address this issue.

Purpose

The objective of this paper is to present the practical use of a Mandala that:

1. provides opportunities for athletic training students to explore, reflect on and appreciate, their clinical experiences;
2. provides educators with a model to understand and value athletic training student experiences;
3. organizes and captures factors and associated relationships that influence the athletic training student learning clinical experience; and
4. provides impetus for further research and discussion between and among athletic training educators.

It is not our objective to further identify elements of significance in clinical education; rather we use current research concerning clinical experiences of athletic training students enrolled in athletic training educational programs to create the Mandala.

Athletic Training Students and Clinical Education

Athletic training students encounter a variety of learning situations and environments during their educational program. They are exposed to traditional classroom and a variety of clinical education environments. The importance of the clinical experience has been confirmed by various investigators over the last decade.[3,4,9] Approaches to learning in traditional classrooms are much different and more predictable than in the dynamic clinical environment.[5] Many athletic training students often feel uneasy while participating in such a semi-structured environment, unable to predict and prepare for the unknown and unexpected. This uneasiness and uncertainty often raises barriers to learning.[4]

Repeated exposure to the environment, however, may bring a confidence and comfort in which athletic training students can take full advantage of the multitude of learning experiences available to them. Repeated exposure helps students understand their preferred learning style and develop confidence, especially if they spend time being reflective within and of the experiences. There are various ways to become a reflective athletic training student; journal writing, group discussion of experiences, storytelling, music and art to name a few. A role of the clinical education experience is to bridge the gap between foundational knowledge and theory, and the skills required to work as a practitioner in the discipline. Observation is a key component of the clinical education experience as it provides for exposure to a more comprehensive understanding of the professional expectations.[7] However, observation alone constitutes only a fraction of the experience. Recent studies have shown the importance of selection and evaluation guidelines for athletic training clinical environments.[2,3,4] The clinical educational experience validates and augments knowledge gained in other areas.[3] Furthermore, athletic training students develop competence, self-confidence, flexibility and professional maturity in a well organized and functional clinical environment.[3] Researchers have noted that the clinical experience provides a support structure through mentoring and team building.[4] Additionally, athletic training students report that feelings of appreciation by clinical staff helped to improve the quality of their experience.[4] Finally, mentoring provides clinical examples of appropriate psychomotor skills, application of theory, and professional expectations.[4]

With this in mind, it is evident that learning methodologies that promote comprehension of the clinical education experience are necessary. The Mandala is one such learning methodology. Its very creation requires personal reflection and consideration of each experience. It necessitates the athletic training student to consider what is personally meaningful within their own pre-professional development. Finally, it places an emphasis on personal experience as it relates to the didactic knowledge that the athletic training student receives in the traditional classroom.

The Mandala

The Mandala is a creative endeavor in which the dynamic world of experiential learning is brought forth in the form of art.[12] Mandalas serve to bring the unconscious to the conscious, bringing one's experience to a place of integration.[13] To be aware of the experience provides for introspection, learning and goal setting. Athletic training students construct self-awareness and self-reflection skills, both of which are components of athletic training's Foundational Behaviors of Professional Practice. Additionally, educators can learn much about student experiences through the creation and discussion of individual Mandalas.[12] It is only with an improved and profound appreciation of the athletic training student learning experience that educators can work to facilitate changes in their teaching techniques and instructional activities. The Mandala can also serve to enlighten educators to the unique needs and individual outlook of their athletic training students.

The Mandala is a concept derived from the Buddhist tradition of self reflection and meditation. Monks are called to create these Mandalas in part, to illustrate and reflect on their own spiritual journeys and experiences. Mandalas have been characterized as portals of insight to the unconscious self, affording conscious individual growth in life. Mandalas can and have been used as tools for student introspection on a variety of subject matter from primary through post secondary educational levels.[14]

The word Mandala is a Sanskrit word meaning "circle" or "center."[12] It is an artistic design used for centering, focusing and

contemplating, and mirroring relationships between the artist (athletic training student) and their own universe (clinical educational environment). The Mandala can be considered geometry of patterned experiences, perceptions and reflections.[14] Furthermore, it is a collaboration of experience and didactic knowledge that manifests itself as art form.

The Mandala is unique and exacting for only an instant and is representative of the essence of the individual's experience at one particular time.[13] Additionally, knowledge is relative to time and place, never absolute across time and space.[15] This might explain the variation in Mandalas that are created by the same individual reflecting back on an experience at different points of time. The Mandala takes its shape from the unconscious components of individual experiences that have been brought to a conscious level.[13]

Creating a Mandala

The process of creating a Mandala can be a meaningful experience for both athletic training student and educators. Organizing the assignment takes little time for the educator. The educator should, however, preface the activity with a brief background on the Mandala and the general creative techniques that should be followed. Additionally, the educator should provide athletic training students with the appropriate materials (color pencils, pens, chalk, paint, large sheets of paper) and create a peaceful and reflective atmosphere (dimmed lighting, light music, no interruptions from outside sources). The educator may want to offer suggestions of a particular experience or topic, and instruct athletic training students to think while sitting quietly for a moment before beginning to create their individual Mandalas. This reflective period allows athletic training students to focus and organize their experience before beginning to give them a physical identity.

Interpretation of a Mandala

Completion of each Mandala may take more than one class period. Encourage athletic training students to continue to develop and reflect on their Mandalas as this helps in the preparation of the second phase of the activity, its interpretation. The importance of this activity is that it's a method to assist the athletic training student in becoming more mindful and considerate toward their athletic training clinical experience. In addition, it provides for an interactive and insightful understanding between the athletic training educator and student. Each student should be encouraged to explain their Mandala; from its shape and design to its various components. It is this way of experience sharing that can bring perspective to the student (artist) as well as to the audience. Additionally, feedback gained from the audience lends alternative viewpoints to the experience that will continue to shape its implications.

Topography of the Mandala of Clinical Education

The Mandala presented in Figures 1-5 began to take shape as the authors pieced together their own understanding of the clinical educational experience. It serves only as one example from which the matrix of elements of experience and environment can be presented and discussed. More specifically, the diagram was created to outline and bring into focus the involved and complicated elements of clinical experience for the athletic training student. Subsequently, the Mandala is a reflection of a milieu of intrinsic and extrinsic components, personal experience, and established athletic training research.

The athletic training student (Layer 1) is positioned in the center of the Mandala of Clinical Education, embraced by the entirety of the contributing elements and the wholeness of the clinical experience. The Mandala of Clinical Education's overall design reveals an interconnectedness of various contributing elements and numerous layers. Upon closer inspection the reader will notice that the Mandala of Clinical Education is a series of gates, doors and portals in which the elements of the individual's experiences interact.[14] Encompassing the athletic training student in the second layer (Figure 1) of the Mandala are theoretical elements of learning: constructivism, schema, interpretation, and judgment. These elements have importance in education as they are linked to cognitive learning theory and constructivist learning models.

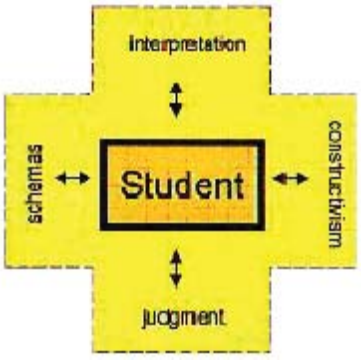

Figure 1. Layer 1 and Layer 2: Theoretical elements of learning.

It has been noted in educational research that the learning process is one in which the learner is active, builds upon previous experience, and uses organization to provide meaning.[16] It is the participation of the learner that reinforces their relation to the clinical environment and to a larger, infinite world.[14] Within the context of constructivism, athletic training students actively construct (build) and reconstruct (rebuild) knowledge based on their own experience. Knowledge acquisition occurs primarily when the athletic training student is actively engaged and is working on personally meaningful activities and projects.[17] Athletic training students use constructivism as they progress through the duration of their clinical experiences. Repeated exposure to a specific injury alters their approach to acute care, evaluation techniques, modality use, and rehabilitation; and demonstrates learning over time.

Schemas represent the building blocks that define systems of actions and thought. [13] In the cognitive sciences, schemas are concerned with how individuals store and process information.

They are similar to individual files in a large filing cabinet. Schemas may represent small or large scale thinking patterns. These patterns may become more sophisticated over time as one's thinking process develops. New schemas develop as a result of the individual interacting with, and adapting to their environment. The number of schemas is reflective of the totality of life experience.[18] Differences in the quantity of schemas is evident when comparing athletic training students with varying degrees of didactic and clinical knowledge. Schemas possessed by a first year athletic training student will be less developed, more simplistic, and less connected to higher cognitive thinking than those of second-year students who have more experience.

Interpretation is a human-meaning making venture of self-reflection, a way of adapting how one comes to know his world. Interpretation is based on perception founded on past experience; it is a subjective choice. Story telling is an example of interpretation in which the individual is able to recount in narrative form the implication of experience.[19] Athletic training students refine interpretation as they become able to piece together related foundational, theoretical and experiential information. In addition, a considerable portion of instruction in the clinical education environment occurs through the use of narrative, informal chatter, storytelling, and more formal presentation.[19]

Judgment is a cognitive choice influenced by past experience and dictated by one's own defining personal, educational, and professional characteristics. Judgments made by athletic training students may include selection of treatment options, progression of rehabilitation programs, and return-to-play decisions, which may be influenced or modified by their supervising clinical instructor.

The third layer (Figure 2) in the Mandala of Clinical Education contains the idiosyncratic characteristics of the athletic training student that reflect their values, beliefs, attitudes and expectations. Every experience serves to reshape and redefine these individual qualities so that their influence is varying over time. Moreover, many of these characteristics are adopted from other individuals that share a strong relationship with the individual.

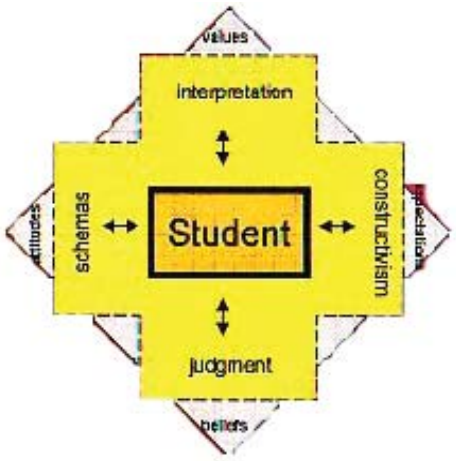

Figure 2. Layer 3: Values, beliefs, attitudes and expectations.

Bridging the different personnel to the athletic training student and securing relationships are a broad-spectrum of verbal and written narrative. This area (Figure 3) in the Mandala of Clinical Education also shares space and influence with various educational elements including learning and teaching styles, along with the affective, cognitive and psycho-motor learning domains. It is these characteristic educational elements that provide cohesion between the athletic training student, educators, and peers from which relationships can be made, fostered, and kept.[1] Enhancing these educational elements may strengthen relationships, ultimately impacting the athletic training students' clinical experience.

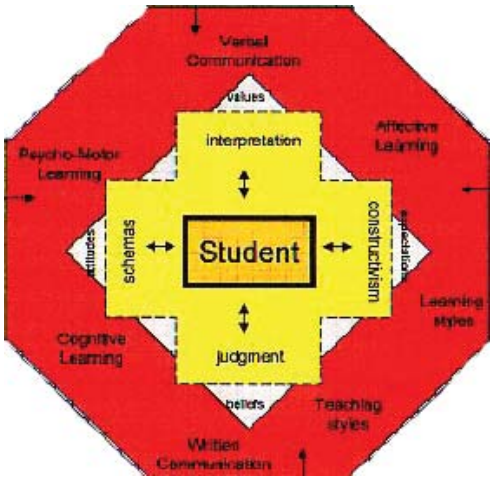

Figure 3. Layer 4: Educational elements including learning and teaching styles, along with the affective, cognitive and psycho-motor learning domains.

The cornerstones of the Mandala of Clinical Education are anchored by regions representing experience. These regions include all experience at both unconscious and conscious levels. The triangular shape was chosen as it signifies both the beginning point of the experience and the broadening correlation to previous experience. Athletic training student experiences acquired in the clinical environment are extremely important in their educational growth.[3] Such a learning environment, according to Benjamin Bloom, is impacted by various elements, conditions, forces, and external stimuli.[4,20] This network of forces engulfs and surrounds the athletic training student to formulate the clinical experience.

The outer most component of the pillars houses the role players in the athletic training student experience (Figure 4). They include educators, peers, athletes, and others (e.g. parents, coaches, health care providers, athletics staff, etc.). Connecting these individuals to the athletic training student are various relationships. The polygon shape is indicative of the wide-ranging types of relationships that these groups have with athletic training students.[1] The wider base of the polygon indicates that athletic training students may enjoy a large number of informal relationships in the clinical education environment while the narrow side of the polygon suggests that athletic training students also develop more personal, tightly coupled relationships. The quality and quantity of these

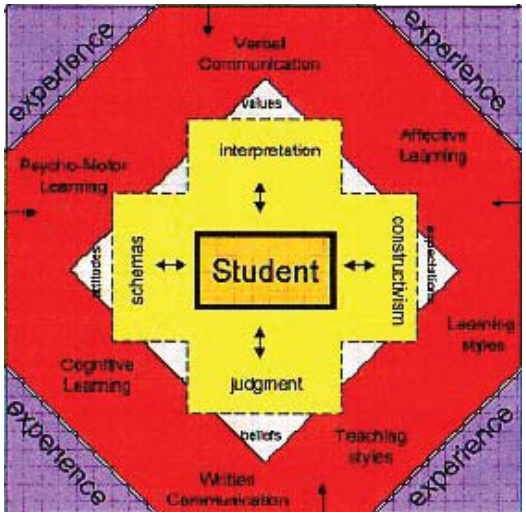

Figure 4. Layer 5: Role players in the athletic training student experiences.

relationships will ultimately have an impact on the athletic training students' experience.

Clinical educators strive to share their content knowledge and life experience with their athletic training students. Attending to athletic training students, with their varied learning preferences and idiosyncrasies requires great patience, attention and effort.[1] However, time invested in these areas has shown to improve athletic training student perceptions of the quality of their clinical learning experience and improve the mentor-apprentice relationship.[4] Furthermore, mentoring relationships serve to model professional expectations both in education and in the quality of care provided to athletes.[1]

Relationships in the educational environment are vital to both the athletic training student and instructor.[1] An atmosphere void of intimate, honest, and unguarded relationships between athletic training student and instructor does not provide for an open medium of knowledge exchange. One cannot learn if he does not open himself to the experience. This does not mean that the simple fact of exposure does not leave an impression on the athletic training student, but there is little taken away without openness, thoughtfulness and reflection. It has been said that giving oneself to the experience allows for greater insight upon reflection.[13]

Encompassing and connecting the entirety of the Mandala of Clinical Education is a dashed line indicating the dynamic and unpredictable state of the clinical education environment (Figure 5). Furthermore, the dotted line indicates permeability to both intrinsic and extrinsic stimuli and acknowledges the impact on the experience. Conversely, a solid line in the diagram would represent a barrier, an impassable division between elements.

In summary, the Mandala of Clinical Education is the manifestation of a variety of experiential elements, all of which have varying influence on the artistic outcome. A Mandala offers movement towards psychological growth with a comprehension and explanation on the premise of self-reflection.[21] Time, with its associated experience, stimulates change in a Mandala, whether the artist is an individual or a group of individuals.

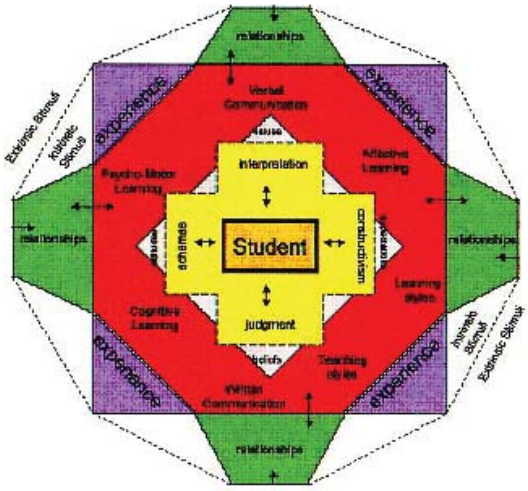

Figure 5. Layer 6: Intrinsic and extrinsic stimuli.

Conclusion

Experienced educators use multiple paths of knowledge to help students learn and reinforce understanding. They know that students learn in different ways and use diverse modalities to take in information and demonstrate knowledge and ability. Thus, educators use a variety of strategies and methods to insure that all students have equal opportunities to learn. Recent research in athletic training has provided practitioners with various guidelines for clinical proficiency, instruction, and supervision in the clinical educational environment. [1-10] Scientists and educators should continue to work to better understand and appreciate athletic training students' individual needs within the same clinical education environment. This requires a dedication to understanding the personal experiences of the athletic training student as well as fostering open relationships with them. In many instances this can occur by simply taking the time to share personal experiences, reflections and stories. The potential for skill development and situational practice, role-playing and developing high order thinking skills only adds to the gravity of having a creative and self-reflective tool for both educators and athletic training students.

The Mandala provides a map of an individual experience that explores a terrain that is highly dynamic and variable, yet remains functional as an experiential representation of one's experience. Each component of the Mandala offers insight to the individual athletic training student experience and serves as a point for self-reflection for those sharing the experience. Therefore, the Mandala seems a reasonable fit as an exercise for the clinical education environment with its accompanying experiences.

The Mandala of Clinical Education presented here is just one example of reflective practice within the context of the clinical educational environment. We should clarify, however, that the creation of a Mandala is not the sole method of exploring and

appreciating athletic training student experiences. We simply hope to provide athletic training students and educators the inspiration to explore, understand, and value clinical experiences in athletic training and provide the foundation for evolving discussions between and among educators about the complexities of clinical education.

References

1. Curtis N, Helion JG, Domsohn M. Athletic training student perceptions of clinical supervisor behaviors: A critical incident study. *J Athl Train*. 1998;33:249-253.
2. Barr JS, Gwyer J, Talmor Z. Evaluation of clinical education centers in physical therapy. *Phys Ther.* 1982;62:850-861.
3. Weidner TG, Laurent T. Selection and evaluation guidelines for clinical education settings in athletic training. *J Athl Train*. 2001;36:62-67.
4. Papp I, Markkanen M, Bonsdorff M. Clinical environment as a learning environment: student nurses' perceptions concerning clinical learning experiences. *Nurse Educ Today*. 2002:23:262-268.
5. Coker CA. Consistency of learning styles of undergraduate athletic training students in the traditional classroom versus the clinical setting. *J Athl Train*. 2000;35:441-444.
6. Nehls N, Rather M, Guyette M. The preceptor model of clinical instruction: The lived experiences of athletic training students, preceptors, and faculty-of-record. *J Nurs Educ*. 1997;36:220-227.
7. Weidner TG, August JA. The athletic therapist as clinical instructor. *Athl Ther Today*. 1997:2:49-52.
8. Foster DT, Leslie DK. Clinical teaching roles of athletic trainers. *J Athl Train*. 1992:27, 298-302.
9. Duncan KM, Wright KE. A national survey of athletic trainer roles and responsibilities in the allied clinical setting. *J Athl Train*. 1992;27:311-316.
10. Emery MJ. Effectiveness of the clinical instructor: Athletic training student's perspective. *Phys Ther*. 1984;64:1079-1083.
11. National Athletic Trainers' Association. *Athletic Training Educational Competencies*. 4th ed. Dallas, TX; 2006.
12. Marshall MC. Creative learning: The Mandala as teaching exercise. *J Nurs Educ*. 2003;42:517-519.
13. Storr A. *The Essential Jung*. Princeton, NJ: Princeton University Press; 1983:229-298.
14. The Mandala Project. Available at: http://www.mandalaproject.org. Accessed July 2, 2006.
15. Patton, MQ. *Qualitative Research and Evaluation Methods*. 3rd ed. Thousand Oaks, CA: Sage Publications; 2002.
16. Bruner J. *The Process of Education*. Cambridge, MA. Harvard University Press; 1960:1-17.
17. Fosnot, CT. Constructivism: A psychological theory of learning. In: Fosnot, CT, ed. *Constructivism: Theory, Perspectives and Practice.* New York: Teachers College Press;1996:8-33.
18. Wadsworth BJ. *Piaget's Theory of Cognitive and Affective Development*. 4th ed. New York: Longman; 1989:10-13.
19. Gudmundsdottir S. The narrative nature of pedagogical content knowledge. In: McEwan H, Egan K, eds. *Narrative in Teaching, Learning and Research*. New York: Teachers College Press;1995:24-38.
20. Bloom BS, ed. *Taxonomy of Educational Objectives: The Classification of Educational Goals: Handbook I, Cognitive Domain*. New York: Longmans, Green; 1956.
21. Jung CJ. *Mandala Symbolism.* Princeton University Press: Translated by R.F.C. Hull, Bollingen Series; 1959.