## Current Literature Summary

Jennifer L. Doherty-Restrepo, PhD, LAT, ATC Florida International University, Miami

**Introduction:** Reflective learning is the process of consciously thinking about, and analyzing, what one is doing (or has done) and is experiencing (or has experienced), which leads to new insights and improved self-awareness. The process of reflective learning promotes a commitment to lifelong learning, self-assessment, behavior change, and maintenance of competence that results in improved professional practice. We will provide brief synopses of current research on reflective learning and discuss possible applications to athletic training education, research, and practice.

de Swardt HC, du Toit HS, Botha A. Guided reflection as a tool to deal with the theory-practice gap in critical care nursing students. *Health SA Gesondheid*. 2012;17(1):1–9. doi:10.4102/hsag.v17i1.591.

Reviewed by Scott L. Bruce, University of Tennessee at Chattanooga

Summary of research context and methods: The integration of theory and practice in nursing education programs appears to be a concern. This theory-practice gap not only is widely acknowledged throughout the nursing literature, but in some ways is thought of as an inevitable and healthy aspect of nursing education. Although the need for the integration of placing theory into practice is recognized, how to accomplish this in a timely manner is debated. The primary question of this research was whether or not guided reflection could be applied during theory-practice integration with second-year critical care nursing students.

The researchers implemented a qualitative, explorative, and descriptive design. They used a self-designed instrument to aid in the guided reflection process that doubled as a data-collection instrument. Participants were also interviewed individually and asked to reflect upon their unique experiences implementing theory into practice. The population was a group of second-year critical care nursing students from a private hospital in Gauteng, South Africa, who were enrolled in critical care nursing courses at a university. This permitted the researchers to examine students implementing theory into practice. Only 7 students met their inclusion criteria. All interviews were recorded and transcribed verbatim. Researchers also made observational notes on nonverbal communica-

tion and on the entire reflective process by the individual student. The data were coded and grouped into major themes, categories, and subcategories.

Summary of research findings: The major themes that came from the research were descriptions of the incidents experienced, critical analysis of knowledge, critical analysis of feelings, and changed perspective experienced. Categories and subcategories for each of the themes were also formulated. For the theme of descriptions of the incidents experienced, the students described not just the situation, but their actions and thought processes that took place during each step of the situation. For critical analysis of knowledge, the student examined what they knew or thought they knew and how they either were or were not able to apply it to the situation. Many students realized they lacked sufficient knowledge and might never have enough knowledge to feel completely competent. In critical analysis of feelings, the students reflected upon the affective domain of learning. The 2 major categories from this theme were related to their experience and how the situation made them feel, and an expression of their feelings. These expressions ranged from frustration and confusion to anger and guilt. Two feelings not described were happiness and a sense of accomplishment or pride in what they did to help the patient. The final theme involved a change in perspective experienced, in which students appeared to have a change in paradigm to one degree or another. Many had preconceived notions about what was supposed to happen and why, only to realize that in reality things could be very different.

**Implication for athletic training education/research:** Given the fact that athletic training education integrates clinical experience alongside the didactic component in the curriculum, it would appear some of the problems outlined in this article with the theory-practice gap may not occur in athletic training to the extent they may in other medical professions. This does not mean that the theory-practice gap does not exist, only that the gap may not be as wide as in other professions. Regardless, the use of guided reflective practice could have utility in athletic training education, assisting students not only in expressing their experiences in detail, but in doing so in a manner that occurs in a nonthreatening situation. The ability for students to analyze their cognitive abilities and processes, their psychomotor development and

About the Column Editor: Dr Doherty-Restrepo is a Clinical Assistant Professor and the Professional Athletic Training Education Program Director at Florida International University. Please address all correspondence to dohertyj@fiu.edu.

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implementation, and the affective domain of learning would serve as a potentially valuable exercise for athletic training students. Research examining the guided reflective process in athletic training education programs would be of value to the athletic training profession.

Mamede S, Loyens S, Ezequiel O, Tibiriçá S, Penaforte J, Schmidt H. Effects of reviewing routine practices on learning outcomes in continuing education. *Med Educ*. 2013;47(7):701–710.

Reviewed by Brian J. Hughes, University of Central Missouri

Summary of research context and methods: For generations of physicians and other health care providers, continuing medical education (CME) has been a long-standing routine of professional practice. Within CME, traditional didacticbased courses have been the most commonly used method for the delivery of information. By using this passive methodology, information is imparted onto the attendee with little to no verification that learning has taken place or has eventually led to improved patient care. This methodology allows for a marginal amount of personal involvement in one's professional development, as experiential learning and personal reflection are not incorporated into the traditional CME model.

From the perspective of a middle-income country, the authors of this article attempted to examine the effectiveness of a physician CME program using a newer educational model. Specifically, the investigators sought to demonstrate how a more participatory CME experience could impact learning, thus improving patient outcomes, by incorporating adult learning concepts such as self-directed learning and the reflective practitioner. The researchers investigated the influence of the following variables on clinical performance: individual reflection, peer review of practice, self-regulation, and learned skills. A questionnaire and clinical performance test were distributed to 165 general practitioners in a rural community setting in the southeast region of Brazil. The 30item questionnaire, which was developed from an earlier pilot study, examined behaviors related to individual reflection on practice, peer review of experiences, self-regulated learning, and learned skills. The clinical performance test examined the relationships between the aforementioned variables and the outcome variable, clinical performance.

**Summary of research findings:** The authors discovered that individual reflection on routine practices led to overall improved clinical performance due to one's own identification of learning needs. The authors also found that peer review of routine practice had a direct and immediate positive impact on clinical performance. The data revealed 2 areas that had little to no impact on clinical performance: colleague consultation and lecture-based CME courses. The authors found that colleague consultation helped in identifying learning needs but had little impact on clinical performance. Attendance at CME conferences alone had limited impact overall on improved clinical performance.

**Implications for athletic training education/research:** These data suggest that self-reflection on routine practice positively impacts the improvement of clinical performance and patient care for the general practitioners involved in this study. As it

relates to the profession of athletic training, this study demonstrates the need for new lines of research examining how athletic trainers can actively reflect on prior experiences to gain new knowledge and thus improve professional practice. Although a vast majority of continuing education offered to athletic trainers is didactic in nature, the integration of experiential learning, such as reflection, in continuing education for athletic trainers has merit and deserves consideration when creating continuing education activities. With ever-growing emphasis being placed upon empirical research dictating patient care options and improved patient outcomes within the athletic training profession, this progressive and practitioner-centered approach to learning gives the learner greater ownership in his or her learning and learning outcomes. In the end, more research should be conducted on how self-reflection can help shape the continuing education of athletic trainers and how this theory can have a positive influence on both clinical performance and improved patient care for those we serve.

Walker R, Cooke M, Henderson A, Creedy DK. Using a critical reflection process to create an effective learning community in the workplace. *Nurs Educ Today*. 2013;33(5): 504–511.

Reviewed by Steven Patterson, Georgia Southern University

Summary of research context and methods: The goal of nursing clinical education is to prepare competent and safe nurses who provide high-quality care for patients. Nursing education is in the forefront in terms of research and health care education. The purpose of this study was to examine the usefulness of a learning circle strategy to facilitate open dialogue among nursing students, preceptors, and other clinicians to critically reflect on clinical practices with the purpose of promoting individual or institution change to benefit patient care. Student learning in nursing relies heavily on the effectiveness of quality teaching, especially in the clinical setting. Often, though, students are not able to fully give feedback in the clinical setting because they may feel too intimidated to speak their minds. The researchers aimed at setting up a psychologically safe environment where all participants could feel at ease in engaging in reflective dialogue.

The researchers adapted a 4-step model of critical reflection using a learning-circle approach to provide participants with a framework to actively discuss clinical learning. The 4-step model included (1) *Break Apart*—or deconstruct clinical practice into pieces and question what is considered "normal," "proper," or "accepted"; (2) *Confront*—any of the difficult or "untouchable" topics that these questions raise; (3) *Explore* or theorize these issues by asking, "What are the possibilities? How can we do this differently?" and, (4) *Think of Alternatives*—put the pieces back together to create better ways of thinking about and doing clinical practice. The researchers set up a total of 19 learning-circle discussions that were held during the changing of shifts over a 3-month period. During these learning circles, the researchers took field notes to document main discussion points.

**Summary of research findings:** Ten themes emerged from the learning circle discussions, which included (1) communication and feedback, (2) preparation, (3) acknowledgment and support, (4) clinical placement models, (5) bullying, (6) scope

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of practice, (7) inconsistent expectations, (8) hierarchy, (9) moral integrity and inclusiveness, and (10) feelings of uncertainty and vulnerability. Participants felt safe in the learning circles and were able to openly discuss issues and concerns without fear for negative repercussions. These learning circles gave the students more confidence in their clinical setting and the nurse educators were able to understand the concerns of their students. Together, they were able to generate a multitude of ideas and alternative ways of applying new ideas into clinical practice.

**Implications for athletic training education/research:** The themes that emerged from this research may reflect how athletic training students feel regarding their clinical education. The use of learning-circle discussions could be beneficial in the clinical setting and within athletic training programs as a way for students to openly discuss their fears and anxieties, as well as their positive experiences, as they relate to clinical education. Additionally, this open discussion forum could allow athletic training students to display leadership qualities by proposing changes to policy or treatment protocols at their clinical site, which ultimately could lead to improved patient outcomes. In the classroom, these learning circles could allow faculty and students to openly discuss ideas related to program development, delivery, design, or assessment, which ultimately could lead to improved education.

Aronson L, Niehaus B, Hill-Sakurai L, Lai C, O-Sullivan PS. A comparison of two methods of teaching reflective ability in year 3 medical students. *Med Educ.* 2012;46(8):807–814.

Reviewed by Jennifer Doherty-Restrepo, Florida International University

Summary of research context and methods: Reflection is considered an essential skill for health care professionals because it facilitates learning from experience, self-awareness, and the maintenance of competence. Numerous reflective exercises exist, such as journaling, personal narratives, blogs, critical incident reports, and video essays; however, little is known about the best practices for teaching reflection to students in health care education programs. The purpose of this study was to examine the effect of critical reflection guidelines, feedback about reflective ability, and the interaction between the two on the reflective ability of medical students as demonstrated in written reflections.

The researchers conducted a comparative research design in which they randomly assigned 149 year 3 medical students into 2 groups: (1) critical reflection guidelines provided and (2) only a definition of critical reflection provided. The researchers then randomly divided the members of each group again so that half received feedback on both the content and reflective ability demonstrated in their written reflections and the other half received content feedback only. The students' performance was measured on the first and third written reflections of the academic year using a previously validated scoring rubric.

Summary of research findings: Reflection scores were significantly better for students who received critical reflection guidelines than for those who received only the definition of reflection. Students who received feedback on content and reflective ability achieved significantly higher scores than those who received content feedback only. These results suggest that providing guidelines and feedback leads to improved reflective ability.

**Implication for athletic training education/research:** Given the potential positive effects of reflection on lifelong learning, self-awareness, and professional competence, reflection should be taught from the start of health care education programs, including athletic training programs. Feedback should be provided to students by faculty and preceptors alike to establish a culture of reflection, thus allowing all to develop or improve their critical reflection capabilities. Teaching reflection poses challenges in an already full curriculum; however, reflective activities may be incorporated into an existing curricular objective. Further comparative research is warranted to examine the different reflective learning formats, methods of delivery, types and timing of feedback, and strategies for maximizing the teaching and learning of effective reflection.