

# EDITORIAL

## Infusing Critical Thinking into the Curriculum: How Can We as Faculty Improve Student Learning?

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As explained by Facione and Facione,<sup>1</sup> “Critical thinking and reflective problem-solving are the two common terms for the cognitive process involved in clinical reasoning.” In 2000, the Association of Schools and Colleges of Optometry (ASCO) recommended that new graduates acquire “the critical thinking skills needed to assess the patient’s visual

and physical status and to interpret and synthesize the data to formulate and execute effective management skills.”<sup>2</sup> Critical thinking as related to clinical decision-making and patient care is now a specific outcome of the educational process.

### Moving in the Right Direction

Historically, optometric educators relied on students to “naturally” acquire the clinical reasoning skills needed to go forward and provide a high level of patient care. To achieve the ASCO recommendation, many optometric institutions initiated courses dedicated to teaching critical thinking, clinical reasoning and integration of knowledge. Most of these courses support the integration of basic and clinical sciences and provide a forum for reflective problem-solving and clinical reasoning. The courses occur in small group settings and are often case-based. Theoretically, the new courses provide students with an opportunity to practice clinical reasoning and decision-making in an environment that does not include the stresses often present in the clinical setting.

Courses dedicated to teaching the cognitive process represent an acknowledgement that these skills need to be taught and practiced and that there is not necessarily a natural ability to acquire the skills while delivering patient care. Can optometric education do more? How can the educational process help students become more critically minded and intellectually autonomous thinkers? Is the teaching of criti-

cal thinking and problem-solving infused into all aspects of the curriculum as a means of supporting the acquisition and utilization of these skills?

Dr. Robert Swartz, Director of the National Center for Teaching Thinking, supports infusing thinking skills and strategies into all aspects of the curriculum to reinforce the use of these skills with the goal of developing critical thinking skills as a habit of mind.<sup>3</sup> Faculty are the facilitators of learning. Many faculty members may already be implementing the teaching of critical thinking strategies into their course content or clinical teaching. Faculty members should reflect as a means of identifying what is done well, what is not occurring and what could be improved. Are we incorporating thinking strategies in all of our teaching? Is thinking being taught within course content?

What is meant by course content? According to Dr. Enoch Hale, a Fellow at the Foundation and Center for Critical Thinking, “Course content is a system of interconnecting avenues. Therefore, teaching should involve the thinking strategy needed to understand and develop these interconnections. Course information needs to be turned into content; otherwise, you are not teaching content but just disseminating information. Dissemination of information without teaching explicit strategies for thinking can often lead to rote memorization of material.”<sup>4</sup>

As we contemplate the concept of critical thinking as faculty members, we should ask ourselves whether we are disseminating information or teaching content. Do we start each lecture as a question or problem to be reasoned or solved? What are faculty doing to challenge students to develop thinking strategies and understand the connections within their course material? Heightening faculty desire and awareness of the need to teach and incorporate thinking strategies in their teaching are the first steps towards designing a curriculum that can help students learn to think better.

## In This Edition of the Journal

The teaching and learning of critical thinking skills is a journey not a destination. This theme edition provides an opportunity to learn about critical thinking as well as how institutions have implemented the teaching of critical thinking.

In his paper, "Visual Mapping to Enhance Learning and Critical Thinking Skills," Dr. Hector Santiago discusses helpful tools for developing thinking strategies. "Differentiating the Elements of Clinical Thinking," written by Dr. Caroline Faucher, reviews and clarifies the various concepts related to critical thinking in health care. The implementation of courses designed to facilitate the clinical thought process is presented by Drs. Leon Nehmad and Julia Appel in "The Integrative Track at SUNY State College of Optometry" and by Drs. Gregory Good, Michael Earley and Kelly Nichols in "Teaching Clinical Decision Making: The Keystone Experience."

Also, in the Think Tank feature, Chief Academic Officers comment on how the teaching of critical thinking is implemented at their institutions and what challenges they have faced and lessons they have learned in the process.

Each of these articles is a stop on the journey to becoming more informed about critical thinking. All faculty are encouraged to assess how we can help students learn better.

## References:

1. Facione NC, Facione PA. Critical thinking and clinical reasoning in the health sciences. Millbrae, CA: The California Academic Press LLC; 2008.
2. Heath D, Daum K, DiStefano A, Haine C, Schwartz S. Attributes of students graduating from schools and colleges of optometry. *Optometric Education* 2000 Fall;26(1):15-18.
3. Personal correspondence with Dr. Robert Swartz.
4. Personal correspondence with Dr. Enoch Hale.

# ASCO ANNOUNCES RECIPIENTS OF FIRST STARTER GRANTS FOR EDUCATIONAL RESEARCH

The Association of Schools and Colleges of Optometry (ASCO) is pleased to announce the 2011 recipients of its starter grants for educational research.

- Rebecca Kammer, OD, FAAO, Southern California College of Optometry, was awarded a grant for "Does Format Matter? Engagement of First-Year Students."
- Patricia Sanchez-Diaz, DVM, PhD, University of the Incarnate Word Rosenberg School of Optometry, was awarded a grant for "Impact of Interactive Instructional Tools in Gross Anatomy for Optometry Students: a Pilot Study."

This year's educational research grants, the first to be awarded under the new program, are supported by funding from The Vision Care Institute, an affiliate of Johnson & Johnson Vision Care, Inc. The grant program serves to introduce and support the concept of the Scholarship of Teaching and Learning (SoTL). The grant proposals submitted for 2011 represented 10 institutions.

ASCO congratulates Drs. Kammer and Sanchez-Diaz and looks forward to the completion and publication of their projects.