ACCP Academy Teaching and Learning Newsletter

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Editor: Thomas D. Zlatic, Ph.D.

Becoming a TLCP Mentor

It is one of those truisms that is actually true: the best way to learn is to teach.

We are inviting recipients of the ACCP Academy Teaching and Learning Certificate Program (TLCP) to continue their affiliation with the Academy through the role of mentor.

Having completed the portfolio assignments for basic training and the three required symposia, you "graduates" are uniquely equipped to provide guidance for participants enrolling in the program in the fall of 2010. If you would like to volunteer or learn more, please contact Amy Gaier, agaier@accp.com.

Becoming a *Newsletter* Contributor

We are encouraging TLCP participants (past and present) to share their insights and successes by sending us short articles for the Academy *Newsletter*.

In this issue, we are including three such submissions. Two of the articles, one by Abir O. Kanaan and Jennifer L. Donovan and another by April D. Miller, describe the use of interactive audience response systems. In the third essay, Amy Seybert reports on human patient simulation.

The next *Newsletter* edition will publish additional articles from participants.

Using Interactive Response Systems to Assess Student Performance in a Distance Education Program

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Learner-centered teaching embraces the philosophy that multiple methods of instruction are required to maximize learning because each student has unique styles and may learn in diverse ways. The mainstream adoption of learner-centered teaching in pharmacy programs is creating a drive to assess the quality of classroom interactions continuously and to challenge conventional teaching methods with approaches that extensively incorporate the student. The implementation of novel technology in the classroom is a means for improving learner-centered teaching and assessing the student's knowledge. In this article, we briefly describe the technology and our experience in a particular course that uses distance education.

Interactive response systems, or clickers, can improve the faculty-student dynamic and the student-student dynamic. Clickers have facilitated learning in a variety of environments, including the intense and demanding professional environment of medical school.[1-7] Clickers are a means for reaching out and gathering information from a heterogeneous group with a variety of learning styles and needs. A variety of constructs can be used by the faculty member, and immediate feedback allows instantaneous adjustment of the discussion. Faculty and students can view results within seconds, allowing immediate feedback, which is then used to direct or redirect the course of discussion. Clickers may also track, grade, and report individuals, identifying those requiring remediation more quickly. data are also easily exported to a format suitable for comparative analysis that can be used for assessment at a course or programmatic level.

We have used this technology in various courses including Pharmacotherapeutics. In this course, faculty promote learner-centered teaching by facilitating case-based discussions that require analysis, evaluation, and application of clinical data to disease management including prevention and treatment. A patient case is presented, and a discussion of treatment modalities, guidelines, controversies, and special populations ensues. Student interaction and participation are vital to academic success in this course, especially because the course is offered on one campus and is broadcast simultaneously through a distance education system to a satellite campus. Clickers allow our faculty to engage

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Editor's note: The ACCP Teaching and Learning Academy Newsletter is a quarterly electronic publication initiated to publicize ACCP Academy updates, provide resources and tips that can enhance teaching, and serve as a means of exchange for those involved in the ACCP Academy Teaching and Learning Certificate Program (TLCP). You are invited to contribute by suggesting ideas for content and by providing short items of interest. Please send your suggestions and comments to Amy Gaier, ACCP Project Manager, at agaier@accp.com.

Teaching is more than imparting knowledge, it is inspiring change. Learning is more than absorbing facts, it is acquiring understanding.

William Arthur Ward

students on both campuses in an anonymous way to identify areas for improvement and allow immediate redirection and reassessment of learning. Students, regardless of campus affiliation and especially those uncomfortable with public speaking, feel more comfortable engaging in discussions using this approach, especially when controversial patient scenarios are introduced. Clickers also allow students to self-assess their knowledge of the material. Faculty may also export these data to compare student knowledge according to campus affiliation, thereby ensuring that each group of students is equitable.

Faculty and students have enjoyed this level of increased activity in the classroom. A formal assessment of student performance pre- and post-clicker use is under way to evaluate the impact of this technology on our student performance.

References

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Using an Audience Response System in Didactic Teaching

April D. Miller, Pharm.D., BCPS
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Audience response systems, or "clickers" as our students call them, can be an effective tool for engaging students in large classroom settings and in distance education. I have recently started using them for teaching in our pharmacotherapy course sequence to help involve students in learning and to help provide them with a quick assessment of their understanding of material.

We are transitioning to implementing active learning techniques within our college, which includes two campuses connected via distance education. Within lectures in the pharmacotherapy course sequence, I include two or three questions aimed at application of concepts after major objectives are covered. For example, during lectures on acute renal failure, I provide patient cases and ask students to identify the etiology of the problem. Questions are quickly introduced, and students provide answers to the multiple-choice questions within 15–20 seconds. When a large number of students select an answer, volunteers are asked to explain why they chose that answer. This works well for both correct and incorrect answers. For correct answers, the class benefits from understanding the rationale for the answer. For incorrect answers, the explanation provides insight for me into why students were confused and allows me to quickly correct the misunderstanding.

There are successful examples of audience response system use in pharmacy education for enhancing short-term learning, and surveys of pharmacy students demonstrate that students believe such systems help improve their understanding of material.[1,2] From my experiences, students respond well to using the system and appreciate the chance to enhance their understanding of the material. Although using the system and developing quality questions take additional preparation time, I think the system really helps students learn and understand the concepts presented.

References

1. Medina MS, Medina PJ, Wanzer DS, et al. Use of an audience response system (ARS) in a dual-campus classroom environment. Am J Pharm Educ 2008;72:Article 38.
2. Liu FC, Gettig JP, Fjortoft N. Impact of a student response system on short- and long-term learning in a drug literature evaluation course. Am J Pharm Educ 2010;74:Article 6.

The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn.

Alvin Toffler

Human Patient Simulation in Pharmacy Education

Amy Seybert, Pharm.D.

Simulation-based education is a growing innovation within health care education, including pharmacy education. At the University of Pittsburgh School of Pharmacy, we have used simulation to complement and enhance course and curricular outcomes. Simulation is used to expand on communication skills, solidify the basic science foundation of disease and therapy, and practice problem-solving/decision-making skills. Our high-fidelity human patient simulator has a palpable pulse; audible heart, lung, and abdominal sounds; and hemodynamic parameters (including non-invasive blood pressure and arterial pressure), in addition to having the capability to speak in response to anticipated questions. The patient simulator is controlled by the SimMan (Laerdal Corporation, Stavanger, Norway) software, which can be programmed with appropriate physiological responses for a patient with the clinical condition entered for the simulated case scenario. During the Pharmacotherapy of Cardiovascular Disease course in the second professional year, students learn and practice basic physical assessment skills, such as blood pressure measurement and basic heart and lung sounds. Next, the students observe and participate in the care of simulated patients with various cardiovascular disease states. The simulations are set in clinics, hospital rooms, intensive care units, or operating rooms (using the setting most appropriate for the case). Finally, each student is individually tested on [his/her] communication skills, decision-making skills, physical assessment skills, and knowledge during a simulation session.

Simulation truly offers the opportunity to control the learning environment to achieve a specific outcome. For that reason, it is extremely beneficial for preparing students for practice. Students show that they take this high-fidelity learning environment seriously, and it can be more realistic and beneficial than practicing with written assignments, cases, faculty actors, or other low-fidelity learning. Assessment in the simulated environment can be immediate, reliable, consistent, formative, summative, and valuable. The advantage of comprehensive assessment capabilities makes simulation perfectly suited for complementing current teaching methods or for identifying and filling knowledge gaps. For example, if a student is on an acute care/critical care rotation and has not witnessed a cardiac arrest (or seen one from the hallway while 20+ health care workers and trainees take care of the patient), we can simulate that patient. This simulation will allow the student to learn about the disease, see the rhythm on the screen, decide on drug therapy and dose, mix the necessary medications, and see their effects. In some ways, simulation can become a more robust learning environment than the patient's bedside. Some examples of situations that may require standard experiences with simulation include cardiac arrest, respiratory arrest, surgical procedures, allergic reactions, CPR, basic first aid, myocardial infarction, stroke procedures, renal failure, bleeding, and trauma.

The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires.

William Arthur Ward

Caring to Learn

"Several strands of research demonstrate that displaying a personal interest in students is not only effective as a way to encourage participation and engagement, but necessary for real learning."

For an elaboration by Virginia S. Lee, see the posting at Tomorrow's Professor, http://cgi.stanford.edu/~dept-ctl/cgi-bin/tomprof/posting.php?ID=1008.

TLCP Programming at the 2010 ACCP Annual Meeting

Don't miss the ACCP Academy Certificate Program in Teaching and Learning offerings this fall at the 2010 ACCP Annual Meeting in Austin, Texas, October 17–20, 2010.

Required Modules

Saturday, October 16: 8:00 a.m.–5:00 p.m.
Basic Training for New Clinical Faculty and Preceptors

Monday, October 18: 1:30 p.m.–5:30 p.m.
Implementing Teaching and Learning Strategies Required, Module Two

Electives

Tuesday, October 19: 10:15 a.m.–11:45 a.m.
Experiential Education: Maximizing the Practice-Based Experience – Clerkship Experiences: Maximizing the Student and Practice Site Benefit, part of the Experiential Education Curricular Track

Tuesday, October 19: 3:30 p.m.–5:30 p.m.
Incorporating Educational Research into Your Teaching and Clinical Practice Education and Training PRN Focus Session

Coming Soon …

An exciting new publication is scheduled to arrive from ACCP in fall 2010:

Clinical Faculty Survival Guide

ACCP's 2004 *Clinical Faculty Survival Kit* has been a valued resource, used by practitioners to structure their roles in pharmacy. In 2010, ACCP will update and expand on this useful guide in the new *Clinical Faculty Survival Guide,* which will be a tool for both full-time and adjunct clinical faculty as they begin and expand their careers.

Here's a look at what's inside this anticipated resource:

Introduction
- Professionalism/Values
- Service: Institution, Community, and Profession

Leadership
- Personal Leadership
- Organizational Leadership
- Project Leadership

Clinical Practice
- Inpatient/Acute Care Practice
- Clinic/Office-Based Practice
- Community Pharmacy Practice
- Collaborative Practice
- Interprofessional Collaboration
- Credentialing (board certification, etc.)

Teaching, Precepting, and Mentoring
- Teaching in the Classroom Environment
- Active Learning
- Effective Precepting
- Mentoring
- Academic Technology
- Surviving and Thriving in the Academic Setting

Research and Scholarship
- Research and Scholarship: An Orientation
- Research and Scholarship for Practitioner-Educator Faculty
- Research and Scholarship for Researcher-Educator Faculty

Lifelong Learning
- Continuing Personal and Professional Development

Education is learning what you didn't even know you didn't know.

Daniel J. Boorstin

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