

SPECIAL ARTICLES

Development of a Center for Teaching Excellence

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This article describes the development, implementation, and assessment of a Center for Teaching Excellence at Midwestern University Chicago College of Pharmacy. The purpose of the Center was to create a systematic framework to promote, enhance, and assess the scholarship of teaching and learning. Assessment of the Center's activities suggests a positive impact on the teaching abilities of faculty. This report is intended to offer other schools or colleges of pharmacy considerations for center development.

Keywords: professional development, teaching, mentoring

INTRODUCTION

Successful recruitment and development of pharmacy faculty members is essential now more than ever. There is a shortage of faculty members that is predicted to continue and exacerbate due to the "graying" of pharmacy faculty.¹ Approximately 24% of full-time faculty members serving in US pharmacy schools and colleges are age 60 years and above.² As of 2008, 48.1% of the vacant positions remained unfilled because there were not enough qualified candidates in the pool.³ Faculty members are typically recruited from postdoctoral programs and pharmacy residency programs. While this training develops outstanding research and clinical skills, often junior faculty members enter the academy with little or no teaching experience and knowledge. Considerable professional development in teaching is often necessary.

Not only does pharmacy education need to be focused on professional development of junior faculty members, but also on retention of qualified pharmacy faculty members. The Council of Faculties and the Council of Deans of the American Association of Colleges of Pharmacy (AACP) developed a taskforce to research factors influencing the pharmacy faculty workforce. One of the recommendations regarding retention strategies for colleges of pharmacy is the development of programs to provide faculty members with opportunities to strengthen their skill sets in various areas, notably teaching. This process should begin at the time of employment and continue throughout the faculty member's career.^{1,4}

Midwestern University Chicago College of Pharmacy has a tradition of developing and celebrating excellence in teaching and learning and is committed to the

professional development of its faculty members. Historically, the college has offered a variety of seminars and services to support faculty members in their professional development in the area of teaching. Departments within the college offered book clubs, seminars, and tutorials to faculty members. Additionally, the college offered a series of seminars, activities, and classes directed at a number of audiences including students, residents, faculty members, and preceptors. Also, the university offers regular faculty professional development programs. The college noted that while these activities were well intentioned and utilized, they could be competing and redundant, and there was no systematic analysis of the outcomes. Therefore, in 2005, the dean created an ad hoc faculty committee to study the creation of a center for teaching excellence, with the intention of creating efficiencies and maximizing college efforts to improve teaching. This paper describes the development of the center and reports on its activities and outcomes.

The committee met several times over the course of the 2005-2006 academic year. Committee members reviewed existing literature to identify and examine other colleges of pharmacy that have had prior success in creating a center for teaching excellence.⁵ They also collected data on current college and departmental activities directed at developing excellence in teaching and found that faculty members often were teaching the same skill sets multiple times to multiple audiences. Because there was little reliable evaluation being conducted of any of these activities, there was no knowledge of their effectiveness in improving teaching and learning. These data supported the need for the creation of a center for teaching excellence to coalesce college and departmental activities, create efficiencies, develop curriculums and systematic evaluations, continually assess the professional development needs of the

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college's teachers, and develop resources and programs accordingly.

The committee proposed the creation of a center for teaching excellence and developed a mission statement, goals, and suggested activities. This document was reviewed and approved by the college's executive committee and endorsed by the faculty. Faculty members had the opportunity to provide feedback to the committee at multiple times throughout the proposal development process. Finally, the president of the university approved the creation of the Midwestern University Chicago College of Pharmacy Center for Teaching Excellence. The center is housed in the college and is intended to support college faculty members; however, other university faculty members have participated in select activities.

The mission of the center draws on the mission of the college and the university and states "Midwestern University Chicago College of Pharmacy recognizes teaching as its central and paramount purpose. Accordingly, the mission of the Center of Teaching Excellence is to promote, enhance, and assess the scholarship of teaching and learning." The committee determined that the audience of the center included students, residents, faculty members, preceptors, adjunct faculty members and teaching staff. Its goals include: (1) be a resource to and support for faculty members in the development of their teaching skills; (2) promote teaching practices that are grounded in scholarship; (3) inculcate academic values; (4) recognize outstanding teaching; (5) facilitate educational research; and (6) provide continuous evaluation of center outcomes.

Collecting data and evaluating outcomes of center activities is an integral role of the center. Every activity that the center develops and provides is reviewed and analyzed to determine whether the activity achieved its stated outcomes.

The ad hoc committee was later formalized into a standing committee, and approved by the university's faculty senate. The committee is comprised of 2 faculty members from the Department of Pharmacy Practice, 1 faculty member from the Office of Experiential Education, and 1 faculty member from the Department of Pharmaceutical Sciences. The committee is supported by the assistant dean for postgraduate education and the assistant to the dean, who act as ex officio members. The committee's central function is to serve as a steering committee for the center and to provide many of the center's activities, or recruit other faculty members to provide center activities. Annually, the dean reviews the charges of this committee and may add new charges based on needs that have arisen in the previous year.

The center developed a tagline for branding of center activities: "Advancing Excellence in Teaching and Learning." This tagline captures the link between effective teaching and learning, and recognizes that center activities could benefit the novice as well as the expert teacher.

ACTIVITIES OF THE CENTER FOR TEACHING EXCELLENCE

Once the infrastructure was established, the center began its work. Table 1 describes the center's activities and links them with the founding goals.

Table 1. Goals and Associated Activities of the Chicago College of Pharmacy Center for Teaching Excellence

	Goal	Center Activity
1	To be a resource to and support for faculty in the development of their teaching skills	Preceptor development Teaching and learning curriculum New faculty seminars Peer evaluation Quarterly newsletter Faculty retreat program
2	Promote teaching practices that are grounded in scholarship	Teaching and learning curriculum New faculty seminars Peer evaluation of lecture teaching Preceptor development
3	Inculcate academic values	Teaching and learning curriculum New faculty seminars
4	Recognize outstanding teaching	CCP New Preceptor Excellence Award CCP Preceptor of the Year Award Quarterly newsletter
5	Facilitate educational research	Grant program
6	Provide continuous evaluation of center outcomes	Post-session reviews of all seminars Ongoing evaluation of all center functions

Abbreviations: CCP = Chicago College of Pharmacy

Preceptor Development

One of the first focuses of the center was the development of pharmacist preceptors. Effective preceptors are integral to the success of the college and the growth and development of its students. Center faculty members met with experiential education faculty members over the course of several months, and based on the college's needs assessments, developed and implemented a multi-level curriculum. The first level of the curriculum was a series of 6 short units that introduced the preceptor to the college, the Office of Experiential Education, the student, the role of the preceptor, basic concepts in teaching and learning, and communications. These units were developed as PowerPoint slides with audio of the faculty members' presentation and recorded onto a DVD. The DVDs were distributed to all preceptors along with a short printed evaluation that asked the participant to reflect on key learning that occurred as a result of viewing each of the 6 units. A qualitative approach was used in this evaluation to provide more in-depth information to the center and to have the preceptors experience writing brief learning narratives so that they could better model this behavior for students. Each evaluation was read as it was submitted and a judgment was made as to whether the stated learning outcome matched stated learning objectives. One hundred percent of the evaluations received from spring 2007 to September 2009 indicated a good match between stated learning objectives for each unit and individual learning outcomes. Thirty percent of preceptors submitted their evaluations. The college is now in the process of placing these units on the university's Web site to increase access.

The second level of the preceptor curriculum was an intensive 15-hour continuing education course on teaching and learning. This course, entitled "Preceptor Leadership Development Institute" was offered on campus beginning in October 2005. The course is a combination of lecture, interactive discussion, role play, written assessments, and exercises. A 4-hour workshop on teaching and learning concepts includes an introduction to learning and the teaching process linking objectives, teaching activities, and evaluation. Methods and techniques for providing feedback and evaluations to students are emphasized. Various models and schedules for students enrolled in introductory or advanced pharmacy practice experiences (IPPEs/APPEs) are presented. The second section of the course is a 3-hour workshop on communications. This includes discussions on presentation skills, dealing with difficult students and patients, and meeting facilitation. The final section of the course is focused on experiential activities. This 4-hour module focuses on teaching preceptors how to critique and evaluate student performance in journal club, on drug information papers, and in case presentations. Thirty-two

preceptors completed the course the first time it was offered in 2005, and 22 preceptors completed the course in 2007. To evaluate this course, a "commitment to change" model was utilized. Participants were asked to complete a form at the end of the workshop and identify specific changes they planned on making as a result of what they had learned in the workshop. A follow-up was conducted 6 months after the program completion, and the majority of respondents reported fully implementing their planned changes.⁶

The third level of the preceptor curriculum is offered every spring and consists of two or three 4-hour workshops entitled "A Pharmacotherapeutics Update Using Evidence Based Medicine." Through a case-based approach, participants are updated on the current disease-specific guidelines, and then guided through accessing relevant primary literature on PubMed, and analyzing and applying the literature to solving patient cases. Table 2 describes the workshop topics and the number of participants. A review of the evaluations for the programs described above indicates that participants achieved program objectives for each of the individual programs to a moderate or great extent.

Preceptor Recognition

One of the center's goals is to recognize effective teaching. The college already has a program in place to recognize outstanding teachers in the classroom. The center recognized that effective preceptors need to be celebrated as well. The center developed the Chicago College of Pharmacy New Preceptor Excellence Award and the Preceptor of the Year Award and appropriate criteria for each, and these were then approved by the college faculty. Both awards are given to preceptors with an adjunct or full faculty appointment at the college who have received outstanding evaluations from students. The New Preceptor Excellence Award is awarded to any current Chicago College of Pharmacy preceptor, who has served as a preceptor at any college of pharmacy for 5 years or less. Two awards are offered annually: 1 for adjunct faculty members and 1 for full faculty members. The Preceptor of the

Table 2. Topics and Number of Participants for Level 3 Preceptor Curriculum of the Chicago College of Pharmacy Center for Teaching Excellence

	Workshop Topics	Participants
2007	Dyslipidemia	50
	Diabetes	58
	Heart Failure	51
2008	Diabetes	21
	Asthma	20
2009	Asthma	42
	Dyslipidemia	31

Year Award is presented annually to a preceptor who has been precepting for 5 years or more and has received outstanding student evaluations consistently over multiple years. The awards require a nomination letter from the college's office of experiential education or any college faculty member. The letter of nomination may describe the preceptors' abilities with regard to their practice, precepting experience and expectations, communication skills, and how the preceptor served as an outstanding role model. The center then reviews the letters of nominations and selects a recipient. The winners are recognized annually at the student graduation banquet.

Faculty and Resident Professional Development

The college has been active in pharmacy residency education since the mid-1990s and expanded the number of programs offered by or affiliated with the college over the past 5 years. The programs educate either postgraduate year 1 (PGY-1) or postgraduate year 2 (PGY-2) residents in specific areas of clinical patient services, such as ambulatory care, community practice, infectious diseases, or critical care. All college residency programs provide an emphasis on developing teaching skills in both the classroom and experiential arenas.

The center created the Resident's Teaching and Learning Curriculum to formalize the teaching activities that were included in the residency programs and to minimize duplication of efforts by faculty members involved in the various residency programs. The teaching and learning curriculum is now a required component for all of the college's residency programs and new faculty members also are required to participate. The members of the center oversee the teaching and learning curriculum and are involved with its delivery and evaluation.

The teaching and learning curriculum is a 12-unit educational program with 20 hours of continuing education credit granted upon successful completion of the entire curriculum. It is scheduled during the first 6 months of the residency year (July-December), with additional opportunities to enhance resident development provided throughout the remainder of the year. Each unit contains a seminar, an applied active-learning activity, follow-up assigned activities, and a self-assessment of abilities. Analogous to the AACP Education Scholar program, the teaching and learning curriculum units offer a comprehensive curriculum for faculty members and residents to develop their skills as a pharmacy educator.⁷ The center utilizes the expertise of college faculty members to allow customized, live interaction and immediate feedback for the participants regarding the units' concepts and institution-specific scenarios. There also is merit in senior faculty members mentoring and teaching junior faculty

members. For example, in units 2 and 3, participants create lecture objectives for upcoming assigned lectures, which are then critiqued by the other participants as well as faculty members. Participants then deliver the lecture, which is videotaped for them to review later. In addition, center faculty members attend and evaluate the lecture using a standard evaluation form and then meet with the resident to review the evaluation.

The units provide a foundation in educational theory followed by an introduction to, or enhancement of, skills in areas of teaching that are commonly expected to be responsibilities for clinical faculty members at colleges of pharmacy. Units 1 thru 8 also are structured to cultivate faculty members' skills to foster not only the students' critical-thinking skills, but also self-directed learning. These units are designed to model active-learning strategies, with learning activities embedded in each unit. The participant is supported by the center from the beginning of the teaching journey to the end: creating lecture objectives, designing the lecture and presentation, incorporating active-learning components, and assessing student learning. The topics covered in the teaching and learning curriculum can be found in Table 3. Following each session, participants are invited to provide an evaluation of the unit and constructive critiques of the sessions. A final annual evaluation of the program is completed in the final month of the resident's program.

The teaching and learning curriculum also requires participants to develop a teaching portfolio. The portfolio is intended to be an opportunity for residents to reflect on each of their experiences, their progress in accomplishing goals, and their planning for similar future endeavors. The

Table 3. Description of the Educational Units of the Teaching and Learning Curriculum of the Chicago College of Pharmacy Center for Teaching Excellence

Unit Number	Topic
1	Foundations of Learning Theory
2	Creating Courses – Lecture Learning Objectives
3	Teaching Activities I – Lecture/Presentation Skills
4	Technology in Teaching
5	Teaching Activities II – Discussion Skills, Labs and Workshops
6	Teaching Activities III – The Rotation
7	Assessment of Student Learning I
8	Assessment of Student Learning II
9	Final Evaluations: The Rotation
10	Motivation, Conflict, and Culture
11	Curriculum and Accreditation Issues
12	The Academic Culture

portfolios are not graded; instead, reviewers provide comments that may stimulate additional thoughts or alternative points of view.

A retrospective analysis of the teaching and learning curriculum was performed in June 2009 following the completion of the third resident class. Faculty participants were purposefully omitted from the analysis as they were at a different level of expertise than residents. Seventeen residents had completed the program, 13 female and 4 male. The sample represented 6 participants in PGY-2 programs and 11 in PGY-1 programs. The resident's evaluations of the units were used for quantitative data analysis. Paired ordinal data were compared via Wilcoxon signed-rank testing. Alpha was set a priori at 0.05.

Using the Likert-scale responses provided on the evaluation forms administered immediately after completion of each unit, all of the residents indicated that they achieved unit objectives "to a moderate extent" or "to a great extent." More striking was that residents rated 45 of the 60 objectives higher on the final evaluation at the end of the residency year than on the evaluations completed immediately following each session. This suggests that the skills the residents learned earlier in the program improved over time as they were provided teaching opportunities to apply the material.

The results of the analysis, coupled with the reflective writing comments from the teaching portfolios, support the ongoing value of the teaching and learning curriculum in resident development. Forty-one percent of the residents in this sample accepted faculty positions as their first post-residency position. However, the college's residency programs are marketed to graduates already interested in academic careers, so it is difficult to determine to what extent the college's programs solidified their decision.

The center continues to refine the teaching and learning curriculum each year with alterations to units and learning activities. Midway through the teaching and learning curriculum, residents are asked to complete a short evaluation which simply asks the following questions: What is the best part of the teaching and learning curriculum? How can we improve the teaching and learning curriculum? Are there any barriers to success in the teaching and learning curriculum? Data from this evaluation, in addition to the annual "debriefing" meeting is used to determine minor modifications for the following year. For example, based on the feedback from the 2008-2009 residents, a unit on Teaching Technology was added to the curriculum for the 2009-2010 academic year.

In addition to the teaching and learning curriculum, faculty members and residents also are invited to attend special seminars for new faculty (Table 4). These seminars are offered by college administration and senior fac-

Table 4. New Faculty Seminar Series of the Chicago College of Pharmacy Center for Teaching Excellence

Fall quarter	Your role as a faculty advisor
Fall quarter	How to be a course director
Fall quarter	University and college committees
Winter quarter	Balancing family and work
Winter quarter	Promotion in rank and tenure
Spring quarter	Classroom incivility
Spring quarter	Research issues: Processes for grant or university IRB approval, college and university resources.

ulty members and focus on specific skills or information needed to be successful. They are scheduled throughout the year and aligned as best as possible with faculty members' various responsibilities at the college. Annually, these topics, the seminar evaluations, and faculty feedback are reviewed to determine whether topics need to be added or deleted. For example, in the most recent academic year, the center added the topic "How to Be a Course Director." By offering this topic at the college level, it ensures that there is some consistency in course policies and procedures between departments and is also more time efficient in regard to faculty training. Evaluative data are also sought on the speakers, but given the intimate nature of the seminars and the fact that many of the seminars are taught by college leadership, the response rates have been low.

Finally, the center is involved in developing a 4- to 8-hour seminar on teaching at the college's annual faculty retreat. Topics have included reflective writing, writing assessment questions, and developing elective courses.

Peer Evaluation of Lecture Teaching

Historically, Chicago College of Pharmacy faculty members have invited peers into their classroom to provide feedback, suggestions, and formative comments on their teaching in a voluntary ad hoc process. In the 2007-2008 academic year, the center examined this process, systematically obtained input from faculty members, and reviewed existing opportunities for faculty evaluation of teaching. Lecture-based teaching was identified as the area of greatest need for faculty development. While the university requires student evaluations of faculty members and courses, this process is limited in its scope and perspective. A peer evaluation process could provide faculty members with formative evaluative comments on the nature and accuracy of the lecture content, teaching methodologies, and delivery style. A proposal for required peer evaluation of lecture-based teaching and an evaluation instrument was developed. In fall 2008, the faculty approved the proposal.

Peer evaluation of the teaching process is required annually of all faculty members, including those with administrative appointments. Faculty members are allowed to select their own peer reviewers; however, in order to protect faculty members from the burden of performing too many peer reviews, a limit of 5 reviews per faculty member per year was established. This process is monitored by the department chairs. Once a colleague is identified, the faculty member invites the peer reviewer to evaluate a specific lecture using a form developed to guide this process. The form includes various aspects of the lecture and is divided into 4 sections: content, delivery, classroom etiquette and procedure, and use of teaching support systems (eg, technology). A number of items were developed that address each of the 4 broad areas and a Likert-type scale was developed to rate each area (needs improvement, meets expectations, exceeds expectations). Peer reviewers are encouraged to provide written comments and address the classroom environment since disruptions and environmental factors can affect the overall classroom experience. For example, reviewers note if the teaching technology failed or the room was too warm or cold.

A post-evaluation, face-to-face meeting is a required component of the peer-review process. The nature of the conversation is intended to be formative, with specific strengths and weaknesses noted. At the conclusion of this conversation, the faculty member is given the signed, written evaluation form, and it is up to the individual faculty member whether to provide the document to his or her department chair. Based on feedback from faculty members, this process was kept formative and removed from the annual faculty performance evaluation; therefore, it is the faculty member's decision whether or not to incorporate this evaluation into his/her annual evaluation.

The excellent faculty participation in this program in its initial year of implementation provides some indication of its success. All 7 faculty members in the Department of Pharmaceutical Sciences and 31 of 33 faculty members in the Department of Pharmacy Practice completed the peer-evaluation process. The other 2 pharmacy practice faculty members did not present teaching lectures during the 2008-2009 academic year. Interestingly, only 1 faculty member mentioned his peer evaluation in his annual performance evaluation. This may indicate that either faculty members did not feel that including it would add any value, or that they had sufficient high-quality data from students to demonstrate their teaching competency. Basic science faculty members who teach select courses in the doctor of pharmacy curriculum are housed in the college of medicine and therefore not considered college faculty members, and therefore do not participate in this activity.

Lecture teaching is only 1 component of teaching. Faculty members receive input on examination questions from their department chair and course director, and through statistical analysis of test questions. To date, this has not been a center activity.

Communications

As part of the mission to promote and enhance the scholarship of teaching and learning, a newsletter, "Advancing Excellence in Teaching and Learning," was developed to provide information to the college teaching community and to help further the development of teaching skills. This newsletter is a quarterly publication disseminated to alumni, faculty members, preceptors, adjunct faculty members, and teaching staff members. It features a calendar of upcoming events including continuing education programs held at Midwestern University. Each newsletter highlights common questions the Office of Experiential Education encounters from preceptors. There are also articles featuring facets of building quality IPPEs/APPEs; from creating effective objectives for an IPPE/APPE to various teaching activities to support those objectives. Preceptors are often featured in the newsletter to provide teaching and precepting advice.

In addition to the quarterly newsletter, center activities are reported at faculty meetings, which are scheduled 8 times per year. This regular reporting keeps faculty members informed of the center's goals and activities.

Scholarship of Teaching and Learning Grant Program

A goal of the center is to facilitate educational research. The Scholarship of Teaching and Learning Grant Program was developed by the center to support and foster the scholarship of teaching and learning of pharmacy faculty members. Intramural funding of \$2500 for a 12-month project may be used for educational research. Collaboration among faculty members is allowed; however, only 1 faculty member serves as principal investigator. Types of research may include survey research; research involving innovative teaching methods, interviews, or focus groups; or other qualitative or quantitative studies. Two cycles of funding per year are offered; one in the fall and the other in the spring. Members of the center serve as the grant review committee, evaluating proposals based on significance of the contribution; approach to the project in terms of conceptual framework, design, methods, and analyses; and feasibility of the proposed project. Faculty members of projects that are granted funding are expected to prepare and submit a final report in the form of a manuscript for publication in an appropriate pharmacy journal. In addition, grant recipients are invited to present

the results of their project at the college's Teaching Innovation Seminar.

The grant program was announced to faculty members in spring 2009. The first call for proposals resulted in 2 grant submissions. One project was selected and funded. The center will continue to monitor the progress of this project.

CENTER OUTCOMES AND FUTURE INITIATIVES

The center has met many of its stated goals. The first goal is to be a resource and support faculty members in the development of their teaching skills. The preceptor development programs, teaching and learning curriculum, new faculty seminar series, and quarterly newsletter provide resources and support to faculty members on their own journey to teaching excellence. All of the programs and seminars are grounded in educational research, which supports the second goal of the center. The third goal is to inculcate academic values, which is accomplished in all center activities and publications. Recognizing outstanding teaching is the fourth goal and is accomplished through teaching awards and publications. The grant program is facilitating educational research, and finally, through its evaluations and debriefings, the center is providing continuous evaluation of all of its activities.

The center continually seeks to develop and implement future initiatives that support its mission. For example, the center has identified the development and support of adjunct faculty as a future initiative. Adjunct faculty members develop and offer elective courses, provide occasional lectures, and facilitate workshops and laboratories. Information is being collected from this group to assess their needs in regard to mentoring and professional development as teachers. Once this data is analyzed, the center will determine if the college needs to develop a systematic approach to supporting the professional development of this group of faculty members in regards to teaching.

The basic science courses in the college curriculum are taught by faculty members in the college of medicine.

The center is considering how to include these faculty members in its efforts.

CONCLUSION

The Chicago College of Pharmacy Center for Teaching Excellence has proven to be an effective and efficient mechanism to develop, implement, and evaluate professional development activities that are focused on teaching and learning. The center defined its audience and is methodically addressing the needs of all of the individuals who are involved in delivering pharmacy education. Continued evaluation of the long-term impact of center activities is warranted; however, center activities already have had a positive impact on the teaching abilities of college residents, faculty members, and preceptors. These activities may result in an enculturation of new faculty members into the college as well as have an impact on faculty retention.

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