INSTRUCTIONAL DESIGN AND ASSESSMENT

A Curriculum Development Simulation in a Graduate Program

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Objective. To implement and evaluate a curriculum development seminar in which graduate students experienced circumstances that occur when faculty members develop and attempt to secure colleague approval for a curriculum.

Design. Learning activities for the graduate seminar included classroom lectures, active learning, and a group project in which simulated faculty committees created new curriculums for the pharmacy practice department's 3 research areas.

Assessment. Responses on pre- and post-seminar surveys indicated that graduate students' self-confidence in their ability to conduct key curriculum development activities increased ($p < 0.05$). In a post-seminar focus group, graduate students stated that they valued participating in the faculty simulation, learning about curriculum development and research programs other than their own, and collaborating with their peers.

Conclusion. A curriculum development faculty simulation was an effective tool for preparing graduate students for curriculum development responsibilities and generated valuable documents that the department could use in the revision of the 3 pharmacy practice graduate school curricula.

Keywords: curriculum development, graduate students

INTRODUCTION

Curriculum development is a dynamic and ongoing process in institutions of higher learning. Although allocation of resources to curriculum development fluctuate considerably in most institutions, curricular change is necessary as the needs of professions, constituents, and society change.¹ The theoretical foundations of curricula and curriculum development are discussed extensively in the literature.¹⁻⁶ The references cited here, while not exhaustive, describe the ongoing controversy prevalent among scholars over what constitutes a curriculum and the ideologies around which curricula should be constructed.²⁻⁴

For the purposes of this research and manuscript, curriculum development was defined as the development of a formal course of study and the elements of which it is comprised.⁷ The contents (eg, courses, projects, competency examinations) comprising curricula are the means by which programs accomplish educational goals.⁸

In pharmacy education, extensive literature can be attributed to accreditation-related changes in curricula resulting from publication of ACPE Standards 2007 and the

development and expansion of colleges and schools. Pharmacy curriculum development publications have focused on integration of topics and programs into current professional curricula,⁹⁻¹³ curricular assessment and evaluation,¹⁴⁻¹⁷ assessment of outcomes and competencies across curricula,¹⁸⁻²² and methodological and theoretical considerations regarding curriculum development.^{23,24} No articles specific to pharmacy graduate curricula were found; however, the final report of the American Association of Colleges of Pharmacy's (AACP) Commission on the Future of Graduate Education in the Pharmaceutical Sciences provides an overview of the marked differences between professional and graduate education and perhaps explains why literature specific to graduate programs is lacking.²⁵ Whereas professional programs undergo external accreditation, graduate programs do not. Additionally, graduate programs often are managed at the department or individual level, while professional programs are administered at the institutional or college level.

Whereas quantification of the extent of faculty training in curriculum development specific to pharmacy education is lacking, medical literature indicates that relatively few faculty members have been trained in curriculum development.²⁶⁻²⁸ Faculty development programs are a means by which faculty members are exposed to the critical elements of curriculum development.²⁹ Given the extent to

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which pharmacy faculty members are involved in curriculum development, training in the process of constructing a curriculum would benefit current and future pharmacy academicians. Abate and colleagues provided a thorough description of the principles and concepts encompassed in curriculum development as well as recommendations to colleges and schools, the AACP, and the ACPE with regard to curriculum development, stating that “an institutional commitment to faculty development is necessary for advancing knowledge of educational theories, learning styles, outcomes assessment, and curricular enhancement.”¹⁵

Recent reaccreditation processes at Purdue University inspired the investigators to design a course in curriculum development for graduate students in the college of pharmacy. Goals of the graduate student seminar were to expose students to the curriculum development process and increase students’ self-confidence in their ability to develop a curriculum and assessment plan. This manuscript describes the development, implementation, and evaluation of the course.

DESIGN

The Purdue University College of Pharmacy Department of Pharmacy Practice is comprised of faculty members with diverse research programs including pharmacy administration, clinical pharmaceutical sciences, pharmacy education, and clinical pharmacy practice. The department is multi-campus in nature with some faculty members located on the West Lafayette, IN, campus (non-clinical faculty members and graduate students) and others located within a large health system in Indianapolis, IN (clinical faculty members and graduate students). Annual enrollment in the department’s graduate program is approximately 15 students. Individuals who earn master of science (MS) and/or doctor of philosophy (PhD) degrees in the department commonly pursue careers either in the pharmaceutical industry or pharmacy academia. A central aspect of the pharmacy practice graduate program is the ability for students and their advisory committees to tailor plans of study to meet their individual research and career interests.

Despite variability in research interests and courses taken by graduate students, all students enrolled in the pharmacy practice graduate program participate in a 1-credit hour graduate seminar during every fall and spring semester. Responsibility for development and implementation of the seminar rotates among pharmacy practice graduate faculty members. Seminar topics vary according to the matriculation of graduate students and their needs as perceived by the graduate faculty members. Approximately every third seminar (ie, every 1.5 years), graduate

students from both campuses participate in a joint seminar using videoconferencing capabilities.

The seminar in curriculum development was inspired when a college of pharmacy faculty member noted that some faculty members (especially newer ones) were overwhelmed and confused when required to assist with collecting, assimilating, and evaluating curricular outcomes data as part of the university’s reaccreditation review. Realizing that these faculty members probably had not received any education on curriculum development prior to joining the college, a curriculum development basics course was designed. This research was deemed exempt and approved by the Purdue University Institutional Review Board.

The seminar placed graduate students in the roles of simulated faculty member committees/groups charged with developing new graduate curricula for the 3 research foci in the department. At the end of the semester, each group presented their work to the rest of the “faculty” to seek approval for their proposed curriculum. Although many graduate students do not plan to pursue academic careers, they will likely find themselves in leadership roles that involve planning for the future of an organization or organizational unit. Effective organizational planning requires more than the acquisition of knowledge. To adapt to the internal and external factors affecting an organization at a particular time, an effective leader needs to be able to identify and apply relevant theories and methods during the planning process (eg, curricular revision).³⁰ Moreover, an effective leader must be able to do so while managing conflict and building consensus with others who may have different priorities, theoretical perspectives, or different levels of buy-in. This course was intended to provide graduate students with the theoretical underpinnings of and guided experience with curriculum planning in the academic setting.

Expected outcomes for students participating in the course were: (1) to complete the major steps in curriculum planning; (2) to work cooperatively in interdisciplinary teams; (3) to manage conflict that arises during the curriculum development process; and (4) to use available organizational resources to achieve goals. Objectives specific to these outcomes are presented in Table 1.

Students met with course instructors for one 50-minute class period each week (Table 2). Three graduate students at the Indianapolis, IN, campus participated in the course via videoconference. During the first class, graduate students were divided into 3 predetermined groups of 5 students. Each group then was assigned to a specific department research focus: social and administrative pharmacy, pharmacy education, or clinical pharmaceutical sciences. Students were assigned to groups in a manner that

Table 1. Instructional Goals for a Curriculum Development Course for Pharmacy Practice Graduate Students

Upon completion of the Curriculum Development Graduate Seminar, graduate students will be able to:
Construct a mission and vision statement that serves to guide development of a curriculum
Develop a philosophy statement that serves to guide development of a curriculum
Describe a theoretical framework as it relates to development of a curriculum
Construct curricular goals and objectives
Develop a list of core courses specific to an assigned research program
Prepare curriculum specific assessment tools
Develop an assessment plan to measure the extent to which curricular goals and objectives are met
Critically evaluate curricular plans of colleagues in a constructive manner
Present and justify development of curricular material to a simulated faculty
Articulate the barriers that present in the development of a curriculum and assessment plan

served to maximize the diversity in research interests present in each group, rather than based on the students' areas of interest. Each of the 3 students at the Indianapolis campus was assigned to a different group to ensure that collaboration and communication barriers were similar across groups.

The course used a cyclical pattern of pedagogy and andragogy. Experts from the pharmacy practice department, the Center for Instructional Excellence, and the Office of Institutional Research at Purdue University introduced the elements that comprise a curriculum through a series of class lectures. Thereafter, in-class group activities and/or discourse regarding the topic(s) commenced. Critical evaluation was a major component of the seminar. Multiple learner-centered techniques were used in the course to foster higher-order thinking, including small/large group discussions and projects, an emotive role-playing exercise, group presentations, self- and peer assessments, simulations, and case-based learning. Readings also were assigned from 2 curriculum development textbooks.^{31,32} Textbooks specific to nursing were used because of the similarities between the 2 professions and the lack of curriculum development texts specific to pharmacy education. One to 2 weeks after a curriculum development topic was introduced in the course, student groups presented their developed curricular element to the class (ie, the simulated faculty) and the instructors. Each group was allowed 15 minutes to present its material to the simulated faculty and justify the manner in which the curriculum

was developed. The groups then were required to revise their work based on feedback from the simulated faculty.

Despite a course schedule outlining specific topics for each class period, the simulated curriculum development process more accurately resembled an actual curriculum development process in that it was iterative in nature. The graduate students spent significant time outside of the scheduled weekly class period meeting in their groups and constructing and revising documents based on class discussions, feedback from peers, and feedback from instructors. Teleconferencing and videoconferencing technologies were used by the groups to facilitate discussion between campuses. One group member was responsible for documenting the activities of each group meeting. Developed materials and meeting minutes were submitted to the primary course instructor via an online course management system prior to each class in which developed materials were to be presented to the simulated faculty. The following is a brief description of curriculum development materials created by the students during the 15-week course:

Mission and vision statements. Mission and vision statements did not exist for each research focus within the department prior to the course. Students were instructed in the intended purpose of both the mission and vision statements and examples were presented to the class to gather student feedback. Each group was assigned to locate and critique a minimum of 3 mission and vision statements from other institutions and discuss them during the following class. Each group developed a mission and vision statement for their research program and presented it to the simulated faculty.

Philosophy. Graduate students were introduced to the college's philosophy statement and its intended purpose. Again, students were encouraged to critically evaluate philosophy statements they could locate for other institutions. Philosophy statements were developed by the graduate students to highlight the manner in which each simulated faculty group perceived their role in the development of individuals who earn a graduate degree in pharmacy practice. Philosophy statements were intended to operationalize the previously developed mission and vision statements.

Theoretical framework. Significant classroom lecture time was spent familiarizing students with theoretical approaches to learning, (eg, behaviorist, constructivist) given that a majority of students were not familiar with theoretical frameworks used in education. Students were directed to a bibliography with numerous references that could be used in the development of their theoretical frameworks. Theoretical frameworks then were developed by the graduate students that served to connect the philosophy of the program to the specific goals that graduate students would be expected to realize upon program completion.

Table 2. Schedule for a Curriculum Development Course for Pharmacy Practice Graduate Students

Week	Topic	In-Class Activities	Assignments
1	Course Introduction	Lecture with discussion Group formation	Read chapters 2 and 7 in Keating and chapter 1 in Tanner
2	Vision and Mission Statements	Lecture Group discussion	Prepare vision and mission statements
3	Vision and Mission Statements	Student presentations of mission and vision statements Simulation-faculty feedback Group discussion	Read chapter 2 in Tanner
4	Philosophy	Lecture Group discussion	Prepare philosophy
5	Philosophy	Student presentations of philosophies Group discussion	Read chapter 3 in Keating
6	Theoretical Framework	Lecture Group discussion	Prepare theoretical framework
7	Theoretical Framework	Student presentations of theoretical frameworks Group discussion	Read chapter 4 in Keating
8	Curricular Goals and Objectives	Lecture Group discussion	Prepare instructional goals and core objectives
9	Curriculum Goals and Objectives	Student presentations of instructional goals and objectives Group discussion	Prepare core course lists
10	Core Courses	Student presentations of core course lists Group discussion	Read Chapter 10 in Keating
11	Curriculum Assessment and Evaluation	Lecture Group discussion	Prepare assessment tools
12	Curriculum Assessment and Evaluation	Lecture Group discussion	Prepare assessment plan
13	Curriculum Assessment and Evaluation	Student presentations of assessment tools and plan Group discussion	Read final documents of fellow groups
14	Curriculum Approval	Group discussion Simulation-approval of final curricular documents	Prepare written reflection
15	Curriculum and Course Feedback	Course debriefing Course evaluation focus group	

Theoretical elements, or techniques/learning experiences that would be used to operationalize the purported educational theory, also were developed and presented by each group to the simulated faculty. For example, a specific theoretical element in the development of independent research skills in graduate students was the requirement that all students develop (a constructivist approach) and defend research proposals.

Curricular goals and objectives. Using the previously developed documents as guides, students constructed overarching goals for each research focus. The goals then were operationalized as measureable objectives that they deemed should be evident in individuals who graduate

from each program. Significant time was spent discussing the ability to develop objectives that would allow the department to assess the extent to which graduates of the programs were meeting the stated objectives.

Course development. After spending significant time conceptualizing the foundational elements of each research focus within the department, the graduate students developed a core course list for each program. The students were encouraged to focus not on current course requirements for each program, but on previously developed documents around which the courses should be developed. Course characteristics that the graduate students developed included: course title, course description,

curricular objectives targeted in the course, assessment methods and tools (eg, rubrics) used, the timing of each assessment, the party responsible for assessment, and performance criteria for each assessment.

Curricular assessment and evaluation. Two class lecture periods were used to define relevant terms for students and to describe the elements that comprise assessment and evaluation. Topics included differentiation of evaluation and assessment, identification of performance criteria, differentiation of performance criteria and performance standards, and topics to consider when developing assessment methods. Multiple formative assessment opportunities were provided to help students assess their ability to differentiate assessment and evaluation, as well as criteria and standards. Groups met during class time to attempt to construct valid assessments for their learning outcomes so that the instructors could assist them as needed. The students then constructed assessment matrices that illustrated the alignment of course requirements and additional program requirements (eg, progress reports, preliminary examinations) with curricular objectives.

The course concluded with each group presenting their developed curricular documents to the simulated faculty. Final feedback was provided by course instructors, and 1 week thereafter, final documents were submitted to the primary course instructor for evaluation.

EVALUATION AND ASSESSMENT

A primary goal of the course was to expose students to the curriculum development process and, therein, increase

student self-efficacy beliefs regarding their ability to perform the skills necessary to develop a curriculum and assessment plan. Self-efficacy beliefs, while context-specific, influence the extent to which an individual persists with a task and the choice of task itself.³³ Students completed a brief 12-item Likert-type pre-seminar survey instrument and an identical post-seminar survey instrument that assessed curriculum development-specific self-efficacy beliefs and students' perceived comfort with receiving criticism and winning support from peers. A 3-point scale was used to assess perceived self-confidence (1 = confident; 2 = somewhat confident; 3 = not confident). Paired *t* tests were used to examine differences in mean pre- and post-seminar assessment item scores. Given the nature of the variables, non-parametric tests of significance also were used to examine the data; however, no differences between parametric and non-parametric tests of significance were noted. Therefore, only parametric test results are presented. The *a priori* significance level was $\alpha = 0.05$. Data were analyzed using SPSS version 18 (IBM, SPSS Inc, Chicago, IL).

Response rates for the pre- and post-course assessments were 100% and 93%, respectively. Tables 3 and 4 present the response frequencies and *p* values for the 9 items that assessed student perceptions of self-confidence in curriculum development tasks and the 3 items specific to student comfort with receiving criticism, respectively. Mean scores decreased, ie, favored increased self-confidence, for all curriculum development tasks; however, only 4 of the differences in mean scores representing assessed skills were

Table 3. Graduate Student Self-Confidence Beliefs Regarding Curriculum Development^a

Item	Pre-Course Assessment (n = 15)			Post-Course Assessment (n = 14)			<i>P</i> ^b
	NC	SC	C	NC	SC	C	
I am confident that I can create a vision statement.	1	8	6	0	4	10	0.165
I am confident that I can create a mission statement.	1	8	6	0	4	10	0.165
I am confident that I can create a curriculum philosophy.	5	8	2	1	8	5	0.111
I am confident that I can create a theoretical framework for a curriculum.	8	4	3	1	8	5	0.104
I am confident that I can create curriculum goals.	4	7	4	1	2	11	0.033 ^c
I am confident that I can create curriculum objectives.	4	9	2	0	3	11	0.001 ^c
I am confident that I can select courses to support curriculum goals and objectives.	1	10	4	1	2	11	0.047 ^c
I am confident that I can create curriculum assessment tools.	4	9	2	1	5	8	0.022 ^c
I am confident that I can create a curriculum assessment plan.	6	7	2	1	7	6	0.069

Abbreviations: NC = not confident; SC = somewhat confident; C = confident.

^a The number of responses was unequal in the pre- and post-assessments.

^b Paired *t* test

^c *p* < 0.05

Table 4. Graduate Students' Perceptions of Comfort When Receiving Criticism and Gaining the Support of Peers (N = 15)^a

Item	Pre-Course Assessment (n = 15)			Post-Course Assessment (n = 14)			P ^a
	NC	SC	C	NC	SC	C	
I am comfortable when I receive constructive criticism	0	3	12	0	2	12	0.583
I remain calm when I receive destructive criticism	1	5	9	1	4	9	0.752
I am comfortable in situations where I must gain the support of my peers for my ideas	0	2	13	0	2	12	1.0

Abbreviations: NC = not comfortable; SC = somewhat comfortable; C = comfortable.

^a Paired *t* test

significant. Post-hoc power analyses indicated insufficient power to detect a difference in mean scores in the study for all insignificant items. Less confidence was indicated in the ability to create philosophies and theoretical frameworks as compared to other topics covered in the course. Across all pre-course self-confidence items, 34 responses of “not confident” were indicated, compared with only 6 responses of “not confident” on the post-course survey instrument. At most, 40% of graduate students were confident in performing any element of curricular development and assessment prior to participation in the graduate seminar, while over 70% of graduate students were confident in performing 5 of the 9 assessed areas after participation in the seminar.

Eighty percent of graduate students perceived themselves to be comfortable with receiving constructive criticism and 60% were able to remain calm when receiving destructive criticism (Table 4). Prior to the seminar, 87% of graduate students felt comfortable in their ability to gain the support of their peers, and there was little change in this percentage after completing the seminar.

Focus Group

At the conclusion of the course, a focus group was conducted by 2 experts from the Center for Instructional Excellence to gather student feedback regarding the course and the current pharmacy practice graduate curricula. Course instructors were not present during the evaluative focus group. Student feedback was anonymous and not provided to the course instructors until final grades had been submitted. The focus group was structured in such a manner that consensus among graduate students was necessary for statements or criticisms to be documented in the course evaluation.

When asked what they liked about the curriculum development seminar, the graduate students indicated they enjoyed learning about research foci other than their own. Students also enjoyed learning about the elements that comprise curriculum development and assessment. Likewise, students liked the applicability and relevance of the completed tasks to their future careers despite many students expressing interest in non-academic careers. Although

a few of the students had taken assessment and program development courses outside the department, a majority had no prior experience with the topics covered in the course. Collaborating with other graduate students and learning to receive feedback from peers also were highlights of the course according to the participants. Students liked being exposed to multiple instructors and multiple perspectives regarding curriculum development. Also, students appreciated being challenged and criticized by the instructors. An appreciation for the sense of accomplishment resulting from the finished curricular documents also was expressed.

When asked to respond to the question “What did you dislike about this seminar?” students indicated frustration with the perceived lack of organization in the course, particularly the lack of clarity as to when groups were to present material. Students also expressed frustrations regarding unclear directions for assignments, difficulty in locating instructor feedback on the online course management system, and dislike for the required textbook readings, which they felt were not applicable and added little to the course. Perhaps the most voiced criticism was the workload required for a 1-credit hour seminar course.

The graduate students' suggestions for improving the course complemented their dislikes. Students suggested omitting textbooks or including better textbooks, increasing the credit hours earned through completion of the course, and improving organization among the 3 instructors. Students also suggested pre-course debriefing sessions for non-pharmacy instructors in an effort to increase the applicability and relevance of the lectures provided by these instructors. AU1

DISCUSSION

From a learning objectives perspective, implementation of the curriculum development graduate seminar was successful. The value of the course was seen most significantly in the transformation of the student's curriculum development documents as the semester progressed. The graduate students revised documents regularly based on class lectures and feedback from the simulated faculty members. Considering the time involved, graduate students

were not asked to construct baseline curricular documents to which the final documents could be compared. However, the 3 course instructors unanimously agreed that student abilities to construct and critically evaluate curriculum and assessment plans matured throughout the semester. A brief representation of the final curriculum document for the clinical pharmaceutical sciences division is presented in Appendix 1 (complete documents are available upon request from the corresponding author).

The department also benefitted from the curriculum development course. Because of the quality of the curriculum development documents resulting from the course, the department intends to use them in a foundational manner in forthcoming graduate program evaluations. A large portion of the work necessary to construct curricular documents specific to graduate research programs in the college was completed as a result of this seminar. The seminar therefore met the needs of graduate students, the department, the college, and, from an accreditation perspective, the university itself.

From a resource perspective, the course used expertise available from 3 distinct entities on the Purdue University-West Lafayette campus. Whereas inclusion of experts external to the department was not a necessity for course implementation, it enabled students to experience multiple perspectives regarding the subject matter and enabled a realistic simulation of faculty disagreement. This experience also reminded graduate students to research and use existing organizational resources and to ensure adequate support for employment responsibilities when seeking an academic or nonacademic position.

During one of the initial class sessions, a non-pharmacy course instructor destructively criticized each groups' developed curriculum documents in an effort to evoke an emotional response from the graduate students. Students left the class session angry with the instructor. During the next class session, the same instructor gathered students' thoughts regarding the previous class session. All students indicated that they were upset with the manner in which the instructor had criticized their work. The simulation was then revealed to the graduate students. Despite evoking anger from the graduate students, the same students indicated in the focus group that the emotive simulation was one of the most valuable learning techniques used in the course.

The course required the students to spend significant time outside of the 50-minute weekly class sessions to complete their group assignments. When conflicts arose in scheduling use of the college's videoconferencing equipment, students used teleconferencing, Web-based videoconferencing (eg, Skype), and online document management systems (eg, Google Docs) to facilitate group meetings. Although the multi-campus nature of the course did create

some communication barriers, it also provided an authentic learning environment, representative of many current multi-campus colleges and schools of pharmacy and corporations.³⁴ Students indicated they averaged at least 1 group meeting per week throughout the semester in addition to time spent individually conducting literature reviews, developing pre-group meeting materials, preparing course presentations, and reading required course materials. On average, students spent 5 hours per week in course-related activities outside of the 50-minute class session.

The multi-instructor nature of the course created obstacles for the students in that non-pharmacy instructors used learner-centered examples that were more applicable to doctor of pharmacy (PharmD) students than to graduate students. Revisions will be made to future course offerings in the form of additional instructor collaboration prior to and throughout the course to improve the authenticity of the learning context. Additionally, disorganization regarding assignments, Web-based course management software, and instructor feedback presented in the course also were mentioned by graduate students; however, this perceived disorganization was largely intentional. The course instructors attempted to portray fickle faculty members who were unfamiliar with and/or had strong beliefs regarding curriculum development processes.

Other textbooks, eg, a curriculum development textbook specific to the pharmacy profession, will be evaluated for applicability to the course as the students did not indicate that the nursing text added to their understanding of course content. Regarding Web-based course software, increased efforts will be made to create a more user-friendly course Web page, especially with regard to the location of specific course materials (eg, feedback, assignments) within the course management system. Finally, the amount of time required by graduate students to complete course activities will be taken into consideration in future course offerings. Potential alterations to the course include expanding the course to comprise 2 graduate seminars (ie, 2 semesters), or omitting aspects of the curriculum development process. However, these options create challenges when considering graduate student matriculation and curriculum development skill development, respectively. The amount of effort expended by the graduate students was likely representative of the amount of effort required by pharmacy faculty members who participate in curriculum development activities.

Limitations are inherent when conducting a study in a relatively small graduate program. The small sample size was a limitation; however, Purdue University does have a relatively large number of pharmacy practice graduate students compared to other colleges and schools. The lack of data regarding self-confidence instrument reliability and

validity also is a limitation of the study. The subjective analysis of final curriculum development documents from the perspective of the course instructors is a limitation. However, consensus among all course instructors regarding the quality of the curriculum development documents served to validate the outcomes of the study. Finally, despite significant positive changes in graduate students' perceptions of self-confidence regarding curriculum development, the practical significance of these changes is uncertain.

CONCLUSION

Despite curriculum development being a pervasive dynamic activity, skills necessary to engage in curriculum development activities are seldom taught to future academicians. Implementation of a curriculum development simulation in a graduate seminar served to increase graduate students' self-confidence regarding their ability to develop essential aspects of curriculum and assessment plans. Evaluations from students and course instructors suggested that the course served as an effective tool for preparing graduate students for future curriculum development activities and additional activities that require managing conflict and building consensus among constituents while simultaneously meeting the needs of the college and institution.

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Appendix 1. Final Mission, Vision, and Philosophy Statements for the Division of Clinical Pharmaceutical Sciences Resulting From a Curriculum Development Seminar

Mission Statement

The mission of the Division of Clinical Pharmaceutical Sciences Graduate Program is to:

- Cultivate student ability to independently conduct innovative clinical research in the areas of pharmacokinetics and pharmacodynamics.
- Contribute to discovery, dissemination, and application of new knowledge by bridging bench and patient-centered research to improve pharmacotherapy and patient outcomes.
- Foster student communication and teaching skills through experiences in academic and clinical settings.

Vision Statement

The vision of the Division of Clinical Pharmaceutical Sciences Graduate Program is to be the pre-eminent program recognized for our strong focus on developing outstanding clinical scientists, faculty, and leaders in research and education with the aim of continually contributing to the advancement of the field of clinical pharmacy.

Philosophy

The Division of Clinical Pharmaceutical Sciences commits to developing our graduate students through a focus on the core values of excellence, integrity, diversity, leadership, and collaboration. These values are specifically applied to development of scientific thinking, independent research skills, communication skills, and teaching skills. Our philosophy provides the foundation to excel in the areas of research, education, patient care, and service. When our values are applied to these skills, patient outcomes and scientific knowledge are advanced. Our philosophy drives both our students and our faculty to excel in their respective areas of interest. We accomplish our philosophy in the following ways:

Education

- Provide the highest quality education in clinical pharmacy through coursework and laboratory training to develop independent and life-long learners.
- Develop competent teaching abilities through mentorship and teaching opportunities.
- Partner with local practitioners, health-care facilities, and organizations to maximize the professional and educational experiences of our students.
- Cultivate a culturally diverse environment with able mentorship and interaction that enables students from different backgrounds to maximize their learning potential and enrich their graduate experience.

Patient Care

- Advance drug therapy by understanding pharmacokinetics and pharmacodynamics, thus contributing to the improvement of patient care.
- Improve patient outcomes through partnerships with patients, clinicians, and caregivers and residency opportunities in clinical settings.
- Encourage student interaction with a cultural mix of patients to educate them about diversity and foster a tolerant attitude.

Research

- Apply research methods using cutting-edge technology to assess drug safety and efficacy in animal models and clinical trials.
- Provide experiences that allow students to fully and efficiently develop scientific thinking and independent research skills.
- Provide collaborative opportunities to engage in interdisciplinary research.
- Encourage dissemination of research findings at local, state, regional, national and international conferences.

Service

- Participate in and support endeavors that promote the value of diversity in the lives of students, faculty, and patients.
 - Assume leadership roles within the pharmacy profession through active participation in clinical pharmacy conferences.
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