Assessment Plan - College of Pharmacy

I. College Perspective

A. Introduction

1. Mission Statement
   The mission of The University of Toledo College of Pharmacy is to educate students to meet the pharmaceutical needs of society, to advance pharmaceutical knowledge through research and to serve the profession and the community. Guiding principles are personal integrity, respect for humanity and professionalism.

2. College Structure
   The organizational structure of the College of Pharmacy is diagrammed in Exhibit I. Administratively, the College is divided into three departments, each with a department chair, which delineate the primary disciplines defining the pharmaceutical sciences; Medicinal Biological Chemistry, Pharmacology Toxicology, and Pharmacy Practice. This administrative structure serves the College well in that the three disciplines represent unique domains of knowledge within the pharmaceutical sciences, and therefore, collaborative projects, the securing and sharing of research resources, and graduate educational experiences are optimized through this departmental structure. The College is served by a dean, two associate deans, directors for each of the College's three experiential programs, a director of the BSPS program, a director of educational assessment and a business administrator. The associate deans are administratively responsible for admissions, advising and student services, and for graduate education and research, respectively. While the organizational structure diagrammed in Exhibit I facilitates achievement of the mission of the College, from the perspective of academic program assessment, it is more appropriate to describe the College by its three academic programs: the four year baccalaureate degree, the Bachelor of Science in Pharmaceutical Sciences; the professional licensure degree program, the Doctor of Pharmacy degree, accredited by the Accreditation Council for Pharmaceutical Education [ACPE], and, the research track programs, the M.S. and Ph.D. in Pharmaceutical Sciences. The College faculty collectively contributes to each of these programs. Therefore, all academic assessment activities are performed at the College level for these programs. As such, the format of this Assessment Plan for academic programs within the College of Pharmacy is described by the degree objective, rather than by department offerings. Further, since the Doctor of Pharmacy degree builds upon the BSPS degree encompassing both undergraduate and graduate coursework and experiences, and because it is the current configuration of the academic program that founded the College of Pharmacy more than a century ago and remains, the primary degree offered by the College, assessment initiatives of the College primarily involve this program. Thus, most assessment initiatives are embedded in activities associated with the professional degree program, and modified for the other two academic programs based on desired curricular outcomes.

3. Assessment Program Infrastructure
   Assessment initiatives within the College are the administrative responsibility of the Director of Educational Assessment. Reporting to this individual in this capacity is the
Chair of the College Curriculum Committee, the Directors of Introductory and Advanced Pharmacy Practice Experiential Programs of the Doctor of Pharmacy program, the director of the BSPS Experiential Program and a graduate teaching assistant for assessment who compiles and summarizes assessment data. The Director of Educational Assessment chairs the College Assessment Committee which is composed of faculty and student representation from both the Doctor of Pharmacy and BSPS programs. The College’s Assessment Committee oversees all assessment initiatives within the College and assures continuity and consistency of assessment functions and the appropriate and timely utilization of the data. The Director of Educational Assessment is a member of the Pharmacy Advisory Council, an administrative group who oversees academic affairs within the college. The Pharmacy Advisory Council consists of the associate Deans, academic program directors, department chairs, vice chairs, the Curriculum committee chair, Academic Performance Committee Chair, student representatives, and the administrative staff of the UTMC Department of Pharmacy. The Director of Assessment is also a permanent member of the College Curriculum Committee. A staff position devoted to assessment activities for the collection and reporting of data has been planned but is awaiting approval.

While this infrastructure should support assessment efforts within the College, the Director of Educational Assessment is responsible for significant didactic, laboratory clinical practice, and clinical instruction. An Assistant Dean for Academic Affairs position has been approved but funding is not yet approved. Limited faculty resources have strained the development of effective assessment initiatives. Therefore, assessment activities will remain less than optimal until adequate numbers of personnel are available to undertake this effort.

II. Methods of Assessment
A. Assessment Activities
The types of College Assessment activities currently being performed are outlined in Tables 1 and 2. Students in the BSPS program regardless of major complete the same curriculum for the first two years of their plan of study, and on average over 50% of the same coursework in years three and four of the programs. Students in the Doctor of Pharmacy program then advance to complete 90 hours of graduate level coursework in order to attain the professional doctorate degree. Experiential coursework under the supervision of clinical preceptors at affiliate sites are a major component of the Doctor of Pharmacy program and constitutes the final year (32 semester hours). Experiential coursework is also included in the BSPS program as a 12 semester hour course in the final year. Therefore, portfolio development, licensure board scores and evaluations by experiential program preceptors are key elements of the academic assessment for the College. End of course evaluations, "exit interviews" with our graduates, and alumni, and annual end of year surveys conducted in each class are all valuable indirect measures used to assess program effectiveness.

B. Utilization of Assessment Data – Overview
The structure of the College of Pharmacy provides multiple points of feedback for assessing curricular effectiveness. Many informal channels also exist since many graduates are placed in the professional community that regularly interacts with College faculty for post-graduate
educational, scholarship, and professional development, as well as social, events. As for the formal structure, course evaluations are centrally organized within the College and every course is required to be evaluated at least every second offering. Course evaluations follow a pattern approved by the faculty and results are returned directly to the individual faculty being evaluated. The departmental and college personnel committees as well as the faculty member's department chair also receive copies for review. Initiatives for course modification often occur at this level. When broader curricular initiatives are envisioned, or when students desire direct input, the UTCP Curriculum Committee serves as a venue for curricular-oriented discussion. This committee has representation from each department in the College, from students and from the local practice community. The Curriculum Committee seeks input from many sources and develops plans and proposals for faculty review. Input to this committee may come from a department, the College’s Partnership Board (external advisors), alumni or students. This input may be directed to an individual department, or to the Committee for consideration. On a grander scale, the accrediting body requires a site visitation as intervals no less frequent than every seven years. The assessment provided by this body is a feedback mechanism that assures the program is in touch with contemporary national standards of practice.

C. BSPS-Doctor of Pharmacy Program

1. Student Outcomes

The University of Toledo College of Pharmacy (UTCP) has approved educational competencies and outcomes for the Doctor of Pharmacy Program. These competencies and outcomes parallel those of the national accrediting agency for professional programs in pharmacy (Exhibit II). This organization, the Accreditation Council for Pharmaceutical Education [ACPE], has set forth specific standards and guidelines that must be followed and demonstrated prior to a program being awarded accreditation status. The standards encompass organizational standards, those for faculty and supportive personnel, fiscal and physical resource needs, and student and curricular requirements. Those standards that are applicable to the College Assessment Plan and its curricular program include the following:

**Standard No. 9: The Goal of the Curriculum**

The college or school’s professional degree program curriculum must prepare graduates with the professional competencies to enter pharmacy practice in any setting to ensure optimal medication therapy outcomes and patient safety, satisfy the educational requirements for licensure as a pharmacist, and meet the requirements of the university for the degree.

The curriculum must develop in graduates knowledge that meets the criteria of good science; professional skills, attitudes, and values; and the ability to integrate and apply learning to both the present practice of pharmacy and the advancement of the profession. Graduates must be able to identify and implement needed changes in pharmacy practice and health care delivery.

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1 “Good science” implies having the following characteristics: evidence-based, logical, convincing, explanatory, honest, testable, and systematic.
**Standard No. 11: Teaching and Learning Methods**
The college or school, throughout the curriculum and in all program pathways, must use and integrate teaching and learning methods that have been shown through curricular assessments to produce graduates who become competent pharmacists by ensuring the achievement of the stated outcomes, fostering the development and maturation of critical thinking and problem-solving skills, meeting the diverse learning needs of students, and enabling students to transition from dependent to active, self-directed, lifelong learners.

**Standard No. 12: Professional Competencies and Outcome Expectations**²
Professional pharmacist competencies that must be achieved by graduates through the professional degree program curriculum are the ability to:

1. Provide patient care in cooperation with patients, prescribers, and other members of an inter-professional health care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, cultural, economic, and professional issues, emerging technologies, and evolving biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences that may impact therapeutic outcomes.

2. Manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel, to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use.

3. Promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an inter-professional team of health care providers.

These professional competencies must be used to guide the development of stated student learning outcome expectations for the curriculum. To anticipate future professional competencies, outcome statements must incorporate the development of the skills necessary to become self-directed lifelong learners.

**Standard No. 14: Curricular Core—Pharmacy Practice Experiences**
The college or school must provide a continuum of required and elective pharmacy practice experiences throughout the curriculum, from introductory to advanced, of adequate scope, intensity, and duration to support the achievement of the professional competencies presented in Standard 12.

The pharmacy practice experiences must integrate, apply, reinforce, and advance the knowledge, skills, attitudes, and values developed through the other components of the curriculum. The objectives for each pharmacy practice experience and the responsibilities of the student, preceptor, and site must be defined. Student performance,

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² American Association of Colleges of Pharmacy’s, Center for the Advancement of Pharmaceutical Education (CAPE), Educational Outcomes, 2004 (with minor edits)
nature and extent of patient and health care professional interactions, where applicable, and the attainment of desired outcomes must be documented and assessed.

In aggregate, the pharmacy practice experiences must include direct interaction with diverse patient populations in a variety of practice settings and involve collaboration with other health care professionals. Most pharmacy practice experiences must be under the supervision of qualified pharmacist preceptors licensed in the United States.

**Standard No. 15: Assessment and Evaluation of Student Learning and Curricular Effectiveness**

As a component of its evaluation plan, the college or school must develop and carry out assessment activities to collect information about the attainment of desired student learning outcomes. The assessment activities must employ a variety of valid and reliable measures systematically and sequentially throughout the professional degree program. The college or school must use the analysis of assessment measures to improve student learning and the achievement of the professional competencies.

The college or school must systematically and sequentially evaluate its curricular structure, content, organization, and outcomes. The college or school must use the analysis of outcome measures for continuous improvement of the curriculum and its delivery.

To this end, the faculty have mapped the curriculum based on the competencies necessary to successfully complete the program of study in pharmacy at The University of Toledo. Exhibit I presents the professional competencies. Exhibit II presents the same data from a different perspective. It identifies each competency statement and the courses in which the competencies are developed. It further identifies the method used to measure achievement of the competencies. True to the mission of the College, the competency most often cited for inclusion in the professional curricula is that related to the ability to design, implement, monitor, evaluate, and modify or recommend modifications in drug therapy to insure effective, safe, and economical patient care. Other competencies with a high level of emphasis include, communication skills, identifying and solving medication-related problems, performing drug regimen reviews, patient counseling, drug literature retrieval and displaying the habits, attitudes and values required to render pharmaceutical care. Attainment of these competencies is the parameter by which curricular effectiveness is gauged.

2. **Types of Assessment**

The process for assessing attainment of the desired competencies is both formative and summative in nature. Table 1 outlines the tools that are used in this process, delineating formative and summative measures of competency assessment. Exhibit II demonstrates the multiplicity of ways used to achieve those competencies. Both course content and processes focus on the competencies using traditional classroom and technologically enhanced instructional strategies, and measure achievement of the competencies most commonly through objective tests, written assignments and laboratory or simulated application. In many cases the competencies are ultimately applied to the practice setting in the clerkship or
practice experience program. Electronic portfolios are used in the Introductory Pharmacy Practice Experiential course series and continued throughout the program. They are used for self-reflection and it is planned that they will contain artifacts documenting the students’ professional development over the entire degree program. End of Year Surveys are administered annually to each Doctor of Pharmacy class. These surveys help document the students’ development of skills as well their views on instruction, services, policies and resources.

The summative methods for outcome assessment of graduates from the UTCP program are multi-faceted and consistent with the University's overall strategy of assuring that the institution's graduates reflect the academic mission and goals of both the College and the University. As with most colleges of pharmacy, a primary outcome assessment tool is performance on the NABP Licensure Examination, reported by the Ohio Board of Pharmacy. In addition, records are maintained on employment patterns and entry positions of our baccalaureate and professional doctoral graduates. The College conducts periodic surveys with regional employers of UTCP graduates to investigate the perceived preparedness of our graduates for entry into the workforce. Alumni feedback on the curriculum and suggestions for curricular change are periodically solicited, as is the input from preceptors in our experiential program. These latter processes assist in assuring that the curriculum is responsive to changes in pharmacy practice—and that instructional strategies and academic experiences are appropriate for preparing the student for entry into pharmacy practice.

3. Timeline for Assessment

Quantifiable and measurable performance standards for the achievement of curricular competencies (outcome expectations) are described in each course syllabus and determined by the course instructors. As noted in Table 1, a number of performance indicators are used to evaluate student achievement at progressive points throughout program matriculation.

Periodic course examinations are the most common method employed to evaluate the student achievement of course competencies. Laboratory exercises, homework, assigned papers, projects, and presentations are also commonly employed throughout the curriculum to measure student mastery of skills and the application of knowledge. A number of these evaluation points have mandated passage criteria with necessary remediation in order to pass the course or proceed to the following year. The use of the professional competency statements allow for the assessment and pattern of student achievement of the competencies. Currently, no single evaluation tool is used in the Doctor of Pharmacy program to assess student achievement of program competencies. Most course sequences are multi-termed and are taught by the same cadre of faculty. Therefore, the Pharmacology sequence can progressively build student competency and hold the students to a standard of knowledge established in the earlier courses. The same accountability can be maintained in the Practice Development sequence, and the Physiological Immunotherapy sequence in the MBC program. A new curriculum is planned to be implemented in Fall 2009 which will rely on integration of basic science and clinical skills knowledge, along with introductory experiential courses. The successful integration of these foundational and applied courses will rely on the respective faculty communication of both course content and resultant
competency expectations. Basic science and clinical faculty are planned to participate in jointly teaching a number of courses in order to provide successful integration. Both the introductory experiential course series and the professional practice development course series will contain evaluation measures which will document the development of the skills and knowledge of the student as applied to the care of patients in various practice settings. The evaluation measures focusing on the efficacy of the curricular structure and outcomes will provide information which will result in curricular modifications and revisions to the professional program. Responsibility for oversight of this process rests with the UTCP Curriculum Committee. Any recommendation from the committee for curricular modification is brought before the entire College faculty for discussion and vote.

A number of competencies are evaluated throughout the curriculum at defined timepoints. Key pharmacy practice competencies are evaluated at the end of the second professional year by practical laboratory examinations. Additional competencies are evaluated at the end of the third professional year by written assignment and examination. The capstone senior seminar in the fourth professional year permits evaluation of additional competencies. All of these evaluations include necessary remediation if adequate documentation of competency is unmet.

Of the indirect and summative evaluation tools, the most frequently and longest standing tool for assessment has been the comparative results of UTCP graduates on the NABP Licensure Examination as reported annually by the Ohio Board of Pharmacy. The data compare overall performance on the NABPLEX examination by graduates nationally. Examination passage rates are evaluated to assure appropriate curricular development of our graduate's knowledge and skills. For example, in the last four years, the UTCP Doctor of Pharmacy graduates have outpaced National passing rates by an average of 2-7%. This continued performance level provides documentation of the effectiveness of the overall curriculum.

D. BSPS Program (Medicinal & Biological Chemistry; Pharmaceutics; Pharmacology Toxicology; and, Pharmacy Administration. Tracks)

1. Educational Objectives
   The Bachelor of Science in the Pharmaceutical Sciences (BSPS) degree is a four-year baccalaureate that prepares the graduate for entry-level, technical positions in academic, governmental or pharmaceutical industry research laboratories, in selected regulatory agencies such as the FDA, CDC or state organizations, in pharmaceutical sales, in business administration, or for entry into graduate research programs or study in law, medicine or business. The program was established in response to the increasing demand for scientists, researchers, administrators and professional sales representatives in pharmaceutical fields. The curriculum for the initial two years of the BSPS program is identical to that program described for the Doctor of Pharmacy students. The final two years of the programs differentiate the graduates with the knowledge and skills competencies appropriate to the degree track. The four majors that may be declared through the program include: Medicinal & Biological Chemistry; Pharmaceutics; Pharmacology Toxicology; and, Pharmacy Administration. The latter major also
provides an opportunity for the student to achieve a Minor in Business Administration or a Minor in Professional Sales.

The educational objective of the BSPS-Medicinal Chemistry major is to prepare the graduate with the competencies necessary to achieve an entry-level position in a research laboratory focused on the design, synthesis and development of drugs. Competency in the fields of organic chemistry, biochemistry, molecular biology, biotechnology, and pharmaceutical chemistry are provided through this program. In addition, skills competencies are obtained through supervised laboratory experiences on campus and a structured 12-week practicum in the pharmaceutical industry.

The educational objective of the BSPS-Pharmaceutics major is to prepare the graduate with the competencies necessary to achieve an entry-level position in the pharmaceutical industry focused on the design and evaluation of drug delivery systems and pharmaceutical dosage forms. Competency in areas of physical chemistry (pharmacy), biopharmaceutics, pharmaceutical rate processes and pharmaceutical manufacturing techniques are provided through this program. In addition, skills competencies are obtained through supervised laboratory experiences on campus and a structured 12-week practicum in the pharmaceutical industry.

The educational objective of the BSPS Pharmacology/Toxicology major is to provide the graduate with the competencies necessary to achieve an entry-level position in academic, governmental or industrial research laboratory in the pharmaceutical, food science or cosmetic industry with a focus of drug discovery and development. Competencies include focused elucidation of the site of action and the fate of drugs and xenobiotics in the human system and the understanding and development of dosing strategies that will optimize intended outcomes and limit the toxicity of human exposure to active agents. Foundational competency in areas of pathophysiology, drug absorption and disposition and techniques in assessing toxicological manifestations of exposure are provided through this program. In addition, skills competencies are obtained through supervised laboratory experiences on campus and a structured 12-week practicum in the pharmaceutical industry, in a toxicology laboratory or in an environmental regulatory agency.

The educational objective of the BSPS-Pharmacy Administration major is to prepare the graduate with the competencies necessary to achieve an entry-level position in pharmaceutical sales and management positions in the pharmaceutical industry, corporate or retail pharmacy offices, in agencies or for companies administering or managing pharmaceutical health care benefits. Graduates of this program also earn a minor in business administration or in professional sales from The University of Toledo College of Business. Competency is areas of pharmacology, health care delivery systems, communications, effective business practices, accounting and program management are provided through this program. In addition, skills competencies are obtained through a structured 12-week practicum in the pharmaceutical industry, in corporate retail pharmacy offices, in professional association offices or in governmental regulatory agencies.
2. **Types of Assessment**  
The process for assessing attainment of the desired competencies in the program tracks parallels the assessment performed in the Doctor of Pharmacy program track and reflects both formative and summative in nature. Table 2 includes the tools that are used in this process. Tools used in the BSPS program include end of course evaluations, mid-course evaluations, job placement data, faculty survey, and experiential site preceptor evaluations, and portfolios. Both course content and processes focus on the competencies using traditional classroom and technologically enhanced instructional strategies, and measure achievement of the competencies most commonly through objective tests, written assignments and laboratory or simulated application. In many cases, the competencies are ultimately applied to the practice setting in the practical experience program. A student portfolio, which will progressively build as the student completes the program, is currently being developed. The summative methods for outcome assessment of graduates from the UTCP program are multi-faceted and consistent with the University's overall strategy of assuring that the institution's graduates reflect the academic mission and goals of both the College and the University. Records are maintained on employment patterns and entry positions of our baccalaureate graduates. External advisors from local and regional pharmaceutical companies provide valuable feedback regarding preparation of students and necessary possible curricular modifications.

3. **Timeline**  
Quantifiable and measurable performance standards for the achievement of curricular competencies (outcome expectations) are described in each course syllabus and determined by the course instructors. As noted in Table 2, a number of performance indicators are used to evaluate student achievement at progressive points throughout program matriculation. Periodic course examinations are the most common method employed to evaluate the student achievement of course competencies. Laboratory notebooks, homework, assigned papers, projects, and presentations are also commonly employed throughout the curriculum to measure student mastery of skills and the application of knowledge. An additional measure of programmatic quality which is tracked is the number of nationally competitive practicums in academic and corporate sites completed annually. Currently, no single evaluation tool is used in the BSPS-Baccalaureate programs tracks to assess student achievement of program competencies. However, the plan of study is predicated on a progressive mastery of skills and knowledge as the student matriculates through the program.

As noted, the faculty is in the process of formalizing the assessment of the student's cognitive learning, the mastery of necessary skills, and communications effectiveness---however, the specific design pieces have not been developed yet. Nonetheless, faculty associated with the practicum program are devising and evaluating various knowledge and skills competency assessments that would be fully implemented.
E. Graduate Programs in Pharmaceutical Sciences

1. Mission, Student Educational Outcomes

The graduate programs in the College of Pharmacy include the Master of Science in Pharmaceutical Sciences, the Master of Science in Medicinal Chemistry and the Doctor of Philosophy in Medicinal Chemistry. The MS in Pharmaceutical Sciences encompasses three distinct areas of specialization within the discipline, including Industrial Pharmacy and Pharmaceutics, and Pharmacy Administration. It is possible for a student to progress from the BS Pharmaceutical Sciences program to the MS and subsequent doctoral programs, or they could matriculate into the graduate programs from similar related disciplines. In all areas, the MS program is designed to prepare an individual for assuming responsibilities in professional practice management, the pharmaceutical industry and scientific research beyond those possible with a baccalaureate degree (note Section The Doctor of Philosophy program in Medicinal Chemistry is designed to provided the most advanced level of training possible focused on that knowledge domain dedicated to elucidating the biochemical and immunological basis of disease and the development of medicinal approaches that prevent, reverse or moderate those diseases processes. The graduate of the program in Medicinal Chemistry is expected to enter into the pharmaceutical industry, into a research laboratory or into an academic position or post-doctoral Further the graduate should be capable of independently conceiving, conducting and analyzing the outcomes of an innovative and relevant research program. As such, the successful candidate for the doctoral degree in Medicinal in addition to defending a doctoral dissertation will construct and present a research proposal that withstands external review and favorably competes for extramural funding support.

2. Types of Assessment

The process for assessing attainment of the desired competencies in the MS and PhD Programs parallel the traditional evaluation measures of graduate candidate status. Measures of achievement of the competencies are gauged through objective tests, written assignments and laboratory exercises or simulated process applications. In all cases, the competencies are ultimately evaluated through a candidate's successful completion of an original research project. The development and defense of the research plan and the subsequent written and oral presentation of the results of that research are critical elements for assessing the candidate's readiness for graduation. All processes for developing and approving plans of study, assigning research advisors and committee members, and formatting of thesis dissertations follow the policies and procedures of The University of Toledo Graduate School.

Additional assessment measures of program effectiveness include: the ratio of the number of admissions to the number of applicants to each program; the number of research papers published or presented at scientific meetings, numbers of patents, extramural funding of the research program, and the placement of graduates upon program completion.

3. Timeline for Assessment

Quantifiable and measurable performance standards for the achievement of curricular competencies (outcome expectations) are described in each course syllabus and determined by the course instructors. The coursework comprising a candidate's plan of study is
individually developed depending upon the incoming competencies and experiences of the person and the specific degree being sought. The plan of study is approved by a committee internal to the College as well by the Graduate School of the University. Periodic course examinations are the most common method employed to evaluate student achievement of course competencies. Laboratory notebooks, homework, assigned papers, projects, and seminar presentations are also commonly employed throughout the curriculum to measure student mastery of skills and the application of knowledge. No single summative evaluation tool is used in the M.S. or graduate program tracks to assess student achievement of program competencies. However, prior to engaging in the doctoral research program, a student must successfully demonstrate competency attainment though the preliminary or "qualifying" examinations developed by the program faculty.

As noted, the ultimate assessment measure of competency attainment is the successful oral and written defense of the student's research dissertation. Assessment of program effectiveness is accomplished through peer-reviewed publication of research findings and extramural funding attracted to support research initiatives.

Evaluation measures focusing on the efficacy of the curricular structure, content, process, and outcomes are systematically and sequentially applied throughout the curriculum with the results applied to modify or revise the program of study. Issues relating to course content and student preparedness are often readily evident since the graduate program class sizes are small and students work in close relationship with faculty. Each department has a committee designated to review graduate program admissions, student performance and completed projects. Responsibility for oversight of this process rests with the Associate Dean for Graduate Studies and Research.

III. Feedback Loop
A. Responsible Parties
Assessment Initiatives within the College are the administrative responsibility of the Director of Educational Assessment who reports directly to the Dean. Individuals or offices responsible for specific elements of the academic assessment program include the Chair of the College Curriculum Committee, the Director of Advanced Pharmacy Practice Experiential Programs (Doctor of Pharmacy program), the Director of the Introductory Pharmacy Practice Experiential Program, the Director of BSPS Experiential Programs, and the Director of the BSPS Program. The College also has an assessment committee charged with the responsibility for overseeing all assessment initiatives within the College, assuring continuity and consistency of assessment functions, and the appropriate and timely utilization of the data.

B. Components of the Feedback Loop
1. Obtaining Assessment Data
The Assessment Plan includes a process of communication of data, evaluation of data, formulation of potential changes and feedback to stakeholders (Tables 1 and 2). This plan identifies the responsible party(ies) for collection of the data and the relevant party(ies) who receive(s) and evaluate(s) the data, along with the relevant stakeholders for each assessment tool used in the program. For some assessment data there may be
national or other benchmarks which may also be available for comparison. The Director of Assessment is responsible for obtaining and storing and sharing the available, appropriate benchmark data. Examples would be the newly adopted surveys for graduating students, faculty, alumni and preceptors which are available from the American Association of Colleges of Pharmacy (AACP) and the licensure scores available from the National Association of Boards of Pharmacy (NABP). For data for which national benchmarks do not exist, internal benchmarks such as data from previous years are used.

2. Evaluation of Assessment Data
Assessment data are forwarded to appropriate parties such as the Assessment Committee, the Curriculum Committee, Personnel committees, Pharmacy Advisory Council, Department Chairs, Associate Dean for Student Affairs, or the Dean for evaluation.

Potential changes in courses, curriculum, policies or resource allocation are discussed at meetings of the Dean’s Administrative cabinet, Pharmacy Advisory Council, committee meetings, student council, and preceptor steering committee meetings. Recommendations resulting from these discussions are forwarded to the Dean for further faculty consideration and discussion along with potential votes on policy changes.

External stakeholders include the Dean’s Partnership Board (which consists of key employers, preceptors, alumni, and experiential preceptors, etc,) experiential steering committees, and others who are actively engaged and play a vital role in the continued improvements to the college’s programs. Structured meetings of these groups occur quarterly.

3. Communicating Programmatic Improvements
Summaries of assessment data are regularly shared with the faculty as a whole at faculty meetings, with administrators at cabinet and council meetings, and at individual committee meetings. Changes in curriculum, policies or other resource improvements are communicated to students in pertinent courses, via bulletin boards, student council, and the college’s digital hallway monitors.

External stakeholders such as the clinical preceptors and the Dean’s Partnership Board are provided assessment data and resultant changes at quarterly meetings where reports by the Experiential Directors, Chair of the Curriculum Committee and the Director of Assessment are provided. Points which arise are taken back to the relevant committees or faculty groups for consideration of programmatic revisions. Assessment data and summaries of it are placed online for faculty to utilize on the college’s pharmacy data share.
IV. Action Plan

A. Expanded Use of Standardized Assessment Tools
   The 2007 ACPE accreditation standards for the licensure program require quality
   improvements in curriculum and instruction through assessment. As a result, numerous
   standardized tools have become available from the American Association of Colleges
   of Pharmacy and the National Association of Boards of Pharmacy. The college will
   continue to evaluate and adopt new surveys and assessments as they become available.
   Nationally standardized tools adopted by the college in the last year include a graduate
   survey, alumni survey, preceptor survey and faculty survey. The Pharmacy Curriculum
   Outcomes Assessment examination is currently under consideration for adoption.
   These tools provide internal and external data for purposes of benchmarking and
   possible curricular revision. New Standardized assessments will be evaluated by the
   Director of Educational Assessment, the Assessment Committee and the Dean as they
   become available. Standardized tools available for the Doctor of Pharmacy program
   will be adapted and used in the BSPS program.

B. End of Year Competency Assessments
   Formalized assessment of competencies will be developed and initiated at key points in
   the newly approved (11/08) Doctor of Pharmacy Curriculum. They will assess all
   educational objectives completed in the first three years of the curriculum.
   Appropriate remediation materials will be developed in tandem and provided to
   students prior to remedial assessment. These assessments will provide valuable
   information regarding the design and delivery of the new curriculum. They will be
   initiated with the implementation of the curriculum, as early as Spring 2010. The
   development and implementation of the assessments will be directed by the Chair of
   the Curriculum Committee, the Director of Educational Assessment and the
   department chairs.

C. Electronic Portfolio Development
   The college has adopted Epsilen eportfolio and is using it in the experiential program
   to document the professional development of students. The college anticipates the
   University’s adoption of an alternate electronic portfolio system which will permit
   assessment applications. Alternatively, the college could adopt a pharmacy specific
   electronic portfolio system currently available on the market. Whichever portfolio
   system is adopted, it should be able to provide data documenting the students’
   professional development over the entire curriculum in both didactic, laboratory, and
   experiential courses over the entire 4 years, and will provide data which helps to
   evaluate the attainment of educational outcomes and further shape the curriculum. A
   decision regarding adoption of a new portfolio system is anticipated by August 2009,
   and is the responsibility of the Dean, the Chair of Pharmacy Practice and the Director
   of Educational Assessment.

D. BSPS Program Assessment
Key elements of the licensure track assessment program (course evaluations, experiential program preceptor feedback, experiential student evaluations) are currently used to assess learning in the BSPS program. Although general competencies exist for the practicum of the program, more specific and fundamental competencies need to be developed for each of the tracks of this program. These competencies will be mapped to the newly revised curriculum, similar to the curricular map of the licensure Doctor of Pharmacy program. In addition, the adoption of many standardized tools in the licensure track will allow adaptation of these tools for the BSPS program. The surveys used for graduates, alumni and preceptors can be modified and used in the BSPS program. The electronic portfolio is also planned to be integrated into the program in a similar manner as the licensure program. The assessment program used in the Doctor of Pharmacy program will be an effective model for a similar approach in the BSPS program. These activities will be directed by the Director of Educational Assessment, the Director of the BSPS program, the Director of the BSPS Experiential Program, the Assessment committee and the Curriculum Committee.