Assessment in the College of Pharmacy

A review of assessment and evaluation activities in the College 1999--2010

Hazel H. Seaba, Associate Dean for Curriculum, Assessment and Compliance
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Principles Guiding Assessment and Evaluation in the College

“However beautiful the strategy, you should occasionally look at the results.”  Winston Churchill

The framework for assessment in the College rests on several principles. First, assessment is done for improvement and secondly, all assessments are as transparent as appropriate. The College recognizes the tension between assessment for improvement and assessment for accountability and seeks to balance the needs of both. Assessments and evaluations should lead to action.

To the extent possible, assessments done for University and ACPE compliance will be made public on the College’s web site. They will also be review by various administrators, committees and the faculty with the aim of monitoring trends and identifying areas where improvement is identified. To establish relevance and grounding, comparative and benchmark data will be used and presented wherever possible.

Opportunities will be sought for the thoughtful consideration of assessment data by the College’s administrators, faculty, and staff. While assessment data, in bulk, will be placed on the College’s web page, pieces of assessment data will also be carefully matched to the interest and responsibility of individuals, administrators, committees, divisions/departments and course coordinators.

Assessment of students’ knowledge, skills, attitudes and values will be based on Pharm.D. learning outcomes and co-curricular goals. Individual course learning objectives link to learning outcomes. Major assessments will occur at transition points in the P1, P2, P3 and P4 years, for example, assessment of readiness for APPE rotations. Students are an equal partner in assessment of their learning and are expected to fully participate in surveys, self-assessments, reflections, skill documentation, and documentation of outcome achievement using devices such as an e-portfolio.

Pharm.D. programmatic assessment will be embedded within the students’ curriculum and academic year schedule. Multiple data sources will be used. Linkage between classroom assessments and external knowledge assessments will be sought with a goal of establishing mutual reliability, authenticity, and validity. The evaluation of the College by external stakeholders is integral.

Institutional assessment is driven by the College’s mission, values, and strategic goals. Connection to the University’s and the Board of Regent’s strategic plans is important.

Decisions to use assessment tools and technologies will be made by informed groups of individuals who are accountable for their effectiveness and efficiency.

The assessment and evaluation program itself is expected to be monitored for success and opportunities for improvement.
Background

The College’s assessment activities grew from the work of the Curriculum Committee Assessment Subcommittee that was established in May 1999. The Subcommittee “recognized that assessment is a continuous, mission-focused, outcomes-oriented, data-driven process that is intended to facilitate improvement of curricular structure, content, process, and outcomes.” (Catney C (Chair) 2000) This subcommittee addressed the expectations of the ACPE standards that took effect July 2000. The members did a thorough inventory of current system-wide (University level), institution-wide, program, classroom research, classroom assessment and individual students assessments that were currently being done. They also proposed an assessment plan for academic years 2000-2001 and 2001-2002 that focused on Pharm.D. education and outcomes. While the plan was well thought out and relevant assessment projects were identified, the COP was not able to assign the resources necessary to carry out the plan. However, the Subcommittee was successful in raising the level of awareness among the faculty to the benefits and basic goals of assessment and also in sensitizing the administration to assessment needs.

A five member team from the College attended the AACP 2002 Institute, “The Interface Between Assessment and Accreditation.” This team focused specifically on establishing an assessment beachhead that was sustainable. The team made two recommendations and following the Institute continued to work and was able to accomplish their recommendations. First they delivered an Assessment Workshop (October 10, 2002) for the faculty. The Workshop speakers addressed strategies for increasing retention of basic science information and applications of learning outcomes. Secondly, the committee provided a structure and mission for a stand-alone Assessment Committee. The mission concentrated on Pharm.D. learning outcome assessment. Dean Cohen approved and established a COP Assessment Committee.

Recognizing the increasing need for assessment as a quality improvement mechanism and assessment to support compliance (ACPE Standards), Dean Cohen appointed H Seaba as the first Assistant Dean for Curriculum and Assessment effective September, 2004, for a 0.4 FTE commitment. This arrangement continued till August 2005 when H Seaba was able to leave the Division of Drug Information Service. The position was changed to Associate Dean for Curriculum, Assessment and Compliance effective July 2009.

Assessment is now an integral part of the State of Iowa’s higher learning institutions. The following is from the Board of Regents’ current strategic plan:
“By June 20, 1011, Iowa’s public universities and special schools, in collaboration with faculty, will develop student outcomes assessment plans for each academic program and establish targets for collecting and using assessment results.”
COP Assessment Committees

The new Assessment Committee held its first meetings in the 2003-2004 academic year. The Committee reported directly to the Dean its first year (Chair: John Brooks). The Assessment Committee revised the original mission statement with minor changes in September 2004 and November 2007: “The Mission of the Assessment Committee is to establish and ensure ongoing and systematic educational assessment and improvement to achieve student pharmacist learning outcomes.” At this time faculty and the committee struggled with how to measure outcomes effectively. The educational outcome statements in place at the time (1998) were general. The debate about what to measure and how to measure it was difficult. The early years of assessment efforts were filled with growing pains while faculty and staff developed an understanding of assessment and its purposes.

The 2004-2005 Committee (Chair: Karen Farris) reported to the Associate Dean for Academic Affairs (Bernard Sorofman). This Committee created, “Improving Learning Outcomes: 3-Year Plan to Initiate Continuous Assessment.” (Farris K (Chair) June 14, 2005) The plan contained seven Pharm.D. assessment activities [review of vital signs of PharmD program, a MNPC knowledge exam, a knowledge exam of chemical and mathematical sciences, analysis of PPL web assessment data, P4 Assessment Day execution, P# Assessment Day implementation, and analysis of mathematical computation skills over a year period] to be completed over the academic years 2005-2008. The 2005-2006 Assessment Committee and subsequent committees reported to Associate Dean for Assessment, Curriculum and Compliance (Hazel Seaba). Over the period of the plan, five of the seven activities were completed; two were deleted from the plan as they proved infeasible. The 2004-2005 Assessment Committee also drafted, and, working in concert with the Curriculum Committee and the Professional Experience Program (PEP) Committee, obtained acceptance for, “Statement of How Curriculum, Assessment, and Professional Experience Program Committees Work Together.” (Assessment, Curriculum and PEP Committees Spring 2006)

The 2005-2006 Assessment Committee (K Farris, Chair) continued the work outlined in the three-year plan and notably assumed responsibility for P4 Assessment Day which included six student activities [drug therapy problem identification, SOAP note writing, calculations, prescription checking, counseling patients, and Pre-NAPLEX]. The Committee also contributed one member to work with a group formed to evaluate and recommend mapping software and another member to work with a task force charged to recommend a comprehensive method for student assessment of courses, instructors and peer review of teaching. The Assessment Committee also investigated methods that could be used to assess P1, P2 and P3 students’ readiness to progress in the curriculum.

During the 2006-2007 academic year the Assessment Committee (K Farris, Chair) revised the three-year plan and continued to implement pieces of the plan. The committee also reviewed the experiences of PEP and Pharmacy Practice Laboratory (PPL) with their paper-based portfolios and recommended that broader portfolio developmental steps begin in 2007-2008.

In April 2006 Dean Cohen contacted each of the seven pharmacy schools in the CIC with a plan for the assessment administrators from each school to meet and discuss mutual goals,
sharing, assessment tool development and professional development. Following an initial meeting in July 2006 the CIC Pharmacy Assessment Collaborative (CIC-PAC) was formed. UI-COP provided leadership during the 2006-2007 year. This collaborative approach has been instrumental in shaping our assessment culture, providing mutual support and development of assessment tools.

In July 2007 ACPE effectuated Standards 2007. The 2007-2008 Assessment Committee (K Farris, Chair) reviewed the standards to determine their impact on the UI-COP. The work of the first three-year plan was completed and the portfolio subgroup recommended a portfolio software program (E*Value™). The Committee drafted a new three-year assessment plan for 2008-2009, 2009-2010, and 2010-2011 that contained seven assessment projects.

E Ernst assumed chairmanship of the 2008-2009 Assessment Committee. The drafted three-year plan was revised. (Ernst E March 2009) Six activities for the 2008-2009 year were approved [review of reports of NAPLEX performance, the P4 Assessment Day exam, and the Graduating Student Survey, review of a APPE readiness statement from Associate Dean for Academic Affairs, and review of a report of APPE performance]; other drafted assessment projects remained in development. The committee also reviewed material concerning PxDx (E*Value), e-portfolios, and PharmPrep™ (ASHP). In July 2009, the Chairperson made three recommendations to the Curriculum Committee, one to the PEP Committee and one to Associate Dean for Assessment, Curriculum and Compliance. The College’s committees only met Spring semester of the 08-09 academic year.

The 2009-2010 committee (E Ernst, Chair) continued to consider those parts of the Assessment Plan that were in development. Notably the Committee approved establishing a relationship with the University of Houston COP to pilot their MileMarker examination. The Committee chose 100 questions from a University of Houston examination for use as the November 1009 P4Assessment Day exam. Following a review of the P4 Assessment Day examination, a new initiative, P3 Readiness for APPEs, was planned. The examination was administered to P3 students during their orientation to APPEs. Their performance on the examination along with their scores from a PPL OSCE and GPA were reviewed to identify students at risk of poor performance on their initial APPE rotations.

Institutional Assessment
Responsibility for institutional level assessment in the College resides with the Dean and the Executive Committee, which is made up of the Dean, the Executive Associate Dean, the three Associate Deans, the two Assistant Deans, the four Division Heads, the Director of the College’s External Relations and the College’s Business Officer. This group meets every other month. Agenda of the Executive Committee meetings frequently include the consideration of reports and data that monitor the status of the Pharm.D. and graduate programs, updates on items from the strategic plan, compliance requirements for ACPE, and University initiated reviews and studies. The College Council (this group includes the Executive Committee and the service division directors) is also involved in institutional level assessment.
The Executive Committee or College Council occasionally meets in retreat format to take a long look at the status of College and progress on initiatives and to plan for the future. The following retreats have guided the College:

- **January 2001** Executive Committee
- **July 2001** College Council
- **November 2004** The entire College participated in a retreat that included a SWOT analysis and attached action items to recommendations for quality improvements.
- **April 2006** Collegiate Council held a retreat that laid plans to address several areas that had been assessed and found to need action: Pharm.D. tuition, fund raising, new ACPE Standards 2007 and collegiate organization.
- **February 2007** College Council met to prepare for the deanship transition, develop a vision for the next five years, assess the gap between our current state (programs, facilities, infrastructure, rankings, accreditation, and financials) and the vision and begin to prioritize resources needed to achieve the vision.
- **November 2008** The entire College met in retreat to assess the College’s compliance with ACPE Standards 2007
- **January 2010** The entire College met in retreat to consider the assessments that have been done in preparation for re-accreditation of the Pharm.D. program

The College’s current mission statement was developed in 1997. Assessment at all levels is informed by the mission statement, as are strategic plans. As part of the new strategic planning process the mission statement was reviewed during the 2009-2010 academic year.

The College’s 2000-2005 Strategic Plan was developed during the 1999-2000 academic year. This plan also included an aspiration and a vision statement. The five goals were fashioned to link with the University’s strategic plan. Each goal contained one or two objectives and specific, measurable actions. Fifteen indicators were identified as targets and each included a baseline and goal measure. A formal reckoning of the status of each action was done in November 2003. The 2000-2005 Plan continued to guide the College after 2005 during the transition of both the University’s and the College’s leadership. In preparation for writing the 2010 Strategic Plan, the level of achievement for each action and indicator was obtained including data after 2005. (Sorofman B (Chair) 2005) This exercise contributed important information that informed the new strategic goals.

The University of Iowa requires all colleges to be reviewed (Collegiate Review) at least once every seven years. (The University of Iowa n.d.) Within the College of Pharmacy, the Collegiate Review is coordinated with ACPE re-accreditation. The College underwent a Collegiate Review in 2005-2006 that included University reviewers external to the College and pharmacy reviewers external to the University. This review was presented to the State of Iowa Board of Regents. The next scheduled Collegiate Review is FY2010.
In summary, the College’s leadership is responsible for institutional assessment that is accomplished by monitoring and acting on reports submitted to the Executive Committee and College Council, self-evaluation and visioning that is done in retreats, strategic plan monitoring, and Collegiate Review.

**Programmatic Assessment**

The Pharm.D. program, the Graduate Studies program and the two service divisions (UI Pharmaceuticals and Drug Information Service) each have their own constellation of assessments.

**Pharm.D. Program**

Assessment for the Pharm.D. program is accomplished primarily by the Assessment Committee and the Associate Dean for Curriculum, Assessment and Compliance. The Curriculum Committee also contributes to assessment as does the Professional Experience Program (PEP) Committee and the Pharmacy Practice Laboratory faculty. The Assessment Committee is guided by their mission, “The mission of the Assessment Committee is to establish and ensure ongoing and systematic educational assessment and improvement to achieve student pharmacist learning outcomes.” The position description for the Associate Dean for Curriculum, Assessment and Compliance contains this goal: “The primary goal for this position is to support the College’s professional academic programs (Pharm.D. curriculum and its quality assurance). The position shares responsibility for ensuring both ACPE accreditation and national recognition of the Pharm.D. program.”

The framework for Pharm.D. program assessment is the College’s mission statement and strategic plan, the Pharm.D. program mission statement, Pharm.D. learning outcomes and ACPE Standards 2007.

The Pharm.D. mission statement was accepted by the faculty in 1998. (Milavetz G (Chair) November 23, 1998) This same Task Force developed Pharm.D. learning outcomes that served the program from 1998 to 2007. The 2007-2008 Curriculum Committee, after college-wide faculty input, approved a new Pharm.D. mission statement:

> The mission of the University of Iowa Doctor of Pharmacy program is to serve the state and society by educating broadly prepared pharmacy professionals who are capable of and committed to delivering both patient-focused and population-based care.

At the same time the Curriculum Committee adopted the CAPE 2004 Education Outcomes as the Pharm.D. program educational outcomes. The Pharm.D. learning outcomes are again undergoing revision. As part of the Curriculum Transformation Committee’s charge in 2009 they are writing new Pharm.D. learning outcomes. It is anticipated that these new learning outcomes will be adopted in 2010.

The curriculum monitoring activities of the Curriculum Committee include elements of assessment, thus the need for the “Statement of How Curriculum, Assessment, and Professional Experience Program Committees Work Together.” (Assessment, Curriculum and PEP Committees Spring 2006) As an example, the first curricular monitoring plan (approved June 2005) chose the topic hypertension. Recommendations from this three year evaluation included:
students should have more opportunities to monitor blood pressure and this should be documented. This recommendation has lead to changes in the PPL and, through acquisition of documentation software (E*Value), blood pressure monitor activities can now be documented using a clinical intervention software program and the electronic portfolio. The current Curriculum Committee is monitoring drug information activities in the curriculum. As part of their evaluation they are assessing students’ opportunities to practice drug information skills.

Seven sources of data are used to assess and monitor the Pharm.D. program applications and admissions. Applicant data points include the number of applicants and a comparison of in-state vs out-state applicants. Admission reports include admission class demographics, gender distribution, minority distribution, and Iowa residency status. These data are reviewed by the Executive Committee and are available on the College’s web site for public review.

http://pharmacy.uiowa.edu/content/PharmD-assessment

Fortunately the Pharm.D. program has very high retention and graduation rates. The reason for any student falling back or exiting the program is monitored. The percentage of students who enter residencies is monitored. Two years ago this resulted in strengthening students’ orientation to the residency process and their interviewing skills. In addition to the AACP Graduating Student Survey, the College administers a P4 Exit Day Survey that provides specific information about student debt, state of employment and other co-curricular information.

The 2009-2010 course mapping project was done to assess the courses’ goals and/or learning objectives coverage of the CAPE outcomes. It identified the strength of coverage of ACPE Appendix B knowledge content areas. This data was primarily for the Curriculum Committee. Other elements in the curriculum map include, for each learning objective, the emphasis the objective receives in the course and the number of hours devoted to the objective. Also identified by objective are the learning domain, knowledge taxonomy, instructional emphasis, pedagogy and course assessment methods.

The College does not have specific procedures in place to assess teaching methods and effect change. However, active learning pedagogies are encouraged. The COP has a strong working relationship with the UI Center for Teaching and has a history (1996 to present) of commitment to teaching skills development through the COP teaching center and regular faculty development programming. There has been strong representation of College faculty in campus-wide and college-wide programs related to pedagogy (nTITLE, service-learning institute, crossroads institute,) and on-going adoption of new technology and pedagogy, such as student response systems and service-learning. The 2009-2010 curriculum mapping process (Seaba July 2010) identified those methods that are being used and the extent of their use in the Pharm.D. curriculum. While lecture accounts for just over 50% of the course pedagogies used, 17 other active learning pedagogies are also in place.
Globally, student performance is assessed using the result from the NAPLEX and MPJE and an in-house knowledge examination.

Student performance on the NAPLEX and MPJE are monitored each year. The College’s expectation is that our students will have very nearly 100 percent pass rate on each exam and that the average score will be above the national average scaled score (which has been the case in all but one of the last seven years). Beginning with the 2007 graduates the College has been able to obtain students’ individual NAPLEX scores. This has allowed several assessments concerning predictors of student performance on NAPLEX:

- Positive correlations with NAPLEX scaled score
  - P3 Pharmacy GPA
  - PCAT scores [best statistical predictor]
  - Entering GPA
  - ACT scores [2007 and 2009 yes; 2008 no]
  - Therapeutic modules correlate with area 1 of NAPLEX
  - PPL math correlates with area 2 of NAPLEX

- Do not correlate with NAPLEX scaled scores:
  - Student’s age
  - Student’s gender
  - Student’s race
  - School where prerequisite coursework was completed
  - Admission interview score

Full reports of NAPLEX and MPJE performance are posted on the College’s web site. [http://pharmacy.uiowa.edu/content/PharmD-assessment](http://pharmacy.uiowa.edu/content/PharmD-assessment)

Prior to 2001 the law course was in the P3 year; however, a curriculum revision in 2001 placed the course in the P1 year – thought to be an advantage for students entering the newly

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**Percentage of Pharm.D. Learning Objectives using each Pedagogy**

<table>
<thead>
<tr>
<th>Pedagogy</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active learning</td>
<td>55.8%</td>
</tr>
<tr>
<td>Case study</td>
<td>21.9%</td>
</tr>
<tr>
<td>Discussion</td>
<td>29.2%</td>
</tr>
<tr>
<td>Demonstration</td>
<td>36.1%</td>
</tr>
<tr>
<td>In-class writing</td>
<td>5.2%</td>
</tr>
<tr>
<td>Lecture</td>
<td>4.5%</td>
</tr>
<tr>
<td>Lab</td>
<td>15.5%</td>
</tr>
<tr>
<td>Other active learning</td>
<td>7.2%</td>
</tr>
<tr>
<td>Media presentation</td>
<td>7.5%</td>
</tr>
<tr>
<td>Role play</td>
<td>0.9%</td>
</tr>
<tr>
<td>Simulation activity</td>
<td>2.6%</td>
</tr>
<tr>
<td>Small group activity</td>
<td>3.4%</td>
</tr>
<tr>
<td>Service learning</td>
<td>6.8%</td>
</tr>
<tr>
<td>Teaching OSCE</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

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Assessment in the College of Pharmacy, The University of Iowa
developed IPPE program. Following this change student pass rates on MPJE have been generally slightly lower than NAPLEX pass rates. This has been a concern. Two changes have been implemented that address MPJE scores. First, the Pharmacy Law and Ethics course was moved from the P1 to the P3 year in 2008. This will bring the course material closer to the time when students are in pharmacies and directly exposed to jurisprudence issues. Secondly, to ensure that students are aware and knowledgeable about appropriate law at the time they first enter pharmacies, students must pass a three-module online law and ethics course at the end of their P1 year before they can enter IPPE 2. This was started Spring 2010. MPJE pass rates and scores are monitored each year.

At a programmatic level the COP has been gaining experience since Fall 2004 with formative knowledge examinations and Objective Structured Clinical Examinations (OSCEs). In November of each year, the College has scheduled P4 students to return to the College from their rotations for two days. One of these days has been designated P4 Assessment Day.

The P4 Assessment Day knowledge examinations that have been used include the Pre-NAPLEX (2004, 2005), an examination written by various faculty that was meant to test knowledge retention (2006, 2007, and 2008), and an examination that consisted of 100 questions from the University of Houston’s MileMarker III examination (2009). A group of six faculty members who attended a Higher Learning Commission workshop on student assessment in 2006 chose to replace the Pre-NAPLEX, which provides very little information about examination content, with an examination that the faculty would write. The purpose of the examination was to provide faculty with an evaluation of student performance on essential pieces of the curriculum. The 2006 exam was expanded considerably in 2007. The 2007 exam was used again in 2008. While this exam provided information about students’ knowledge retention, it was time consuming to create a valid and reliable test question data bank. For the 2009 exam, the Assessment Committee chose to pilot the University of Houston’s MileMarker III examination. The examination covered 11 domains and was composed of questions on cell life, pharmaceutics, pharmacodynamics, pharmacokinetics, law, management, organ systems, physical assessment, practice, therapeutics and toxicology. The examination provided an opportunity to benchmark our students against the University of Houston students and to explore the possibility of collaborating with another school(s) to maintain a knowledge examination item bank. The collaborative offers several advantages: reliability, validity, benchmarking, shared resources. At the current time several of the CIC pharmacy assessment faculty are working with University of Houston to construct a durable, formal collaborative. The intention of the College is to move this examination to the end of the P3 year and use the results, in combination with other assessments, to identify students who may be at risk for less successful P4 advanced practice experiences.

Skill based OSCEs were part of the 2004 and 2005 P4 Assessment Days. In 2006 a group of faculty (trained to construct OSCEs at the University of Toronto OSCEology workshop) replaced the skill-based laboratory OSCE with a standardized patient OSCE given to students in the College of Medicine’s training examination rooms. While this standardized patient OSCE was successful, it was formative. It was also resource intensive and, in the final analysis, its continuation as a routine piece of P4 Assessment Day could not be justified. It was also noted, that students need longitudinal experience with OSCEs throughout the curriculum.
With this in mind a program to introduce OSCE’s into the Pharmacy Practice Laboratory (PPL) over the six semesters has begun. In June 2010 a team of PPL faculty attended the University of Toronto OSCEology workshop. Standardized patient OSCEs were reintroduced within PPL in Spring 2010 as a summative assessment. The results of these OSCEs are used in combination with the P3 Knowledge Exam to identify students who may be at risk for less successful P4 advanced practice experiences.

With the leasing of E*Value™ in 2008, the College obtained access to electronic portfolio software. E*Value™ had been chosen by a faculty committee. E*Value™ modules have been implemented in a phased manner. The eportfolio was a third phase project (scheduling and evaluations had top priority). Portfolios had been used to a small extent in the PPL and the experiential program. With the availability of E*Value™ the eportfolio was initially used just within courses – that is, individual instructors (PPL) have chosen to use the eportfolio as a repository for student work, their reflections and instructor feedback. Each artifact that is assigned to the eportfolio is tagged with the appropriate learning objective. Phasing has allowed a small group of faculty to obtain experience with the eportfolio and also to become the in-house experts on constructing the eportfolio. During the 2010-2011 academic year, the PEP group will move student experiential reflections and instructor feedback to the eportfolio. The Pharm.D. program will have new learning outcomes in 2010. Future eportfolio development will move from the course level to the curriculum level. Students will choose artifacts that demonstrate their progress toward achieving the learning outcomes, they will reflect on this progress and a mentor will review their progress individually. The goal is to maintain a balance between the use of the eportfolio for student learning and assessment.

Another feature of E*Value™ that meets several needs in the Pharm.D. program is PxDx, a clinical documentation system. During 2010 the Curriculum Committee Drug Information Monitoring group is using PxDx to obtain information about the drug information question answering activities of P4 students. PPL is also requiring students to use PxDx to document their clinical intervention activities. Students will receive their initial training on PxDx in PPL. This allowed later courses and the IPPE and APPE program to require PxDx documentation activities. The Curriculum Committee has endorsed its use to document clinical interventions by students. The PEP group has identified opportunities in the curriculum for PxDx use and is currently requiring each P4 student to document their patient interventions made on one day each week. Eventually not only will students have a complete picture of their clinical intervention history during their education, but the College will have clear picture of the clinical activity at each rotation site. Reports of clinical interventions can be generated and placed in the student’s eportfolio.

Since their introduction, the AACP Curriculum Quality Surveys (Graduating Pharmacy Student, Alumni, Preceptors, Faculty) have become a standard part of institutional and programmatic assessment. We routinely compare our results to those of all the schools and colleges who use the survey that year and also to a select group of our peer schools.

With the availability of the AACP/ACPE Graduating Pharmacy Student Survey, the College discontinued its own survey of student perception of their preparation for practice and has use the AACP survey since 2006. The results are reviewed in detail by the Assessment,
Curriculum and Professional Experience committees. To detect trends and changes the Curriculum Committee reviews responses to each of the curriculum questions since 2006. Subsets of the data are reviewed by the Executive and Diversity committees. In 2009 the College extracted many of the questions on the Graduating Pharmacy Student Survey and built a survey appropriate for P1, P2, and P3 students. This new survey was administered to P1-P3 students in 2009. As the response rate was low, in 2010 the survey was assigned to P1-P3 students as part of their obligations in PPL. The results are routinely monitored by the Assessment Committee. Data from this survey appears on the College’s assessment web page.

The Preceptor Survey was administered in 2009 and the results have been reviewed by the PEP group. It is their intent to administer this survey on an alternating year basis.

The Alumni Survey was given in 2008, 2009, and will be given in 2010. The 2008 survey covered graduating classes 2003 and 2006. The 2009 survey covered graduating classes 2004 and 2007. The 2010 survey will cover graduating class cohorts 2005 and 2008. Future surveys will be times to seek feedback from student three to four years after they graduated. The Assessment Committee reviewed the results of these surveys along with the College’s Executive and Curriculum committees.

The AACP Faculty Survey was administered for the first time in 2009 as part of the ACPE Self-Study evaluation. The results were reviewed by a Self-Study sub-committee. The College plans to administer this survey every three years in the future.

In the spring of each year, just before graduation, the P4 students are in the college for one day – a P4 Exit/Review Day. A survey is administered to these students with the goal of determining where the students have accepted positions, the salary ranges, residency placement, the size of their student educational debt and several questions about their advanced practice rotations. The data from 2002–present appears on the College’s assessment web page, http://pharmacy.uiowa.edu/content/PharmD-assessment

The AACP Graduating Pharmacy Student Survey and the College’s P1-3 Student Survey and the P4 Exit/Review surveys all cover co-curricular and extra-curricular activities to some extent. To better capture students’ engagement during their time in the College, the CIC Pharmacy Assessment Collaborative has initiated, in conjunction with a graduate student, a project to create a Pharmacy version of the National Survey of Student Engagement (Pharmacy NSSE). This instrument will be piloted in Spring 2010 among several CIC schools/colleges of pharmacy.

A significant piece of the Pharm.D. program assessment is the ACPE Self-Study which occurs every six years. This assessment is a full two year project and involves all faculty in the College and also major stakeholders such as alumni, students, and state officials. For both the 2004 and the 2010 Self-Studies the College held two retreats each. The process is effective in bringing all faculty to the same level of understanding of the status of the Pharm.D. program. The 2004 Self-Study contained 106 recommendations that the faculty accepted and acted upon. The 2010 Self-Study is structured differently, but through Strength-Weakness-Opportunity-Threats (SWOT) analysis, the process informed the new Strategic Plan.
Graduate Program

The Associate Dean for Research and Graduate Programs has responsibility for assessment of the quality of the College’s graduate programs, along with the Division Heads and the Department Chairs. Metrics for assessment have been set by the University’s Graduate College. The Provost also occasionally requires ad hoc graduate program reviews. The Provost’s Task Force on Graduate Education (2009-2010) ranked the graduate program in Pharmacy among the 14% of programs in the “Exemplary” category. The task force utilized a rubric designating graduate programs as Exemplary, High Quality, Good, or Weak. A review of the graduate programs is also part of the University’s collegiate review of the College.

The Board of Regents and the Provost have directed that graduate program outcome assessments, coordinated through the Graduate College, be accomplished. During the summer of 2010 the Graduate College will be developing consistently defined metrics and specific data requests for each graduate program. In fall 2010 the UI-COP graduate program will prepare their assessment report for the Graduate College.

Service Divisions

The two heads of the College’s service division, University of Iowa Pharmaceuticals and Drug Information Service, report to the Dean. The Divisions prepare annual reports and strategic plans. Although both divisions are primarily engaged in service, they also have a role in education. The educational activities of the Division of Drug Information Service occur within the Department of Pharmacy Practice and Science and those of UI Pharmaceuticals within the Department of Pharmaceutical Sciences and Experimental Therapeutics. Performance expectations for both divisions include contributing to the financial strength of the College.

Course/Classroom/Teaching Assessment

Course level assessment primarily is done using two methods: student evaluation of courses and course coordinators conducting annual reviews of their course(s). Students evaluate each required course in which they are enrolled. Elective courses are also generally evaluated by students.

A Task Force on Teaching Assessment was established in February 2006. The Task Force first addressed student teaching evaluations, then peer assessments and finally other methods to assess teaching. As part of their work, the Task Force delivered a full day faculty workshop on teaching assessment (R. Arreola, January 10, 2007) and also brought in University of Colorado faculty for a two day workshop (March 27-28, 2008) on peer evaluation of teaching. The Final Report (Barry Carter May 5, 2008) from the Task Force made several recommendations for student evaluation of teaching that have been implemented. They also made recommendations for a Collegiate Policy on Peer-Guided Self-Assessment of Teaching. This Policy recommendation is still under active consideration.

Faculty consider student evaluations valuable and use these evaluations for course improvement. Although instructors are free to add questions to the evaluation survey, there are standard questions for both instructor and course evaluations that must be used (Anonymous January 2009). Evaluations are done online using E*Value™. The student completion rate for online course evaluations for Spring and Fall semesters 2009 was 75%. The course evaluation reports are part of the faculty members’ annual evaluation with their Division Director.
evaluation reports are available to the course instructor(s), Division Head, Department Chair, and Collegiate Deans.

Course coordinators’ and instructors’ reviews of their courses accounts for the bulk of both minor and major changes made to courses. In 2007 the pharmacy socio-economic instructors extensively reviewed their curriculum content and course offerings. They proposed significant changes to when their course material was offered and in what context. The Curriculum Committee accepted their proposal and the changes were implemented in 2008. This review also resulted in moving the law course from the P1 year to the P3 year – a welcome change for students who have felt the law course should be closer to their P4 year. A review of three medicinal and natural products chemistry courses in 2008-2009 resulted decreasing their hour credit from four to three.

Both the six course Pharmacy Practice Laboratory (PPL) and the Professional Experience Program (PEP), which includes the Introductory and Advance Practice Experiences, work with the Assessment Committee to accomplish Pharm.D. programmatic assessments. Both PPL and PEP also initiate their own programmatic assessment projects.

PPL requires students to do weekly evaluation of the laboratory activities; this feedback is used to improve subsequent laboratory sessions. Class cohort analysis of individual student assessments, such as math skills, OSCEs, ePortfolio, done in the PPLs provides programmatic assessments.

The Professional Experience Program Advisory Committee provides oversight of the quality assurance process for the experiential program. PEP requires students to evaluate all IPPEs and APPEs – both the preceptor and the site. These evaluations, coupled with on-site visits by the PEP staff/faculty, ensure the quality of the entire program.

**Individual Assessments**

**Students**

A variety of individual assessments are done each year to gauge student’s progress toward achievement of Pharm.D. learning objectives. In addition to the P4 Assessment Day examination and the P3 Knowledge examination that were discussed above, the 2010 curricular map identified 17 assessment methods used in individual courses. While the multiple choice examination is still heavily used, other methods provide performance assessments. The role of OSCEs and e-portfolios are likely to increase in the next two years. Rubrics were not included in survey data below, but they are also becoming increasingly important in student assessment.
As a group these assessment methods are used for both formative and summative assessments.

Administrators, Faculty and Staff
The University requires all personnel to have an annual evaluation of performance. The performance review takes place between the individual and their immediate supervisor. Peer evaluation does not generally play a significant role in annual evaluations; however, faculty evaluation for promotion includes a significant peer evaluation piece.

Both the AACP/ACPE Faculty Survey and the University of Iowa’s Survey @ Iowa provide some evaluation data about administrators.

Resources for Assessment
Prior to 2003 the College’s programmatic assessment was primarily the responsibility of the Graduate Studies Committee and the Curriculum Committee. With the establishment of the Assessment Committee, Pharm.D. programmatic assessment was resourced with its own committee. In 2004 a dean level part-time position for assessment and curriculum was created. The position became full time in 2005 providing much stronger support for assessment at all levels within the COP. Staff support for assessment became available in December 2006 with
the hiring of a part time Research Assistant II (Social Science). The Office of Academic Affairs also provides administrative support for assessment activities and some data collection support.

A department income/expense account for assessment activities was created by the College in 2005. Reoccurring expenses for this account include the Research Assistant II’s salary, travel for generally three professional meetings per year, food and printing expenses for P4 Assessment Day, pre-NAPLEX, AACP Institute team expenses, CIC Assessment Group travel and hosting, E*Value maintenance expenses. Irregular expenses have included OSCEology team training, ACPE Retreats, ACPE Self-Study expenses, and ACPE training. The account also supports the lease of several software programs (SPSS, Atlas, E*Value). E*Value is a substantial expense (over $25,000 per year). The College’s direct financial support, excluding the Associate Dean’s salary, has been:

Assessment Account Expenses (excluding Assoc Dean’s salary):

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY06</td>
<td>$18,980</td>
</tr>
<tr>
<td>FY07</td>
<td>$51,954</td>
</tr>
<tr>
<td>FY08</td>
<td>$38,533</td>
</tr>
<tr>
<td>FY09</td>
<td>$77,919</td>
</tr>
<tr>
<td>FY10</td>
<td>$81,733</td>
</tr>
</tbody>
</table>
# Pharm.D. Program Implementation and Revision Timelines

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1993</td>
<td>Iowa Board of Regents approved the Pharm.D. degree</td>
</tr>
<tr>
<td>1993-1994</td>
<td>Pharm.D. curriculum implementation began (a 1-5 program) with P1 and P2 students allowed to move into Pharm.D. program.</td>
</tr>
<tr>
<td>Fall 1995</td>
<td>First all Pharm.D. class admitted</td>
</tr>
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</table>
| 1998       | - COP approved Mission Statement and Educational Outcomes for Pharm.D. program  
- PPL (12 s hrs) planned  
- May 1998 Last BS graduating class                                                                                       |
| April 2000 | Dean Cohen Established the Curriculum Revision Task Force [6 faculty, 1 alumna and 2 students]                                        |
| November 14, 2000 | COP Faculty Retreat: review report from Curriculum Revision Task Force and begin implementation. Changes that were implemented beginning in the Fall of 2001 were:  
- 19 hours of General Education electives required for admission (12 hours are required at admission and balance may be completed in residence)  
- Early practice experience for P1 and P2 students with shadowing for P3 students [Note there was a 6 yr program (Pre Pharm 1, Pre Pharm 2, P1, P2, P3, P4)]  
- Four of 9 APPEs are elective and 5 are required  
- PSE selectives: new  
- Pathophysiology: new course (never developed)  
- Clinical Pharmacy Skills: revamped ClinProfSkills to parallel pharmacotherapy  
- Drug Lit Eval course split into two courses  
- Modularized pharmacotherapy  
- 18 hours of professional electives (later reduced to 12 hours)  
- Joint PharmD-MPH, PharmD-MBA  
Faculty approved Task Force Report and final revised curriculum adopted by faculty December 2000. |
| January 2001 | New curriculum implemented                                                                                                           |
| Fall 2001  | 1-5 Pharm.D. program changed to 2-4 format                                                                                           |
| Fall 2008  | - PSE selective courses phased out and one new P1 and two new P3 required courses implemented  
- Pharmacy Law and Ethics moved from P1 to P3 year                                                                                             |
| 2007-2008  | - New Pharm.D. mission statement and learning                                                                                         |
outcomes (CAPE) adopted
- New IPPE (300 hours) and APPE program implemented

| 2008-2009 | • MNPC I, II, and III changed from 4 credits to 3 credits each
• IPPE-1 hours dropped from 8 to 6
• APPE grading changed to pass/fail/honors |
| 2009-2010 | • APPE changed to 8 five-week cycles May 2010 with 4 core rotations
• Curriculum Transformation Committee established to write new Pharm.D. learning outcomes and a curriculum revision plan |
Reports Cited


