Assessment Committee Annual Report

Assessment Committee Membership:

Jill Augustine (Committee Chair)

Jordana Stephens Berry (Office of Student Affairs & Admissions)

Phillip Bowen (Dept. Pharmaceutical Sciences)

Liza Chapman (Alum)

Jennifer Knaack (Dept. of Pharmaceutical Sciences)

Lydia Newsom (Dept. Pharmacy Practice)

Sweta Patel (Dept. Pharmacy Practice)

Lori Syed (Experiential Education)

Vanessa Cano (P2 Student)

Cathy Dunton (P3 Student)
Objectives (Status ✓ = complete, IP = in progress)

Objectives from 2015-2016

1. Formulate a recommendation regarding whether the Health Science Reasoning Test should be adopted as a measure of critical thinking and problem solving, and if so make recommendations for administration. (✓)
2. Assist the Director for the Community Pharmacy Residency program in the development of an exit survey for community pharmacy residents and program alumni to measure employment and perspectives on the program. (✓)

2016-17 Objectives:

1. Updates to PCOA examination and administration for the P3 students. (✓)
2. Monitor inclusion of new NAPLEX/MPJE questions into exams and Comprehensive Progression Exam (CPE). (IP)
3. Delivery of Faculty Research Needs survey. (✓)
4. Determine if all data necessary to ensure compliance with the “required documentation requirements” for each standard within ACPE Standards 2016 is being gathered and appropriately analyzed. (✓)
5. Assess whether our program is preparing new pharmacy graduates to perform Entrustable Professional Activities (EPAs). (✓)

On-going Objectives:

1. Update the College Evaluation Plan. (IP)
2. Examine and distribute results from American Association of Colleges of Pharmacy (AACP) surveys and other recurring assessments (including licensure examination results, graduating students’ practice intentions survey, P3 self-assessment of preparedness for entering the fourth year, comprehensive progression examinations, Rho Chi tutoring program summary). Request disposition reports from data users on selected items. (✓)
3. Examine data on correlates of success in the Doctor of Pharmacy Program and transfer to data users. (✓)
4. Monitor course failures and attrition rate. (✓)
5. Remain available as individuals and as a group to provide advice on assessments on an as-needed basis. (✓)

OBJECTIVES FROM 2015-2016

Health Science Reasoning Test (HSRT). The Assessment Committee examined the HSRT and determine if the HSRT should be recommended for administration to our students. The Center for the Advancement of Teaching and Learning (CATAL) journal club reviewed an article about the HSRT and held a discussion about the use of such data if collected. A review of the literature found information about the moderate correlation between HSRT scores and PCAT scores; however, it was reported that no correlation with student grades or other academic performance. The use of the HSRT was discussed as an admission tool to assess students’ meta-cognition (as required by ACPE Standards 2016). Based on the committee discussion on the use of the HSRT and published literature on the test, the committee decided to not recommend the delivery of the HSRT at this time. It was recommended to find other ways to assess meta-cognition within the curriculum and as part of the admission interview.

Community Pharmacy Residency Exit and Alumni Surveys. The Director of Assessment worked with the current residency of the Community Pharmacy Residency program to develop an Exit survey to deliver at the end of the program. Previously used surveys (e.g., PhD graduating student survey), annual AACP/ACPE surveys (e.g., AACP Graduating Student Survey), and other published exit surveys were reviewed to determine what questions to use within this survey. The final draft of the survey contained 44 questions: 5 demographic questions, 28 Likert-styled questions, and 11 open-ended questions, which covered all aspects of the residency program. A similar version of the Exit survey was sent to Alumni of the Community Pharmacy Residency program. The exit survey will be delivered by the Residency Program Director at the completion of the Residency program (i.e., every June)

Graduate Program Exit and Alumni Surveys. Separate questionnaires were developed for administration to Ph.D. program graduating students and alumni with significant input from the Department of Pharmaceutical Sciences. The instruments were sent electronically to three graduating students and 82 alumni. Respondents numbered 3 (100%) for the exit survey and 17 (21%) for the alumni survey. Respondents were positive about their education overall and gave specific suggestions for curricular enhancement. The results from both surveys will be used by the Department of
Pharmaceutical Sciences for continuous quality improvement as well as program marketing.

NEW OBJECTIVES FOR 2016-2017
Pharmacy Curriculum Outcomes Assessment (PCOA). Accreditation Council for Pharmacy Education (ACPE) Standards 2016 require administration of the PCOA examination to students nearing completion of the didactic curriculum, i.e. third professional year (P3) students. Our students were required to take the PCOA, but no minimum performance score was set by ACPE or Mercer University College of Pharmacy. Prior to the examination, two sessions were held to address the PCOA: 1) during the Practice of Pharmacy course, which introduced the test to students and provided an example of PCOA questions (from NABP website); and 2) a P4 PCOA panel, where 3 members of the Class of 2017 were asked to report on their experience preparing for the PCOA and answer any questions. Both of these sessions were well attended by the P3 students. The examination was a professional engagement program requirement, and students took it on April 21st, 2016. Given there were no incentives to review for the PCOA or perform well, we are not confident that the results reflect our students’ knowledge of the subject matter covered in the first three years of the pharmacy curriculum. Our students’ performance was below the 50th percentile rank overall and in the four main sections of the examination. ACPE has begun monitoring PCOA scores compared to the national average. Lowest performing schools will be asked to explain their program's overall performance and steps they will take to improve them. P3 focus group members (from the modular courses) were emailed an open-ended questionnaire by Dr. Barnett and asked for feedback regarding the PCOA. Responses were reviewed by the committee in preparing for the 2017-2018 academic year. The results for the PCOA were released in June, 2017. In response to the scores and the emphasis of the results from ACPE, the 2017-2018 Assessment Committee will need to provide additional recommendations for administering the PCOA and how to increase student preparation for the exam.

New NAPLEX/MPJE question types included in exams and CPE
The Assessment Committee will examine the inclusion of “new” NAPLEX/MPJE question types in 2017-2018 and determine how best to aid the faculty in including these questions types into all exams and the Comprehensive Progression Exams (CPE). In August 2016, Dr. Momary (Vice Chair of the Department of Pharmacy Practice) and Dr. Augustine (Director of Assessment and Assistant Professor) delivered a Colloquy presentation for faculty members to discuss the changes to the NAPLEX/MPJE, which included the changes to the blueprint and competency statements for each exam as well as the addition of different question types (i.e., multiple-choice, multiple response, constructed response (fill-in-the-blank), ordered response, and “hot spot” questions).

Faculty Research Needs Survey
In February 2017, a questionnaire was sent to all faculty members at the College: one version was sent to faculty members in the Department of Pharmacy Practice (DPP) and one version was sent to faculty members in the Department of Pharmaceutical Sciences (DPS). The questionnaire asked faculty to answer questions regarding their needs for conducting research and for research/scholarship productivity as well as their internal and external research grant submissions (including seed and CATAL grants). A total of 23 faculty members completed the questionnaire (6 DPS and 17 DPP). Ten DPP and 2 DPS faculty stated that they were not satisfied with their current research and scholarship productivity. The top areas in which faculty were interested in receiving support and training included: data analysis, selecting the appropriate statistical test for their research questions, acquiring research funding, and grant management or grant writing. Five DPP and 13 DPP faculty members have not applied for a COP Seed grant and 7 DPS and 11 DPP faculty have not applied for a COP CATAL grant. The results were forwarded to the chairs of both departments and the Associate Dean for Research for review.

Data necessary for compliance with 2016 ACPE Standards
The Accreditation Council for Pharmacy Education (ACPE) released updated accreditation standards in 2015 (called the 2016 ACPE Standards). Within the 2016 Standards documents, ACPE outlined required documentation that each school/college of pharmacy is responsible for maintaining. The Assessment Committee was tasked with reviewing the 2016 ACPE Standards Required Documentation to determine if the COP is in compliance or if there are gaps. The
Committee concluded that the COP has all required documentation drafted or finalized. The Committee will continue to monitor these documents (concurrently with the responsible parties) to ensure the documents are appropriately maintained.

**Entrustable Professional Activities**

In 2015, the American Association of Colleges of Pharmacy (AACP) Academic Affairs Standing Committee released a report on the defining Core Entrustable Professional Activities as “units of professional practice or descriptors of works, defined as specific tasks or responsibilities that trainees are entrusted to perform, without direct supervision, once they have attained sufficient competence.” Colleges of pharmacy were tasked with ensuring that these activities are incorporated and assessed within the Doctor of Pharmacy curricula. In addition to specific activities, the Committee designed an assessment scale to articulate the “level of trust.” The initial step of the Assessment Committee was to review the EPAs and indicate where in the curriculum the committee believed each of the EPAs was addressed and the “level” that addressed. This information was shared with the Curriculum Committee for review and to prepare for collaboration between the two Committees over the next several years.

**RECURRING ASSESSMENTS**

**College Evaluation Plan (CEP).** The Assessment Committee reviewed the CEP. In order to increase the usability and readability of the CEP, the Assessment Committee desired to reformat the CEP into tabular format. The Director of Assessment finalized the format. Additionally, due to changes within routine assessments and the AACP surveys, the CEP was updated to reflect new/revised questions.

**Examination of Results from AACP Surveys.** *Alumni Survey (Graduating class of 2014):* Overall, responses were favorable; however, the response rate was low (16.2%). The percent of respondents answering strongly agree or agree to positively worded statements about the curriculum ranged from 85.7% to 100% and results related to development/communication ranged from 81% to 100%. Results about the curriculum were transferred to the Curriculum Committee, and results about general impressions were transferred to the Dean and Executive Committee.

*Graduating Student Survey (Graduating class of 2016):* The response rate was high (76.7%). It was noted that the graduating students had been given time to complete the survey in their P4 capstone course (PHA 650). Overall, the results were favorable. The percent of respondents answering strongly agree or agree to positively worded statements about professional competencies/outcomes/curriculum ranged from 93.7% to 99.1%, pharmacy practice experiences-85.7% to 98.2%, student services-86.6% to 99.1%, the student experience-86.6% to 99.1%, facilities/experiential sites/educational resources-83.1% to 95.5%, and overall impressions-76.8% to 97.3%. Results were transferred to appropriate data users for use in continuous quality improvement. Open-ended comments about interprofessional education were transferred to the Chair of the Interprofessional Education (IPE) Committee. Responses to items about professional competencies/outcomes and curriculum were transferred to the Curriculum Committee. Responses to items about experiential education were transferred to the Directors of Advanced Pharmacy Practice Experiences (APPEs) and Introductory Pharmacy Practice Experiences (IPPEs). Responses to items about student services and the student experience were transferred to the Office of Student Affairs and Admissions.

**Comprehensive Progression Examination Oversight.** In January 2017, the item analyses from the 2016 administration of the Comprehensive Progression Examinations (CPEs) were distributed to course coordinators for use in teaching during the 2016-17 academic year and in making revisions to selected items for the 2017 CPEs. The faculty completed a form which documented question changes and planned adjustments in teaching based on the CPE item analyses. Minor revisions were made to 20 questions, major revisions to 53 questions, and changes in teaching practices were made related to the content of 22 questions. These numbers were higher than previous years because of two main changes: 1) multiple new faculty members incorporated into the courses; and 2) updates to the curriculum, including the Cardiovascular course series in the second professional year and Pulmonary course added to the second professional year. The first-time pass rates were 100% for P1 students, 99% for P2 students, and 100% for P3 students.
Graduating Students' Practice Intentions. A survey of our 2016 graduates revealed that 52.5% planned to practice in chain or independent community pharmacies; 6.6% - hospital pharmacy practice; 25.5% - residency or fellowship; 0% - graduate school; and 8.8% undecided.

NAPLEX and Multistate Pharmacy Jurisprudence Examination (MPJE) Results from 2016 Graduates. The pass rate for Mercer’s 128 first time NAPLEX test takers in May-Aug 2016 was 82.81% compared to the national pass rate of 87.78% and state of 83.80%. The first time MPJE pass rates for Mercer’s 97 graduates testing for Georgia (GA) and 84 graduates testing for any state in May-Aug 2016 were 76.29% and 92.86% respectively (Nat"l=83.77%, state=77.19%). An ad hoc committee was convened to examine the decline in NAPLEX and MPJE scores for those testing for GA. Recommendations made and implemented included an increased emphasis on reinforcement of law throughout the curriculum through testing in the practice of pharmacy courses and the addition of a required licensure preparedness program for all P4 students.

Student Evaluations of Didactic and Experiential Teaching. The cumulative and individual scores for student evaluations of faculty teaching and courses in the didactic and experiential curriculum were compiled and distributed to applicable data users. For the didactic curriculum, on a 5-point scale, the mean rating for course overall was 4.37 for Fall 2016 and 4.34 for Spring 2017. The mean rating for overall teaching ability was 4.47 for Fall 2016 and 4.50 for Spring 2017.

P3 Preparedness to Enter P4 Year. In spring 2017, P3 students (Class of 2018) rated on a 4-point scale (poor, fair, good, excellent) how well prepared they felt to perform 27 practice activities. The percent that rated their preparation as good or excellent ranged from 68.2% to 94.7%. Students entered their individual results in their portfolios and were encouraged to pursue self-directed learning prior to starting the P4 year. The Graduating Class of 2017 was administered the same survey to gauge their perceptions of preparedness for practice. Preparedness for each of the 27 practice functions was rated as good or excellent for 83.7% to 99.2% of the respondents, which was an increase over their responses in 2016, prior to entering their P4 year, when responses of “good or excellent” ranged from 71.4% to 99.4%. This provided evidence that continued learning related to these practice functions had occurred in the P4 year. All data were also transferred to the Curriculum Committee.

Rho Chi Tutoring Program Summary. Statistics on the pass rate for students within courses for which they received tutoring indicated the tutoring program remains worthwhile. The pass rate among students receiving tutoring in a course because of a prior test failure was 85% for Fall 2015 and 95% for Spring 2016.

Course Failures and Attrition Rate. Data on attrition, academic dismissals, withdrawals, and delayed graduation were examined and compared to the ACPE monitoring parameters. At the end of Spring 2017, for the graduating classes of 2017, 2018, 2019, and 2020 the attrition rates were 5.8%, 2.7%, 7.7%, and 3.3%, respectively. There rates are well below the ACPE monitoring parameter of 24% of matriculating class size. It was noted that the number of academic dismissals (defined as those permanently dismissed and those eligible to apply for readmission) and withdrawals are fluid numbers that change as students are readmitted. At the conclusion of Spring 2017, the academic dismissal rates for the classes of 2017-2020 were 3.5%, 2.0%, 3.2%, and 2.6%, respectively and below the monitoring parameter of 6%. Withdrawal rates were 2.6%, 2.9%, 0%, and 2.6%, respectively. Again, below the 6% monitoring parameter. Delayed graduation rates were 2.3%, 0.7%, 4.5%, and 0.7%, respectively, below the monitoring parameter of 15%. Data on course failures were also examined. Total failures have decreased from 47 in 2015-16 to 39 in 2016-17. The steps the school uses to address course failures including student led help sessions and the PDN advising system appear to be effective in addressing failure in many courses.

Correlates of Success. Data used for the 2016 analysis included students in the graduating classes of 2011 to 2019. The class of 2019 entered in August 2015. Pre-admission data includes undergraduate hours/degree completion, cumulative
undergraduate GPA, prerequisite GPA, science GPA, PCAT scores, a prescreening score, a global score, and pharmacy experience. Post-admission data includes GPAs in each professional year, course failures, status in program (e.g., on track to graduate), Comprehensive Progression Exam scores, NAPLEX and MPJE scores. Analysis was performed individually for most of these predictors.

**Pharmacy College Admissions Test (PCAT)**

When examining PCAT sectional scores and GPA in each professional year, the Biological Processes and Chemical Processes scores are the best predictors of GPA in all four professional years. The Critical Reading scores are also a predictor of GPA in the fourth professional year. The prediction value decreases from the first professional year to the fourth professional year.

PCAT sectional scores for Biological Processes were statistically significant multivariate predictors of performance on the P1, P2, and P3 Comprehensive Exams; Chemical Processes was a significant multivariate predictor of performance for the P1 and P2 Comprehensive Exam.

PCAT sectional scores for Biological Processes, Chemical Processes, Quantitative Reasoning, and Critical Reading are statistically significant predictors of NAPLEX total score. PCAT sectional scores for Quantitative Reasoning and Critical Reading are statistically significant predictors of MPJE scores.

Comments:

As this is the third year of analyses that has resulted in two sections (Biological Processes and Chemical Processes) being found as predictors of success, the Admissions Committee may need to continue placing more emphasis on the PCAT sectional scores in the admissions process.

**Undergraduate Degree**

Of the variables “undergraduate degree status” and “number of undergraduate hours,” the number of hours is a statistically significant predictor of GPA in all four professional years. Students who have not completed a bachelor’s degree and have completed more than 95 undergraduate semester hours have higher odds of failing a class.

Comments:

Over 60% of recent entering classes have earned degrees prior to enrollment. This data needs to be considered in light of the current applicant pool trends. The Admissions Committee may need to continue reviewing applicants with a higher number of undergraduate hours who have not/will not complete their degree prior to matriculation to identify possible signs of academic difficulty (e.g., repeating courses in undergraduate studies, changes to undergraduate major).

**Undergraduate and Science GPAs**

Cumulative undergraduate GPA (UGGPA) and cumulative undergraduate Science GPA (SciGPA) are currently two of the criteria used in applicant screening. Prerequisite coursework for the PharmD Program was increased to 90 semester hours to include additional science coursework: Anatomy and Physiology, Microbiology, and Biochemistry. Grades for all undergraduate Natural Science courses attempted are included in a new variable SciGPA for the 2015 analysis. A subset of data from classes of 2016 to 2019 was used to analyze UGGPA and SciGPA as predictors.

The most recent analysis of UGGPA indicates a significant correlation to program GPAs and Comprehensive Progression Exam scores. UGGPA was not found to be a significant predictor of NAPLEX total scores or MPJE scores in the 2016 to 2019 classes (note only one class in the data set, 2016, has NAPLEX and MPJE scores), but was found to be a significant predictor of NAPLEX total scores and MPJE scores when the 2011 to 2019 data set was analyzed.

The most recent analysis of SciGPA for the classes of 2016 to 2019 indicates a significant correlation to program GPAs and Comprehensive Progression Exam scores. Analysis of the SciGPA for classes 2011 to 2019 indicates a significant correlation to program GPAs, Comprehensive Progression Exam scores, NAPLEX total scores, and MPJE scores.

Comments:

The Admissions Committee may need to continue using the Science GPA along with the cumulative undergraduate GPA in the admissions review process.
Interview Scores
Interview scores from Faculty Interviewers, the Director of Admissions, and Student Ambassadors (hosts or interviewers) were not statistically significant predictors of program GPAs, Comprehensive Progression Exam scores, course failures, NAPLEX scores, or MPJE scores.

Comments:
The Admissions Committee may want to consider reviewing and revising the interview process to include a more structured interview process and scoring rubric that evaluates the applicant holistically (based on academic, experiential, and other characteristics) to achieve better diagnostic and valid data on the applicants.