Dear colleagues,

This issue of Let's Think About It features two articles about the third year (P3) Introductory Practice Experiences at Mercer University. Dr. Klein’s reflection on teaching, “P3 Introductory Pharmacy Practice Experiences: Strategies, Structure and Assessment Tools,” provides an overview of the introductory practice experiences. Dr. Klein focuses on the expected performance competencies of the P3 Institutional Pharmacy Practice Experience. The article by Drs. Chesson, Metzger, and Grimsley, “Students’ and pharmacists’ perceptions of a Block Institutional Introductory Pharmacy Experience,” describes the students’ and pharmacists’ perceptions of the first two years of the P3 experience at Emory HealthCare. They identify which activities students found most valuable and provide feedback from the Emory HealthCare pharmacists who were involved with experience.

Dr. Banga and I, and all members of CATAL, hope you enjoy this issue of Let’s Think About It! highlighting introductory pharmacy practice experiences. As always, we encourage you to speak to us about possible manuscript submissions to the newsletter. Let's Think About It! provides a forum for College of Pharmacy faculty to share reports of teaching innovations, reflections on teaching, scholarship of teaching and learning, and summaries of the literature relevant to our faculty and students. For examples of previous articles, please consult the CATAL website for previous issues. Thank you, and again, I hope you enjoy this issue.

Leisa L. Marshall, Pharm.D.
Clinical Professor
Department of Pharmacy Practice
Editor, Let’s Think About It!
marshall_l@mercer.edu

Reflections on Teaching: P3 Introductory Pharmacy Practice Experiences: Strategies, Structure and Assessment Tools

Christine M. Klein, Pharm.D., FASCP

Introduction

In February 2011, the Accreditation Council for Pharmacy Education (ACPE) released version 2.0 of the Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree, hereinafter referred to Guidelines 2.0. With this update, ACPE added additional guidance to colleges of pharmacy on topics related to programmatic assessment, interprofessional education, active learning, and introductory pharmacy practice experiences (IPPEs). Guidelines 2.0 quantify that a minimum 150 hours of IPPE must be spent balanced between the community and institutional setting and reinforce the importance of direct patient care activities. The addition of Appendix D, Pre-APPE Performance Domains and Abilities, in Guidelines 2.0 is the most specific guidance related to IPPEs; this appendix contains eleven core domains and accompanying ability statements (Table 1) that represent the global skills and abilities that all pharmacy students must achieve prior to beginning advanced pharmacy practice experiences (APPEs). Within each core domain and ability statement are individual performance competences that contain elements of the corresponding ability statement. These performance competencies should be utilized to measure student achievement of the abilities and competencies within these core domains. Multiple forms of assessments may be utilized to demonstrate achievement of the core domains including formative assessment such as verbal feedback and written evaluations and summative assessment such as graded assignments and skills assessments.
IPPE at Mercer COP
The release of Guidelines 2.0 led to significant changes in the structure of the IPPE curriculum at the College of Pharmacy: the addition of the Clinical Skills and Simulation Laboratory for first-professional year (P1) and second-professional year (P2) students, the 80-hour Community IPPE block for P2 students, and the 80-hour Institutional IPPE block for third-professional year (P3) students. All IPPE syllabi were reformatted to include the global core domains and ability statements, and each experience contains very specific performance competencies as it relates to the specific IPPE. These changes have strengthened the IPPE curriculum which already included the following activities: Service Learning and Patient Caring, both longitudinal IPPEs for P1, P2, and P3 students; Educational-MTM IPPE for P3 students; and P3 Capstone. As described in the College of Pharmacy catalogue, P3 IPPE is the fifth and sixth of six required experiential courses of the Introductory Pharmacy Practice Experience (IPPE) sequence. This article will focus on the structure of P3 IPPE, the expected performance competencies from P3 IPPE, and the assessment tools utilized to ensure students meet the stated performance competencies.

Structure of P3 IPPE
The primary change for P3 IPPE was the redesign of the Institutional Pharmacy Practice Experience (P3 Institutional). Prior to the change, students were assigned to spend four afternoons in an institutional setting; by changing P3 Institutional to an 80-hour block, it has allowed for immersion in the institutional pharmacy practice setting as students complete the experience over two-weeks. Students are able to work closely with pharmacy technicians, staff pharmacists, clinical pharmacists, and Department of Pharmacy Practice faculty members to learn about the fundamentals of pharmacy practice in the institutional setting. The format of the

<table>
<thead>
<tr>
<th>Core Domain 1: Patient Safety; Accurately Dispense Medications</th>
<th>Core Domain 7: General Communication Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability Statement: The student will demonstrate a commitment to and a valuing of patient safety by assuring accurate preparation, labeling, dispensing and distribution of prescriptions and medication orders.</td>
<td>Ability Statement: The student can demonstrate effective communication abilities in interactions with patients, their families and care givers, and other health care providers. Communication should be consistent with education level, cultural issues, and be empathetic. The student can elicit feedback validating understanding of communication.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Core Domain 2: Basic Patient Assessment</th>
<th>Core Domain 8: Counseling Patients:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability Statement: The student can collect, record, and assess subjective and objective patient data to define health and medication-related problems. Patient information must be collected in a manner demonstrating knowledge of patient educational level, the unique cultural and socioeconomic situations of patients, and comply with requirements for patient privacy.</td>
<td>Ability Statement: The student can provide effective health and medication information to patients and/or care givers and confirm patient and/or care giver understanding of the information being provided.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Core Domain 3: Medication Information</th>
<th>Core Domain 9: Drug Information Analysis and Literature Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability Statement: The student can demonstrate knowledge of and accept responsibility for that knowledge of commonly used medications, formulations, and drug products.</td>
<td>Ability Statement: The student can access, review, and apply knowledge of study design and literature analysis and retrieval to provide accurate, evidence-based drug information.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Core Domain 4: Identification and Assessment of Medication related Problems</th>
<th>Core Domain 10: Health and Wellness – Public Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability Statement: The student can correlate drug related variables and patient related variables to identify and assess medication related problems. The student can evaluate how the unique characteristics of patients and patient populations impact on manifestations of drug-related problems.</td>
<td>Ability Statement: The student will know and apply principles of health and wellness in provision of individual and population-based health and wellness information. The student can integrate unique characteristics of individuals and populations in design of health and wellness information.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Core Domain 5: Mathematics applied to pharmaceutical calculations, compounded medications, dose calculations, and applications of pharmacokinetic calculations</th>
<th>Core Domain 11: Insurance / Prescription Drug Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability Statement: The student can utilize pharmaceutical and pharmacokinetics mathematics to perform accurate medication calculations. The student can value the importance of total accuracy in performing and applying these calculations.</td>
<td>Ability Statement: Utilizing knowledge of a wide array of private and public health insurance options, the student can assist patients and care givers to obtain their medications and related para-pharmaceuticals in an affordable manner that meets their health care needs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Core Domain 6: Ethical, Professional, and Legal Behavior</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability Statement: In all health-care activities, the student can demonstrate knowledge of and sensitivity towards the unique characteristics of each patient. The student can comply with all federal, state, and local laws related to pharmacy practice. The student can demonstrate ethical and professional behavior in all practice activities.</td>
<td></td>
</tr>
</tbody>
</table>
IPPE is a combination of observation, application of current learning, and feedback and assessment between the student, the faculty members, and pharmacists. To ensure a uniform and quality experience for all students, a P3 Institutional IPPE Workbook was created for students to complete; the guided reflection activities within the workbook are directly tied to the performance competencies for each core domain. In addition to completing the workbook, students are also required to prepare and present a formal case presentation and a formal journal club presentation.

P3 IPPE also includes a 12-hour Educational Medication Therapy Management (MTM) component; this experience allows students to provide patient-centered care to older adults residing in retirement communities. Students conduct an in-depth medical history interview and provide health screenings for hypertension, hyperlipidemia, diabetes, and cognitive decline. Based upon the information gathered at the interview, students conduct a comprehensive medication review and formulate an MTM/SOAPE note (containing a prioritized assessment and plan), a personalized medication record for the patient, and a medication action plan (based upon the MTM note) for the patient. Students are required to present an informal case presentation based upon these documents.

P3 students are also required to provide twenty hours of health-care related service within the Service Learning IPPE. Students may choose any number of service organizations if the activity meets a community need, involves direct patient care, and provides a health-care related service. Students may perform any number of the following activities: health screening, health and wellness counseling, tobacco cessation counseling, nutrition counseling, disease prevention information and counseling, public health activities (e.g., immunizations), and medication safety counseling. Students may also choose to volunteer at camps for children with medical conditions, free clinics, assisted living facilities, and hospice organizations.

The Patient Caring IPPE, a longitudinal experience that begins in P1 year and ends in P3 year, allows students to experience patient interaction through verbal communication. The goal of patient caring is to help students become aware of and improve their cultural competence by interacting with patients from diverse cultural backgrounds. The P3 Capstone activity is a culmination of concepts and applications that students have achieved during the whole of IPPE. Through reflective activities, the students individually assess their professional competence and preparedness to enter APPEs.

**Assessment Strategies and Performance Competencies**

Currently, P3 IPPE is a graded component of PHA 575/575 Practice of Pharmacy V/VI. In PHA 575, IPPE accounts for 12.5% of the grade; in PHA 575, IPPE accounts for 20% of the grade. Assessment of achievement of the performance competencies is accomplished through several forms of formative and summative assessments. Table 2 provides a

---

**Table 2**

| P3 IPPE Assessment of Appendix D: Pre-APPE Performance Domains and Abilities |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Assessment Tool | Core Domain 1 | Core Domain 2 | Core Domain 3 | Core Domain 4 | Core Domain 5 | Core Domain 6 | Core Domain 7 | Core Domain 8 | Core Domain 9 | Core Domain 10 | Core Domain 11 |
| P3 Workbook | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Evaluation of Student - Mid-Term | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Evaluation of Student - Final | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Patient case evaluation | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Journal Club Presentation Evaluation | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Educational-MTM evaluation | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Service Learning Performance Evaluation | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| APPE Preparedness Survey | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Professional Development Portfolio | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

**Key**
- ✓ Core domain is assessed
- ✗ Core domain is not applicable to assessment tool
- ✗ Core domain is applicable but not currently assessed

Continue to page 4
summary of the assessment tools and the assessed core domains.

Assessment tools include the following items:

- **Evaluation of Student – Mid Term**: Assessment of overall performance of the student.
- **Evaluation of Student – Final**: Assessment of pharmacy operations competencies, prescription competencies, communication competencies, professionalism competencies, and drug information competencies.
- **Patient Case Evaluation**: Assessment of organization and preparedness, knowledge base, verbal communication skills, non-verbal communication skills, ability to answer questions, and visual aids/handouts.
- **Journal Club Presentation Evaluation**: Assessment of presentation of clinical trial, review of pertinent primary literature, evaluation of clinical trial presented, ability to answer questions, delivery of presentation, and presentation and communication skills.
- **P3 Institutional Workbook**: Assessment of each of the core domains.
- **Educational-MTM Evaluation**: Assessment of professionalism, patient interview, SOAPE/MTM note content and accuracy, personalized medication record (readability and grammar), and patient presentation (preparedness and ability to answer questions).
- **Service Learning Performance Evaluation**: Assessment of professionalism, effective communication, problem-solving skills, civic responsibility, and cultural sensitivity.
- **APPE Preparedness Survey**: Self-assessment of preparedness to enter APPEs.

Assessment of achievement of abilities and competencies within the core domains is also done through the creation of a Professional Development Portfolio (PDP). The PDP is utilized as a tool for students to take responsibility for self-directed learning and professional development and achievement. Within the IPPE curriculum, the PDP must contain an expectation of learning, archived examples of evidence of learning, and several reflections of learning. The expectation of learning provides students an opportunity to review the curricular objectives (core domains / ability statements / performance competencies) and discuss why these are necessary for pharmacy practice. Students are required to archive evidence of learning in order to demonstrate achievement of the core domains. Archived evidence of learning includes the following items: P3 Institutional Workbook, Journal Club and Patient Case presentations, MTM documents, summary of patient caring activities, patient caring presentation, summary of service learning activities, service learning presentation, APPE preparedness survey responses, and all IPPE evaluations and assessments. Guided reflection of learning essays provides students with an opportunity to reflect not only on each experience, but on the evaluations and assessments they have received from each experience. Through this, they are encouraged to self-assess their strengths, their weaknesses, and their ability to meet the stated objectives and outcomes. For those areas needing improvement, students are further encouraged to formulate a plan for continued professional development.

**Discussion and Improvements**

P3 IPPE provides many opportunities for students to apply and reinforce pharmacotherapy knowledge, patient assessment skills, communication skills, and professional behavior. Multiple forms of assessments are utilized to demonstrate achievement of the core domains including formative assessment such as verbal feedback and written evaluations and summative assessment such as graded assignments and skills assessments. The Professional Development Portfolio is also utilized for individual demonstration of achievement of the core domains and development of an individualized plan for professional development.

In reflecting on the structural changes that have been made in the last several years, the author feels that the College of Pharmacy has made significant strides to increase the rigor of IPPEs. The sequencing of IPPE has been improved and allows for development and continued reinforcement of pharmacy practice skills. Students have commented that they feel prepared and less apprehensive about beginning APPEs, particularly after completion of the Educational MTM IPPE and the Intuitional IPPE. Previously, there was minimal assessment of student professionalism and performance; now there are several meaningful
assessment tools to ensure that students achieve the global skills and abilities that all required for advanced pharmacy practice experiences.

As a means to strengthen the assessment process, the evaluation tools and surveys will be updated to ensure a thorough assessment of all of the core domains. As Table 2 illustrates, there are several core domains that are applicable to the assessment tool but are not thoroughly assessed. As a means to improve the evaluation process, questions related to these core domains will be constructed and forwarded to the Assessment Committee.

In academic year 2013/2014, with the global curricular changes at the College of Pharmacy, P3 IPPE will be moved out of PHA 575/576 Practice of Pharmacy V/VI and will become a stand-alone course, PHA 585/586 IPPE V/VI. This change will reinforce the importance of IPPE curriculum and will further strengthen the preparedness of students to enter APPEs.

Conclusion
The addition of Appendix D: Pre-APPE Performance Domains and Abilities in Guidelines 2.0 has, to date, provided the most specific guidance to colleges and schools of pharmacy related to IPPEs (Table 1). The eleven core domains and accompanying ability statements represent the global skills and abilities that all pharmacy students must achieve prior to beginning APPEs. Through structured IPPEs in several learning environments – P3 Institutional, Service Learning, Educational MTM, Patient Caring, and P3 Capstone – students are provided with the opportunity to demonstrate achievement of these competencies. The remainder of this issue will focus on student and pharmacists’ perceptions of specific learning opportunities in P3 Institutional IPPE at Emory University Hospital.

References
Students' and Pharmacists' Perceptions of a Block Institutional Introductory Pharmacy Practice experience

Melissa M. Chesson, Nicole L. Metzger, and Amy C. Grimsley

Introduction

The Accreditation Council for Pharmacy Education (ACPE) has increased emphasis on experiential education, specifically Introductory Pharmacy Practice Experiences (IPPE). IPPE have been defined as "practice experiences offered in various practice settings during the early sequencing of the curriculum for purposes of providing transitional experiential activities and directed exposure to pharmaceutical care." The Center for the Advancement of Pharmacy Education (CAPE) recently published its updated Educational Outcomes for 2013 and includes four key domains: Foundational Knowledge, Essentials for Practice and Care, Approach to Practice and Care, and Personal and Professional Development. Institutional IPPE highlights many areas of these domains, including but not limited to: patient-centered care, medication use, systems management, problem solving, educator, interprofessional collaborator, communication, self-awareness, and professionalism. Similarly, ACPE has created 11 core domain abilities and competencies that should be met by pharmacy students prior to beginning Advance Pharmacy Practice Experiences (APPE). A majority of these domains can be assessed during institutional IPPE.

Successful implementation and execution of IPPE allow students to apply classroom knowledge to institutional pharmacy practice and patient care. Two recent reports in the pharmacy literature describe applications of didactic knowledge during IPPE. Karimi et al described the development of a learning bridge tool in order to facilitate students' learning by engaging faculty members and IPPE preceptors. The study reported that this tool was effective in connecting the knowledge obtained in the classroom with the practical experience obtained through IPPE. In addition, faculty awareness of IPPE activities increased and IPPE preceptors gained a better understand the pharmacy curriculum. In a report by Krueger at the University of Wyoming, students were required to document how they applied didactic knowledge during IPPE. This assignment was created to foster a connection between the classroom and the experiential setting, in hopes of increasing the value of foundational courses. Students demonstrated the application of previous knowledge in various practice settings and were able to identify courses in which these concepts were taught. Despite the literature describing student application of classroom knowledge during IPPE, limited published reports of student and preceptor perceptions of IPPE experiences exist, specifically those related to institutional IPPE. Evaluation of student and preceptor perceptions may be helpful in creating and modifying current IPPEs to achieve accreditation and curricular goals.

At Mercer University College of Pharmacy (MUCOP), students complete IPPEs throughout the pharmacy curriculum. The purpose of this paper is to describe students' and pharmacists' perceptions of third year institutional IPPE at Emory Healthcare.

Methods

IPPE at Emory Healthcare

Mercer University College of Pharmacy has developed partnerships with several local hospitals in order to secure institutional IPPE sites. At many of these sites, faculty coordinate and facilitate institutional IPPE. In 2012, MUCOP revised the institutional IPPE requirements by increasing it to 80 hours and transitioning from a longitudinal experience to a concentrated, two week block for most students. As a result, approximately 30 third year Doctor of Pharmacy students are assigned to complete institutional IPPE at Emory Healthcare each January. Three MUCOP faculty members have active practice sites at Emory Healthcare and coordinate and administer institutional IPPE at the health-system. In order to accommodate the large number of students, the faculty designed various activities to minimize the number of students in one location within the health-system at any given time. Students round on multidisciplinary teams with clinical specialists and pharmacy residents, rotate through the inpatient pharmacy with pharmacists and technicians, present journal club articles and patient case presentations to their peers, perform simulated medication reconciliation and order verification, and participate in small group activities highlighting unique areas of institutional pharmacy practice.

Continue to page 7
**Study Objectives and Perception Surveys**

The primary objective of the study was to assess students' perceptions of institutional IPPE at Emory Healthcare and to identify which activities students found most valuable. The secondary objective of the study was to assess perceptions of the Emory Healthcare pharmacists who were involved with IPPE. The authors created and administered two surveys to measure student perceptions, an overall IPPE survey and an IPPE activities survey. A third survey was created and administered to measure pharmacists' perceptions of IPPE at Emory Healthcare. Surveys were administered during 2012 (year one) and 2013 (year two) IPPE. Descriptive statistics were used to summarize survey results and Mann Whitney U was used to compare individual survey questions between the years. The study was approved by Mercer University's Institutional Review Board, and a waiver of informed consent was granted.

**Student Perception Surveys: Overall IPPE Survey and Activities Survey**

At the conclusion of institutional IPPE, students at Emory Healthcare were asked to complete two paper surveys assessing their overall perceptions of their experience and their perceptions of each specific IPPE activity. Rounding with the clinical specialist, patient case presentations, journal club, rotating through the inpatient pharmacy, code response simulation, pharmacy calculations, and interprofessional communication scenarios are a few examples of the activities included as part of the survey. The overall survey included eight Likert scale questions and one free response soliciting feedback about the experience; and the survey assessing each activity contained 15 Likert scale questions and two free responses. All surveys used the same five point Likert scale (1= strongly disagree, 2= disagree, 3= neither agree or disagree, 4= agree, and 5= strongly agree); student participation was voluntary and anonymous.

**Emory Healthcare Pharmacist IPPE Perception Survey**

Emory Healthcare pharmacists who precepted IPPE students were asked to complete a survey assessing their overall perceptions of the experience at the conclusion of IPPE. The survey included seven Likert scale questions (1= strongly disagree, 2= disagree, 3= neither agree or disagree, 4= agree, and 5= strongly agree) and one free response soliciting additional comments and suggestions related to the experience. The survey was sent to pharmacists.
electronically through SurveyMonkey®; pharmacist participation was voluntary and anonymous.

Results

**Student Perception Surveys: Overall IPPE Survey and Activities Survey**

Fifty-two (94.5%) students completed the overall survey and the IPPE activities survey over a two year period. Twenty-nine students completed the surveys in year one and 23 students completed the surveys in year two. Figure 1 illustrates the overall perceptions of the students combined from year one and year two. Combined data from year one and year two demonstrate that 98% of students agreed or strongly agreed that participation in IPPE was worthwhile and would aid in preparation for APPE (mean scores 4.7 and 4.7, respectively). The majority of students also agreed or strongly agreed that IPPE increased their knowledge and understanding of institutional pharmacy practice (91%) and of the role of clinical specialists (96%) (mean scores 4.6 and 4.6, respectively). The most common themes summarizing students' open-responses reinforced results from the survey. Increasing time spent in the inpatient pharmacy was another common theme. There were no significant differences between year one and year two for the overall IPPE survey ($p=0.143-0.922$). Table 1 illustrates the results from the IPPE activities survey for year one and year two. Students reported that activities related to patient care, specifically, rounding with the clinical specialists, medication reconciliation/order verification simulation, and participation in a mock code response were most enjoyable (mean scores 4.7, 4.3, 4.4, respectively). The least enjoyable activities were the calculations review and the statistics and literature evaluation review (mean scores 3.5 and 3.4, respectively). Three of the 12 activities received higher scores in year two than in year one (Table 1).

Only one student did not successfully achieve all institutional IPPE objectives during the two year

Table 1. Student Perception Survey: IPPE Activities Survey Results

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Mean Likert Scale Score</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoyed the medication reconciliation and order verification simulation.</td>
<td>4.1</td>
<td>4.5</td>
</tr>
<tr>
<td>I enjoyed the journal club and literature evaluation presentation.</td>
<td>3.2</td>
<td>3.5</td>
</tr>
<tr>
<td>I enjoyed the time spent rounding with my assigned clinical specialist.</td>
<td>4.5</td>
<td>4.8</td>
</tr>
<tr>
<td>I enjoyed the time spent in the inpatient pharmacy.</td>
<td>4.3</td>
<td>4.2</td>
</tr>
<tr>
<td>I enjoyed the small group activity: calculations review.</td>
<td>3.3</td>
<td>3.8</td>
</tr>
<tr>
<td>I enjoyed the small group activity: code response.</td>
<td>4.5</td>
<td>4.3</td>
</tr>
<tr>
<td>I enjoyed the small group activity: IV room/drug compatibility.</td>
<td>3.6</td>
<td>4.1</td>
</tr>
<tr>
<td>I enjoyed the journal club presentation assignment.</td>
<td>3.7</td>
<td>3.8</td>
</tr>
<tr>
<td>I enjoyed the small group activity: note writing.</td>
<td>3.5</td>
<td>3.6</td>
</tr>
<tr>
<td>I enjoyed the small group activity: communication scenarios.</td>
<td>3.9</td>
<td>3.6</td>
</tr>
<tr>
<td>I enjoyed the small group activity: medication handouts.</td>
<td>3.7</td>
<td>3.8</td>
</tr>
<tr>
<td>I enjoyed the patient case presentation assignment.</td>
<td>4.0</td>
<td>4.3</td>
</tr>
<tr>
<td>I enjoyed the hospital administration discussion.*</td>
<td>3.4</td>
<td>NA</td>
</tr>
<tr>
<td>I enjoyed the drug information discussion.*</td>
<td>3.8</td>
<td>NA</td>
</tr>
<tr>
<td>I enjoyed the USP 797 video and activity.§</td>
<td>NA</td>
<td>3.7</td>
</tr>
<tr>
<td>I enjoyed the role as a clinical specialist assignment.§</td>
<td>NA</td>
<td>4.3</td>
</tr>
</tbody>
</table>

* = Activity was only completed during year one IPPE
§ = Activity was only completed during year two IPPE

Likert Scale Key
1= Strongly disagree, 2= Disagree, 3= Neither agree or disagree, 4= Agree, 5= Strongly agree

Continue to page 9
study period; this student was removed from the site due to professionalism issues and did not complete the IPPE surveys.

**Emory Healthcare Pharmacist IPPE Perception Survey**

Thirty-three (56%) pharmacists completed the IPPE survey over a two year period. Seventeen pharmacists completed the survey in year one and 16 pharmacists completed the survey in year two. The overall combined responses for year one and year two of the survey are displayed in Figure 2. Ninety-seven percent of pharmacists from year one and year two agreed or strongly agreed that IPPE at Emory Healthcare was a worthwhile experience for students (mean score 4.6). Combined data also shows that pharmacists agreed or strongly agreed that students were actively engaged in activities and patient care while completing the IPPE and that students behaved professionally during IPPE activities (mean scores 4.4, 4.5, respectively). All pharmacists involved in IPPE agreed or strongly agreed that their participation in IPPE was an enjoyable experience but working with IPPE students may significantly alter pharmacist workload (mean scores 4.4, 3.2, respectively). For year one, the most common themes summarizing pharmacists' open-responses included increased communication from Mercer faculty about IPPE at Emory and development of an IPPE training module. For year two, no common themes were identified for pharmacists' open-responses. There were no significant differences in the survey responses between year one and year two (p=0.119-0.883).

**Discussion**

Our study demonstrated positive student perceptions of the concentrated, two week block institutional IPPE conducted at Emory Healthcare. Positive students' perceptions of their overall experience at Emory Healthcare demonstrate the perceived educational value of institutional IPPE. There are several descriptions of institutional IPPE programs in the literature, each with varying designs and structure, but all with a goal to increase students' preparedness for APPEs. Some institutional IPPE programs documented in the literature describe students working directly with interprofessional patient care teams and fourth year Doctor of Pharmacy students, performing patient interviews, and providing medication reconciliation services. Some programs have also utilized assessment tools to evaluate students' perceptions of IPPE and knowledge gained, faculty's assessment of students' performance on IPPE, and students'

**Figure 2. Emory Healthcare Pharmacist IPPE Perception Survey Results Combined From Year One and Year Two**

![Survey Results](image)

**Survey Questions**

<table>
<thead>
<tr>
<th>Likert Scale Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Strongly disagree, 2 = Disagree, 3 = Neither agree or disagree, 4 = Agree, 5 = Strongly agree</td>
</tr>
</tbody>
</table>

Continue to page 10
readiness for experiential rotations.\textsuperscript{6-10} Zeitoun et al described assessment of three IPPE courses at Lebanese American University, the only ACPE-accredited college of pharmacy program outside the United States.\textsuperscript{5} The majority of students completing the assessment survey were satisfied with the IPPE courses agreeing that they were valuable and helped in preparation for practice.\textsuperscript{6}

Similar to these studies, IPPE at Emory Healthcare was designed to meet the pre-APPE competencies from Appendix D of the ACPE Standards\textsuperscript{1} and the American Society of Health-System Pharmacists (ASHP) and ACPE Competencies Required for Entry-Level Pharmacy Practice in Hospitals and Health-Systems.\textsuperscript{11} For example, activities that meet these standards and competencies include: medication reconciliation/order verification simulation, calculations review, note writing, medication handouts, IV room and drug compatibility, communication scenarios, and journal club and patient case presentations.\textsuperscript{3, 11} Students’ perceptions of these activities were favorable, specifically those involving direct patient care. Students completing the experience during year two found the activities involving medication reconciliation/order verification simulation, IV room and drug compatibility, and rounding with a clinical specialist to be more enjoyable than students in year one. A potential cause for improvement in students’ perceptions of activities during year two may be related to enhanced faculty experience in precepting IPPE activities. Another possible explanation is differing student expectations of institutional IPPE during year two compared to year one. Students completing IPPE during year two had a better understanding of what the experience would involve due to increased communication between students and the experiential education director and peer-to-peer communication. Lastly, the differences could be attributed to the cross-section of students who completed IPPE at Emory Healthcare during year one compared to year two.

Perceptions of the pharmacists involved with IPPE at Emory Healthcare have also been positive. Although not statistically significantly different from year one to year two of the survey, communication between MUCOP faculty and pharmacists participating in IPPE was enhanced during year two and an IPPE training module was developed for pharmacists prior to year two. These changes were implemented based on responses provided to the open-ended question on the pharmacists’ survey from year one. Continued participation by pharmacists at Emory Healthcare is crucial to the success of IPPE.

While students’ and pharmacists’ perceptions of institutional IPPE at Emory Healthcare have been positive, a formal assessment of student knowledge gained has not been evaluated. Although students typically perform well on institutional IPPE, a knowledge-based assessment may highlight areas for revision. The success of institutional IPPE is accomplished utilizing two hospitals within Emory Healthcare, several MUCOP faculty members, and a large number of clinical pharmacy specialists and pharmacy residents, which may limit the implementation of this model in other hospitals or health-systems with more limited resources.

Conclusions

Students’ and pharmacists’ perceptions of institutional IPPE at Emory Healthcare were positive, suggesting that a concentrated, two week block provided students the opportunity to increase their knowledge and understanding of institutional pharmacy practice and aid in preparation for APPEs. Activities completed during institutional IPPE allowed students the opportunity to experience various aspects of institutional pharmacy practice while meeting curricular requirements.

Authors’ Affiliation: Mercer University College of Pharmacy, Department of Pharmacy Practice, Atlanta, GA.

Acknowledgements: Kathryn M. Momary for her aid in statistical analysis and Hanna K. Rogers for her aid in the literature search.
References


Let's Think About it!

Publisher
Hewitt "Ted" Matthews, Ph.D.
Dean and Senior Vice President for Health Sciences

Editor
Leisa L. Marshall, Pharm.D.

Associate Editor
Ajay Banga, Ph.D.

Graphic Production
Terry Menard

©2013 Mercer University College of Pharmacy
MERCER UNIVERSITY COLLEGE OF PHARMACY
3001 Mercer University Drive, Atlanta, Georgia 30341-4155
678-547-6232