



Research

Development and evaluation of an elective course designed to prepare pharmacy students for advanced pharmacy practice experiences

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Abstract

Colleges of pharmacy have used a number of strategies to assess student readiness and facilitate the transition into Advanced Pharmacy Practice Experiences (APPE). However, previous documented strategies have revealed important limitations. In this article, we describe the Introduction to Advanced Pharmacy Practice Experiences course that helps students transition to APPE, a course that could easily be replicated at other colleges of pharmacy. This course has provided third professional year pharmacy students with a strong foundation of practical and useful knowledge to help better prepare them for the rotational year.

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Keywords: Advanced Pharmacy Practice Experiences (APPE); Clerkship rotations; Preparation for rotations

Introduction

The Accreditation Council for Pharmacy Education (ACPE) requires colleges of pharmacy to provide pharmacy practice experiences to support the achievement of professional competencies.¹ These experiences include Introductory Pharmacy Practice Experiences (IPPE) and Advanced Pharmacy Practice Experiences (APPE) and are designed to “integrate, apply, reinforce, and advance the knowledge, skills, attitudes, and values developed through other components of the curriculum” that support the Center for Advancement of Pharmaceutical Education (CAPE) outcomes.² Additionally, the ACPE guidelines state that IPPE continue in a progressive manner, leading to entry into APPE. The ACPE guidelines also now provide guidance on

core abilities and competencies that pharmacy students should have before beginning APPE. These competency domains are mapped to specific CAPE outcomes.

Colleges of pharmacy have used a number of strategies to assess student readiness and facilitate the transition into APPE. Curricular changes such as integration, problem-based learning, situational counseling, and professionalism preparation have been used, though specific examples of the efficacy of these individual approaches in improving APPE performance have not been evaluated. However, previous documented strategies have revealed important limitations.

In 2008, Culbertson³ used problem-based learning exams to assess student readiness for APPE from a knowledge standpoint and designed a method that was highly specific for identifying students likely to underperform during APPE. Using another approach, Meszaros et al.⁴ designed a series of exams (offered at the end of each semester), including written closed-book, written open-book, and objective structured clinical exams (OSCE) that

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were correlated with APPE evaluations. While these studies helped colleges identify students who were likely to underperform during rotations, they did not employ strategies to facilitate pharmacy students in transitioning from classroom-based learning to APPE.

More recently, colleges of pharmacy have begun developing methods to aid students in transitioning from IPPE and classroom-based learning to APPE. In 2010, Mort et al.⁵ evaluated an IPPE course called “First-steps” that focused on pharmacy practice skills and communication, and uses reference material to prepare students for APPE. The course was experiential in nature and supplemented their college’s previous IPPE curriculum. The course resulted in increased frequency of desired clinical behaviors on a subsequent APPE. While this approach proved to be effective, the course required a high volume of time and resources, including 14 faculty and 14 non-faculty preceptors working daily with student groups (56 students completed this experience each year over a four-week rotation block). For larger programs, this approach may likely become unmanageable. To account for the additional time students spent in IPPE, the duration of their APPE experience was shortened from 44 weeks to 40 weeks. Using a classroom-based approach, Bookstaver et al.⁶ designed an evidence-based medicine elective course to determine if students on rotations who took the elective performed superior to those who did not. Most APPE preceptors who were surveyed reported they felt that students completing the course performed better on their rotation than those who did not. While an important part of success on rotations involved student preparedness to evaluate and use evidence-based medicine, other abilities and competencies identified in the ACPE guidelines were not assessed. Vyas et al.⁷ designed an IPPE simulation class (using standardized patient actors) to evaluate students in 10 of the 11 domains in the pre-APPE core domain abilities described in the ACPE guidelines.¹ Students completing the course performed better on practical examinations compared to those who did not. This approach was described as costly and highly resource intensive, the authors noting each simulation experience required eight hours of direct faculty time, three hours of preparation, and the direct and indirect costs of the experience were \$7500 (to deliver the experience to 28 students). Ragan et al.⁸ also utilized simulation in the form of standardized clients and didactic components, and they were able to predict students who underperform during APPEs. It also was described as resource-intensive and highly costly, and it also was only a measurement of student preparedness and did not provide students with tools or strategies to transition from IPPE to APPE.

Rationale and objectives

While supplemental IPPE and simulation-based courses have demonstrated success in helping students transition to

APPE, multiple factors, including a lack of resources, may prevent colleges of pharmacy from developing standardized courses. While actual costs and utilization of resources were not available for most of the programs described in the literature, most could be assumed to be intensive, since programs were designed to address more of the pre-APPE competencies that require higher costs and more resources. An elective course designed around evidence-based medicine did demonstrate success in improving APPE performance, however, did not provide students with further resources for self-assessment and supplementation of their clinical knowledge.⁶ In this article, we describe the Introduction to Advanced Pharmacy Practice Experiences course that helps students transition to APPE.

Materials and methods

The Introduction to Advanced Pharmacy Practice Experiences course was conceptualized and designed to have more time in the curriculum devoted to preparing students for the APPE year. Currently, the course is coordinated by two faculty members and taught by an additional five faculty members and five volunteer preceptors. Before this course existed, third professional (P3) year students were required to attend a two-hour meeting during the spring semester of the P3 year. This meeting occurred in April prior to the first rotation of the P4 year that would begin in May. It was designed as a lecture during which the experiential learning program director would deliver all of the information concerning APPE rotations to the students and consisted of a thorough review of the APPE policies that appeared in the APPE manual. Topics reviewed with students included evaluation of students’ and preceptors’ performances, professional behavior, documenting hours of experience, collecting immunization documentation, and review of required assignments. It was essentially the “nuts and bolts” of how the APPE program worked and presentation of student requirements for successful completion of the program. The two-hour meeting often did not allow for a thorough explanation of the APPE requirements in sufficient depth so as to ensure student understanding. This resulted in students having many questions once APPE rotations began and some missing evaluations as well as missing-hour certification forms. It also did not provide any supplemental material to support students’ abilities to accomplish the core competencies outlined in the ACPE guidelines.¹

The Experiential Learning Advisory Council (ELAC), a group of faculty and experienced preceptors from each region who assist the APPE director in oversight of the experiential program, discussed ways for improving the delivery of this material to the P3 students and recommended changing the two-hour meeting to a one-credit-hour course. The course would not only cover the basic policies and procedures of APPE rotations but would also incorporate other material designed to prepare students for rotations.

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