STATEMENTS

Eliminating Bottlenecks to Learning Among Pharmacy Students

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The importance of educating pharmacy students often is discussed, but the realities are that teaching is generally low on faculty members' priority lists; faculty members strive for promotion whether they are on a tenure or non-tenure track; teaching is time consuming and a challenge to do well on a consistent basis; teaching sometimes involves dealing with unmotivated students; and teaching effort is not remunerated as is scholarly activity. In general, teaching may not contribute anything to future promotion decisions. A priority impacting faculty members is the institution's need for additional funding beyond tuition revenue and/or state financial support, pressuring faculty to generate money through research funding and/or the delivery of clinical services. However, the term "to educate," is derived from the Latin, *educatus*, meaning to lead forth, ie, to provide schooling, to develop mentally and morally.¹ Thus, as pharmacy educators, it is our duty, in spite of the aforementioned realities, to educate our students as best we can, through our dedication and motivation.

As pharmacy students begin their last professional year within the doctor of pharmacy curriculum, they do so with trepidation and the "feeling" their base knowledge and performance-based abilities are deficient. As a result of students' examination outcomes during the first 3 years of the professional program, many students perceive they are deficient in the requisite knowledge and abilities. Obviously, they are knowledgeable and have the skills needed for their advanced pharmacy practice experiences (APPEs), which bode well for a successful fourth year. Unfortunately, it may be impossible within any curriculum to demonstrate satisfactorily to a student that he/she does know something and can perform some of the necessary performance-based skills.

At the University of Illinois at Chicago College of Pharmacy (UIC COP), a 5-semester professional development seminar series was created for 2 of the authors' advisees using the faculty-adopted curricular performance-based skills as a framework to facilitate the stu-

dents' growth and development.²⁻⁴ During the next-to-last seminar session in the spring semester of the third professional year, the authors challenge their advisees to reflect on the following questions:

- What do I expect of myself as a pharmacy student during my fourth year?
- What do I expect from my preceptors during my fourth year? How can they foster my learning?
- What is my plan to develop continually my performance-based abilities during my fourth year while I am participating in my APPEs?

The intent of the questions is for the advisees to realize their fourth year APPEs are distinct "hands on" learning opportunities to develop and refine their knowledge and skills. At the same time, the hope is the students become more reflective and learn from their experiences during this last year. Another goal is to secure information to share with APPE faculty preceptors illustrating their important role in the development and maturation of students.

The amassed student responses to these questions (approximately 60 students over a 2-year period) demonstrated interesting trends. When asked what their expectations were of themselves as APPE students, the majority of students wanted to do well on patient-centered experiences and indicated they would review their principles of drug action and therapeutics course notes in preparation for their APPEs. The sequence for principles of drug action and therapeutics encompasses 8 courses, 2 per semester, beginning in the fall semester of the second year through the spring semester of the third year. The students acknowledged they would be ready to work hard during the APPEs and be punctual. The students realized they had to arrive on time for each APPE, particularly for clinical APPEs where the rounding medical team might begin its work early in the morning. The idea of being punctual is critical, unlike in didactic instruction, where students might arrive late for a variety of reasons. Further, they recognized the importance of dressing appropriately to look professional. The students also indicated they would contemplate potential entry-level career paths. In addition, they were open-minded, admitting their proposed career path might change over the course of their fourth year.

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When asked what goals they have established for themselves for their fourth year, an overwhelming majority indicated a firm desire to build on their clinical skills, specifically the development of evaluating laboratory and clinical patient data. They also wanted to develop communication skills with patients and improve their confidence in communicating with patients. Coupled with this was a desire to gain confidence in presenting information to allied health professionals. Their final goal was to complete the APPEs successfully and graduate from the college.

When asked what expectations they desired from their preceptors during their fourth year, the overwhelming majority agreed they wanted preceptors to challenge them during their APPEs. Further, they desired empathy and understanding from their preceptors related to gaps in their knowledge, eg, the students might not know the newest clinical guidelines, and wanted not to be “put down” when they did not know something. Students desired learning from preceptors whose practice skills were up-to-date and who demonstrated patience when dealing with students. Students also wanted their preceptors to treat them fairly and allocate time to be available for them. Coming from a land grant university which cannot pay for APPE sites, students recognize preceptors volunteer and therefore are taking time away from their practices. Still students hoped their preceptors will “take time” to teach and guide them.

When asked how preceptors could foster their learning, overwhelmingly the students responded preceptors should provide constructive feedback. In addition, the students desired periodic feedback on their progress throughout the APPE. Simply, they wanted to know how they were doing and if they were meeting the APPE’s and their preceptor’s performance expectations. Also, they desired the preceptor to help them develop “real world” critical-thinking skills.

When asked what their plan was to improve performance-based abilities during their fourth year, overwhelmingly a majority of responding students indicated they wanted to be able to apply and practice their problem-solving, critical-thinking, and assimilation skills. Many indicated their desire to be proactive and receptive to new experiences and opportunities, including learning from other health care professionals. They realized they would make mistakes during this year; however, their goal was to learn from these mistakes. The last goal mentioned was for them to challenge themselves and exceed their preceptors’ and their own expectations.

Overcoming Bottlenecks

Students recognized the need to take responsibility for their learning during the fourth year and not become

their own personal “bottleneck” to learning and skill development. They realized the importance of taking an active role in their development by communicating with their preceptors to create a positive, interactive experience. They also realized the importance of their preceptors as teachers. This demonstrates the need for the development of a positive rapport between a preceptor and student. Rapport increases learning opportunities, and nurtures and facilitates an optimal empathic learning atmosphere. For example, if harmony is established, students will be challenged to succeed in the APPE. Students experience a comfort level with their preceptors and establish a dialogue underpinned by candor. In this type of environment, trust is established which encourages growth in the student. The quality of the APPE increases as students realize the preceptor cares and respects them, and therefore will not be a “bottleneck” to their learning and development. The preceptor, too, must feel appreciated. If rapport is not established between preceptor and student, learning may not always occur.

The preceptor must also identify existing barriers that can hinder the student’s ability to learn. Preceptors serve as role models, but not all students are able to model their preceptors’ abilities, eg, their oral/written communication and critical-thinking skills. After all, the student is not at the educational and skill level of the preceptor, and the preceptor must bear this in mind when guiding/nurturing the student. The preceptor must recognize the problem and draw on a set of instructional strategies and approaches to break through this bottleneck and open the lines of communication. Being reflective on the reasons for various problems is an area where past students and preceptors have encountered difficulties, eg, grasping basic principles of drug action and therapeutics concepts and applying them to patient care. Preceptors should have realistic expectations for students, develop philosophical or teaching goals indicating what they expect students to achieve during an APPE, and recognize students are still in the learning mode. Individual reflection and joint discussions between preceptor and student can serve as a beginning point to resolve this “mismatch.”

Preceptors must realize they serve as role models to the students and that students are observing and listening to them. How they handle situations during the APPE will translate, in part, to how the students eventually handle similar future professional situations. There is no room for arrogance, intolerance, self-interest, and/or insensitivity. Students are quick to pick up these “messages,” as well as the preceptor’s energy, amount of attention devoted to them, and level of pleasure with having them as APPE students. Preceptors must also keep an open mind and realize they will learn from students, and there are

times when students will share profound and meaningful information and observations. It is the creation of a 2-way dynamic that inspires learning for both individuals, and underpins lifelong learning.

The preceptor's attitude also sets the tone for the APPE experience. As someone once wrote, "attitude determines altitude." If the student is viewed by the preceptor as a hindrance to accomplishing his/her duties, the APPE will be doomed to mediocrity and even failure. Preceptors and educators must realize students are not just to be tolerated or viewed as an impediment to "doing our thing." Students *are* our thing. We are dependent on them because they are the future of our profession.⁵ We should all realize they are honoring us with the opportunity to nurture, guide, educate, and help develop their skills.

After all, each of us started our journey in pharmacy practice with a first step. Subsequently, as our knowledge

and skills developed we were able to contribute to the advancement of the pharmacy profession. We must keep that "first step" in mind and not hold students to a standard higher than we did ourselves when we started.

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