

PRECEPTING SERIES:

Suggestions for Preceptor Facilitation of Student Continuing Professional Development During Introductory Pharmacy Practice Experiences

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Continuing professional development (CPD) is a cornerstone of the profession of pharmacy, because it promotes a lifelong journey of learning.¹ It is important to understand that CPD is a cyclical process, which promotes the continuous improvement of pharmacy professionals (Figure 1). The CPD framework is designed to encourage pharmacy professionals to constantly learn and develop skills, and then apply those skills in their future practice. By using this framework, pharmacists have the structure they need to achieve their individual goals and maintain workplace competencies.² The Accreditation Council for Pharmacy Education (ACPE) recognizes the importance of introducing pharmacists to the framework early in practice, and thus requires students enrolled in accredited schools and colleges of pharmacy to display competency in the CPD framework prior to graduation.³ Early introduction of the framework, along with frequent opportunities to implement the CPD process outside the classroom, is crucial for early development of lifelong learning skills and self-awareness.

Schools of pharmacy provide opportunities throughout a student's academic career to learn from or about the CPD model and incorporate it into their professional practice.³ Introductory Pharmacy Practice Experiences (IPPEs) offer students an ideal learning environment to appreciate the importance of CPD and explore how to incorporate

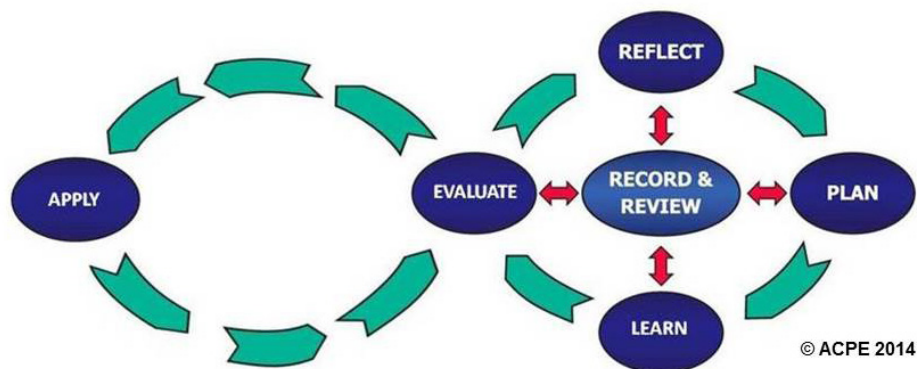
it early into their professional careers. Incorporating activities for IPPE students to build on their foundational knowledge will help them develop skills required for future practice.⁴ Currently in Wisconsin, Doctor of Pharmacy (DPH) students become interns after the successful completion of their second year;⁵ therefore, first- and second-year IPPEs are more observatory in nature. This role as an observer allows students to develop and practice professional developmental skills that will be required throughout the rest of their careers. Examples of skills practiced during DPH1 and DPH2 IPPEs include use of drug information resources, verbal communication, and professionalism. Using the CPD framework allows a student pharmacist to self-identify the skills they hope to work on during each rotation, and share those goals with their preceptor. In turn, the preceptor can offer guidance and

resources to help strengthen and reinforce skills.

For students to be successful using CPD during their IPPE rotations, they need to set goals and convey to their preceptor what they hope to achieve and improve on. The objective of this quality improvement project was to determine which skills students wish to develop during clerkship rotations, and how IPPE preceptors can shape their site experiences to help PharmD students achieve their personal learning goals.

Continuous professional development was introduced to first-year students in the spring of 2019 and to second-years in the fall of 2018. During this introduction, students completed a guided reflection, and then created at least one SMART learning objective. The SMART learning objective was finalized by February 2, 2019. Students were given at least two months

FIGURE 1. Continuing Professional Development (CPD) Framework



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TABLE 1. Survey Result Codebook

<i>Category</i>	<i>Definition</i>	<i>Example</i>	<i>Count</i>
Skills Targeted			
Time Management	More consistent routines; better scheduling	"I became more engaged and started to attend more student organization meetings and presentations hosted around the campus. A behavior I changed that allow me to be more engaged is my time management. By setting schedules in advance, I am able to allocate time to these events that I would otherwise can't."	62
Professional Development	Updating or reviewing CV; Giving a speech in front of a large audience; Connecting with a mentor; Shadowing a pharmacist; Practicing interviewing skills	"In preparing my resume and CV I learned how important updating pharmacy related activities are so since getting my job I have begun spending an hour each month to record and track my experiences and accomplishments."	57
Communication	Seeking out a pharmacy mentor to build a relationship with; Attending professional meetings	"I improved my communication skills by asking open ended questions. Show empathy in my consultations and stay collective and calm during medication reviews."	55
Academic Performance	Staying caught up in classes; better study habits	"I have made a change in behavior to be more proactive about my learning and proactive in preparations for lab or any other activity. I try to stay on top of the information presented in class and measure my understanding as I go so that I am not struggling to learn the material last minute."	34
Cultural Sensitivity	Attend Pride in Healthcare Talk; volunteer at a charitable pharmacy	"Being aware of people's unique backgrounds is important to treating everyone with equal care."	24
Leadership	Holding leadership role in student organization; Completing hours for the leadership certificate	"I built on my leadership skills and implemented it into my daily lifestyle. I have become more assertive and stating my opinions. I also have become more open."	24
Interprofessional Collaboration	Attend interprofessional events; Volunteer with medical, nursing, and physician assistant students at free clinics	"worked with attending physician and medical students to help diagnose, something I have little experience doing - also offered my drug knowledge when explaining the medication."	11
Other	Response did not fit any of the above categories	N/A	30
Undescribed	Student discussed impact of CPD but did not describe what skills were targeted to achieve learning plan	N/A	5
Activity Implemented			
Information Seeking	Researching more information about a topic; attending symposium speakers	"I went to all of the lunch and learns this past semester and have gained knowledge in healthy equity and social justice through these presentations."	64
Studying Techniques	Implementing new studying methods such as flashcards, study guides, study groups, etc.	"Making notecards and Quizlets along with study sheets that summarized each lecture."	60
Practice/Repetition	Continuous training to improve performance on a task or skill	"To perform blood pressure measurement successfully, I have made sure to practice using the manual blood pressure cuff with my family/friends and patients."	57
Student Organizations	Becoming more involved with a student organization through events, volunteer opportunities, or meetings	"I attended a much higher number of speakers and meetings with student organizations that I was not a part of. I went above and beyond the CCAT requirements and implemented more time in my schedule to attend events and speakers that interested me."	38
Volunteering	Volunteering in the community	"I tried to participate in a variety of volunteer opportunities to get a better perspective on the pharmacy profession and to improve my interpersonal communication skills."	27

TABLE 1. Survey Result Codebook Continued

<i>Category</i>	<i>Definition</i>	<i>Example</i>	<i>Count</i>
Activity Implemented			
Shadowing	Shadowing a pharmacist	"I did a job shadow at the VA to learn more about how pharmacists are integrated there and what a job there would look like."	23
Reflecting	Looking back on experiences and thinking about how they influenced the student	"After each of my experiences at St. Vincent De Paul, I took time to self-reflect on what I learned and how each particular experience could help me as a future pharmacist. Before this semester, I really did not like to take the time to reflect. However, I have made reflection a bigger part of my routine now that I realize it can be important to growth."	23
Working	Working at a pharmacy	"I got a job in a community setting and practiced talking to patients in a healthcare setting. I was able to apply my pharmacotherapy skills in talking to patients at the pharmacy."	16
Other	Response did not fit any of the above categories	N/A	5
Undescribed	Student discussed impact of CPD but did not describe what activities they completed to achieve learning plan	N/A	2
Impact of Learning Plan			
Time Management	More time for other activities besides coursework	"It has helped me be better organized and more able to chase down/ experience opportunities in pharmacy that I did not have the time for. Being more efficient with my time/scheduling has helped me focus on new chances to experience pharmacy and focus on the activities I care about."	57
Confidence	Feeling more confident or comfortable about an activity	"It has made me more confident in my professional abilities and my own ability to learn and adapt in situations."	46
Connected to the Profession	Learning implementation has helped student focus in on particular interest in pharmacy career, for example specialty pharmacy, pediatrics, outpatient, etc; Student feels a purpose with the profession	"I feel a lot more connected with my profession."	34
Communication	Able to communicate effectively with patients; Implementing more patient-friendly language	"Implementing my learning plan has improved my patient communication by leading the class more times and it has helped me become a better teacher in training other students to lead the class."	33
Self-Awareness (Meta Cognition)	Having a clear site on where the student is and where they want to be; Realizing what activities are important to the individual; Realizing behaviors that aren't beneficial for well-being	"Self-awareness has always been one of my weaknesses, and I am proud to say that I have seen this growth within myself and I am excited to see even more in the future."	31
Professional Development	Realizing the importance of goal setting on CPD	"I think this has reinforced the importance of continual learning and pushing myself to learn things on my own even before we do in school. I think this is important now as I embark on my summer internship, and it will be important as a future pharmacist with the ever changing medications coming to market."	27
Clinical Skills	Improving knowledge of pharmacy practice; Developing proficiency in pharmacy activities	"Being able to set goals and completing them is preparing me for the future such as when a patient asks me a question and I don't know the answer to it, I would have to research about the question and follow up with them. It allows me to improve on things that I was not competent in and to explore different concepts that I do not have much knowledge about."	24
Academic Performance	Better understanding of course material; Improved grades	"I believe it has helped me both academically and professionally because my grades have gotten better, I've retained more information, and I have went to more extracurricular activities."	23

TABLE 1. Survey Result Codebook Continued

Category	Definition	Example	Count
Impact of Learning Plan			
Networking	Making connections at conferences, IPPEs, or through student organizations	"Implementing my learning plan has made a very strong impact on my professional development as I have become more involved in my school community and have expanded my pharmacy network."	22
Improved Well-Being	Reduced stress and/or anxiety	"I think that the work life balance that I have been able to implement will carry with me throughout my career. Having time to myself to be able to recoup from a stressful week so that I can study and internalize information will allow me to give better care to my patients and prevent feeling burned out from all of the information that I am processing on a daily basis."	20
Cultural Sensitivity	Being aware of prejudices and inequalities in healthcare; Better understanding how to interact with patients with a different background;	"It has developed me professionally by allowing me to assess my prejudices and inequalities in healthcare. By being aware, I can be a better healthcare professional when serving these groups."	11
Interprofessional Collaboration	Understand the roles of other professionals; Ability to work well on a team	"This collaboration activity enhanced my inter-disciplinary teaching skills as I had the opportunity to teach not only other health profession students, but also 2 physicians."	11
Other	Response did not fit any of the above categories	N/A	6
Undescribed	Student skills or activities completed but did not describe the impact of their learning plan on CPD	N/A	11
No Impact	Student stated learning plan had no impact on CPD	N/A	2

to complete the self-determined SMART learning objective. At the end of the spring 2019 semester, students were required to complete a survey about completion of their objective. The survey asked students to elaborate on skills or activities they completed, how these skills and activities were incorporated into behavior, and how their professional development was affected by using the CPD framework (Box 1). The students were also asked to report any barriers they faced when trying to complete their learning plan.

Two investigators used the survey responses to develop a codebook regarding the skills identified, activities completed, and the impact on students' professional development (Table 1). Once the codebook was finalized, one investigator (KS) reviewed and coded all responses, and a second investigator (AM) conducted a data audit and was available for questions regarding coding data. According to the University of Wisconsin-Madison Health Sciences Institutional Review Board, this project did not meet the federal definition of research and was determined to be

Box 1: SMART Objective Completion Survey

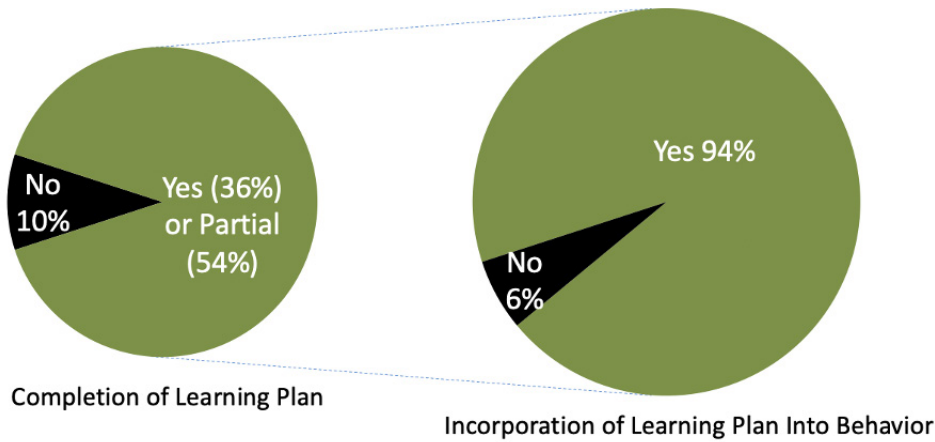
1. Looking back at your most recently implemented precepting CPD learning plan, did you complete the learning activities you identified? (i.e. the SMART objective DPH2 students drafted at the end of fall semester or DPH1 students drafted 2/12/19) **Yes/no/partially**
2. **If yes or partially, describe the learning activities you implemented.** If no, what barriers did you encounter?
3. If yes, have you incorporated the skills and/or activities identified in your CPD learning plan into your behavior or actions? **Yes/no**
4. What skill/activity did you implement? What behavior changes have you made? If no, what barriers did you encounter?
5. If yes, please describe how you incorporated the skill/activities into your behavior.
6. What impact has implementing your learning plan made on your professional development?

programmatically evaluated.

Of the 279 students who completed the survey, 90% stated they were either fully successful or partially successful in completing their learning plan to achieve their SMART learning objective.

Additionally, 94% of those students who were fully or partially successful in completing their learning plan succeeded with incorporating their learning plan into their behavior by the end of the spring 2019 semester (Figure 2). The majority

FIGURE 2. Percentage of Students Who Incorporated the Learning Plan



of student learning plans consisted of implementing activities to help them develop or improve upon different skills. The three most common skills were time management, professional development (e.g., CV building and connecting with pharmacists in practice), and communication (Table 1). The findings from this survey are consistent with results from similar surveys conducted by other institutions, indicating that student pharmacists across the country are targeting similar skills to improve their professional growth.⁶ Unni and colleagues evaluated the use of the CPD framework in first- and second-year pharmacy students.⁶ Students found that by using the CPD framework they were successful in strengthening their foundational skills like communication, interprofessional collaboration, and involvement in the profession. Knowing these targeted skills can allow preceptors to find unique opportunities at their sites for students to further develop them and offer techniques and suggestions based on their own experiences as clinicians.

Time management is arguably one of the most important skills that a student pharmacist should establish and continue to improve upon during their time in school. Time management was the most common skill that first- and second-year students planned to develop with their learning plan (n=62; 22.2%). Activities students completed to improve their time management skills included attempting new study techniques (54.8%), practicing different studying techniques so they become second nature (32.3%), and

seeking information regarding different studying techniques (14.5%). Preceptors can help first- and second-year students develop this skill during their IPPE rotations by sharing their own study habits while in school and what worked (and didn't work) for them. Additionally, preceptors can tell students how they were able to manage the stresses of pharmacy school and the techniques they still use in their professional practices. Students noted that when they focused on improving their time management, they also experienced an improvement in academic performance and improved well-being, and they became more self-aware.

Students recognized the ability to communicate as an important skill in the field of healthcare. Communication is required on a daily basis for pharmacists in practice.⁷ Pharmacists use their communication skills in a multitude of ways: to counsel patients on safe medication use, to speak with doctors and nursing staff to ensure the correct medication and dose is being used for their patients, and with other pharmacists to pass off information between shifts. Students understood this when they filled out the survey, as communication was the third most common skill selected (n=55; 19.7%). Regardless of the rotational site, preceptors can help students enhance their communication skills for both required lab courses in school and future practice. The activities most students used to improve their communication skills were practice and repetition (41.8%), participation in student organizations (20%), and self-

reflection (12.7%). Preceptors can help students develop their communication skills by implementing experiences that can be divided into three phases: pre-observation, active observation, and post-observation.⁸ The pre-observation phase allows students to become aware of the learning goals of the observation. The active observation phase is the interaction that the preceptor has with a patient or healthcare provider. Active observation can also include mock interactions or scenarios if interactions with patients or healthcare providers is not feasible at a site. The post-observation phase allows students to reflect on the interaction as a whole. The use of active observation can enhance a preceptor's ability to educate students on a variety of communication techniques. Also, preceptors can provide students with a situational problem and have the student practice their communication skills for a similar situation in the future. At the end of the practice situation, the student and preceptor can debrief and talk about what they thought went well and what the student could work on. Through facilitating student practice, we expect students' communication skills to improve.⁹

Some students completing the survey stated their goal was fostering their professional development by becoming more engaged in the profession of pharmacy (n=59, 21.1%). Students recognized that being more engaged will help them connect with others in the profession and give their future practice a meaningful purpose. The activities that most students completed to achieve their goal included shadowing pharmacists (33.9%), researching different pharmacist career paths (32.2%), and joining student organizations (23.7%). Preceptors can assist students with becoming more engaged in the profession by offering a variety of different experiences within a single rotation. While I (LG) was a third-year pharmacy student, my acute-care preceptor had me shadow pharmacists in multiple areas of the hospital. This gave me insight as to how a pharmacist's role can vary across patient care units and specialties. Clinical rotations set up this way allow first- and second-year pharmacy students to gain a breadth of knowledge they likely didn't have prior to the rotation. By rotating

through different units and working with a variety of pharmacists, students can learn about the role of the pharmacist in a code situation, how pharmacists ensure a patient is receiving the right chemotherapeutic drug and dose, how pharmacists participate in antibiotic stewardship, and much more. This opportunity can potentially pique a student's interest in an area of practice that they were previously unaware of. Allowing students to work with different pharmacists and shadow their particular practices will not only introduce students to the wide array of pharmacist roles, but also help the student to expand their network early and feel more connected to the profession.

Interprofessional collaboration is another skill that students targeted for CPD and that preceptors can help them develop while on rotation (n=11; 3.9%). Students who wanted more experience working with other professions often practiced theoretical interactions they could have in the future with other healthcare professionals (36.4%); volunteered through WisCARES or MEDiC, community clinics for low income households in the Madison area (27.3%); and took part in shadowing opportunities (18.2%). A simple but impactful way to assist students with developing their interprofessional collaboration skills is asking them to witness and reflect on interactions that the preceptor has with others. Students will be able to see how the team works together for the common goal of caring for the patient. Another strategy is to set up shadowing experiences so the student witnesses how interactions between pharmacists and health care providers differ in different situations. Finally, role-playing with mock interactions exposes students to potential questions they might be asked during an interprofessional interaction. By providing IPPE students with these unique opportunities, preceptors support student development of and confidence in their communication and interprofessional collaboration skills.

Preceptors can further enhance a student's professional development by having them reflect on shadowing experiences after completion. Reflection encourages students to think about what aspects of each pharmacist's role they liked and how their role could be further

expanded in each setting. Additionally, reflecting and debriefing with a preceptor assists the student with putting the whole experience into context and possibly provides further meaning to the experience.¹⁰

As part of the CPD process, student pharmacists chose skills they wanted to improve upon early in their career and develop for future practice. While most first- and second-year students were able to at least partially complete their SMART learning objectives at the end of the spring 2019 semester, 10% were unsuccessful in achieving their learning plan, and 54% were only partially successful. Time was reported as the most common barrier preventing completion of SMART learning objectives by 79% of students who completed the survey. Preceptors can play a role in helping students achieve their personal learning plan. After students complete the required rotational activities, preceptors and students can work together to fill the remaining time at the rotational site with opportunities for the student to work with the CPD framework to develop and strengthen their targeted skills. By making that time available, preceptors have the opportunity to assist students in achieving their SMART learning objectives during IPPE rotations.

With assistance from preceptors, student pharmacists can incorporate their targeted professional skill into their learning plan. Not all preceptors or sites might be able to offer experiences to develop all the skills described in this article, but they likely have resources to point students in the right direction. To best facilitate CPD with IPPE students, preceptors should ask at the beginning of the rotation what their student is hoping to learn from the rotation and arrange opportunities as available.

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