

Residency Guide: Recommendations for Practice and Engagement in a Layered Learning Model as a Resident

Table of Contents

| Definition and Background of the Layered Learning Model (LLM) | 4 |
|--|------|
| Benefits of the Layered Learning Model | 6 |
| Your Preceptor Role as a Resident | 7 |
| What Makes an Effective Preceptor in a Layered Learning Model? | 7 |
| Expectations Throughout the Year | 7 |
| Orientation | 8 |
| Expectations | 9 |
| Baseline Assessment | . 10 |
| Projects | . 11 |
| Strategies for Inexperienced Students | . 11 |
| Patient Care Responsibilities | . 12 |
| Positive feedback and recognizing frustration | . 12 |
| Repetition of foundational skills | . 12 |
| Assessing progress and providing appropriate challenges | .13 |
| Rounding Strategies | .13 |
| Teaching | .13 |
| Topic Discussions | . 14 |
| Feedback | . 14 |
| Other Resources | .15 |
| Appendix A: Online Resources for Preceptor Development | . 16 |
| Appendix B: Written Resources for Preceptor Development | . 17 |
| Appendix C: Resources for Clinical Practice Development | . 18 |
| Appendix D: Goal and Objective Writing for Preceptors | . 19 |
| Appendix E: Resources for Goal and Objective Writing | .21 |
| Appendix F: Pocket Baseline Assessment of Learners | .22 |



Compiled by the ASHP New Practitioners Forum Resident Advancement Advisory Group.

This resource was developed by the ASHP New Practitioners Forum Resident Advancement Advisory Group, which is providing members the opportunity to share resources that might assist in professional endeavors. ASHP is not responsible for, and does not officially endorse this resource, and further expressly disclaims any and all liability for damages of any kind arising out of the use, reference to, or reliance upon any information contained in the resource. No guarantee is provided that the content is correct, accurate, complete, up-to-date, or owned by the individual who posted it. ASHP has not participated in the development of the content, and does not exert any editorial control over it.

All content consists solely of material supplied from contributors, and the opinions and statements expressed by contributors are solely those of the individual writers, and do not reflect the opinions of ASHP or its officers, directors, or employees. The names and contact information contained in this resource are published to facilitate communication, and such information shall not be used for commercial purposes. Reference to any specific commercial entity, product, service, or process does not constitute endorsement, recommendation, favoring, or disfavoring by ASHP or its officers, directors, or employees. The inclusion of any links to other sites does not imply a recommendation of such sites.

ASHP MAKES NO WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, AND MAKES NO REPRESENTATIONS OR ENDORSEMENTS WITH RESPECT TO THE QUALITY, CONTENT, TIMELINESS, ACCURACY, COMPLETENESS, RELIABILITY, OR OWNERSHIP OF THE CONTENT, TEXT, GRAPHICS, LINKS, OR OTHER ITEMS CONTAINED IN THIS RESOURCE, AND SPECIFICALLY DISCLAIMS ANY AND ALL SUCH LIABILITY. ANY RELIANCE PLACED ON SUCH INFORMATION IS AT THE SOLE RISK OF THE USER. IN NO EVENT WILL ASHP BE LIABLE FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE, ARISING FROM THE USE OF THE RESOURCE.

Copyright © 2019, American Society of Health-System Pharmacists, Inc. All rights reserved.



Definition and Background of the Layered Learning Model (LLM)

• The structure of the LLM is often described as a hierarchical team that is modeled after a medical team, consisting of an attending, resident, and student (Figure 1).¹

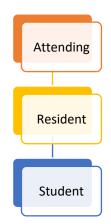


Figure 1: Depiction of the hierarchical medical team

- Similarly, the LLM pharmacy team may include an attending pharmacist (or practicing pharmacist), pharmacy resident(s), and student pharmacist(s). Many teams also have more advanced Postgraduate Year 2 (PGY2) pharmacy residents in addition to Postgraduate Year 1 (PGY1) residents. The student pharmacist group primarily consists of Advanced Pharmacy Practice Experience (APPE) students on full-time clerkship rotations in their last year of pharmacy school. There are also many first through third year Introductory Pharmacy Practice Experience (IPPE) students on shorter rotations that rotate through sites and engage in the LLM (Figure 2).
- The goal of this structure is that the learner will help to precept the learner(s) in the level below them.¹
- At some institutions, this model may also incorporate other general pharmacists and pharmacy technicians.¹
- Best practices for implementing a LLM exist, but the structure may vary and should be tailored to the practice site.¹



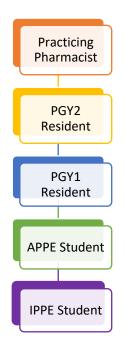


Figure 2: Depiction of a comprehensive LLM on a pharmacy team



Benefits of the Layered Learning Model

The LLM allows practice sites to integrate multiple learners into a practice setting and provides an excellent opportunity for different levels of learners to both observe and practice in a safe learning environment.² The existence of an LLM can help establish a culture of learning. A resident takes on the role as preceptor for the student, and while the new resident preceptor may not know all the details of everything taught, the new resident preceptor is encouraged to teach what he or she does know and look up or reach out to the pharmacist preceptor to fill in the blanks for the LLM team.

Student benefits:

- Provides additional opportunities for direct patient care and ownership of patient outcomes.³
- Allows the student to gain a realistic impression of what skills and knowledge level would be required of them as a resident.
- Offers multiple learners to be present.
- Creates a more comfortable and less intimidating learning environment where the student may be precepted by a resident, rather than always being precepted one-on-one by the pharmacist attending.⁴

Resident benefits:

- Provides experiences in precepting and teaching to build the resident's clinical knowledge and confidence.⁵
- Allows the student the opportunity to receive real-time feedback so that the resident can improve their teaching strategies, as well as to identify knowledge gaps.⁵
- Offers an opportunity for students to help with foundation skills and tasks allows more time for the resident time to focus on developing and improving their advanced clinical skills.¹

Preceptor benefits:

- Provides preceptor development opportunities and development of precepting skills for different leveled-learners.
- Allows preceptor to be exposed to new perspectives and ideas for patient care responsibilities.
- Delegates patient care responsibilities to learners may allow the preceptor more time for other tasks (i.e. scholarship, administrative responsibilities).¹



 Offers an opportunity to stay up-to-date on current literature and evidence-based practices through teaching the learners current evidence-based approaches to patient care and/or assigning the learners a journal club activity.

Your Preceptor Role as a Resident

The resident role can be described as serving as a primary preceptor for the IPPE and/or APPE student(s) on rotation, while receiving guidance in the form of coaching and feedback from a more senior preceptor or attending pharmacist.⁶ As a resident, you have a unique position under the pharmacist attending and above the student(s) whom you are precepting. This position can be both rewarding and challenging. Though the LLM approach is quite common, the expectations of the resident may vary between practice settings, rotation sites, and from different preceptors. The key to success in this role is to meet with your preceptor before the student's first day of rotation to clarify your role as a preceptor and as a member on the pharmacy team.⁷ There are many tools and resources to aid you in developing your precepting skills, as well as your clinical skills to help you become a more effective clinical preceptor.⁸ (See <u>Appendices A-C</u> for preceptor development resources)

What Makes an Effective Preceptor in a Layered Learning Model?

As a preceptor, it is important to understand your role as a teacher, facilitator, mentor, and role model to the student(s) whom you are precepting. An effective preceptor is enthusiastic, knowledgeable, prepared, self-confident and dedicated to teaching the learner.^{7,9} One of the most difficult things to do as a preceptor is to admit when you do not know an answer or that you have provided incorrect information to your learner. You should not be afraid to admit when you are wrong or do not know something. As a resident, you are also a learner and it is okay to remind the student that you are there to learn just as much as they are. Though you will be assuming a leadership and teaching role as a preceptor, you should be willing to learn and accept feedback from both your senior preceptor(s), as well as the learners whom you are precepting. Having good communication and regular feedback sessions between those who are precepting you, as well as those whom you are precepting, is a necessity to a successful LLM.¹

Expectations Throughout the Year

As a resident, the expectations of you precepting student learners may change throughout the year. In the beginning of residency, it is just as important for you to build a rapport with the medical team and to develop your clinical skills. Therefore, your preceptor(s) may limit your role in precepting initially. As



the year progresses and you are able to develop your clinical skills, your preceptor(s) may give you more precepting responsibilities and may even have you take on more of a primary precepting role.

Precepting on Rotation

Orientation

An orientation at the beginning of a rotation is crucial to the success of the experience for both the preceptor and learner.⁷ If your senior preceptor expects you to orient the learner to their rotation, you should allow enough time to prepare and to review your plan with your senior preceptor prior to the learner(s)' arrival. A good orientation sets the foundation for a successful learning experience for both you and your learner(s). Key items to review during your learner(s)' orientation may include, but are not limited to:

- 1) Practice site location
 - a) Learner's workspace
 - b) Providers' offices
 - c) Patient care areas (patient rooms, waiting area, floors, units)
 - d) Staff restrooms
 - e) Cafeteria/eating area (refrigerator, microwave)
 - f) Parking
- 2) Daily workflow
- 3) Patient care responsibilities
 - a) Comprehensive medication management
 - b) Patient clinic visits
 - c) Other clinic notes
 - d) Medication histories and reconciliations
 - e) Multidisciplinary rounds
 - f) Pharmacokinetic dosing and monitoring
 - g) Therapeutic drug monitoring
 - h) IV-to-PO conversions
 - i) Renal dosing adjustments
 - j) Discharge counseling
 - k) Total parenteral nutrition management
 - I) Antimicrobial stewardship



- 4) Expectations for working up a patient
 - a) Number of patients
 - b) Time the patients need to be reviewed by
 - c) Items to include in the work-up
- 5) Review required versus optional rotation activities
 - a) Create a drug monograph
 - b) Participate in and/or lead topic discussions
 - c) Provide in-services to other healthcare professionals (nurses, physicians, pharmacists)
 - d) Daily patient presentations
 - e) Present a topic presentation or journal club
- 6) Electronic medical record
- 7) Health care team members and each members' role: introduce the team to your learner and what their role on the multidisciplinary team (if applicable)
- 8) Rotation calendar/schedule
 - a) Site location (if rotation involves multiple practice sites)
 - b) Rotation hours
 - c) Rotation activities
 - d) Project(s)/presentation(s) due dates
 - e) Preceptor(s) schedule (if applicable)
- 9) Rotation syllabus
 - a) Materials to bring to rotation
 - b) Dress code
 - c) Absent and late policies
 - d) Preceptor contact information
 - e) Rotation goals and objectives
- 10) Preceptor's expectations of the learner
- 11) Learner's goals for the rotation
- 12) Learner's expectations of the preceptor

Expectations

It is imperative to establish and discuss both yours and the learner's expectations so that everyone understands what is expected of them. Expectations between both you and the learner should be honest, realistic, and mutually agreeable. Discussing expectations during orientation can help to



promote a positive learning experience, and also prevent disagreements, frustration and dissatisfaction in not fulfilling certain requirements, goals or objectives. As a preceptor, you should want your learner to find your rotation experience rewarding and a valuable use of their time.

As a preceptor, you should develop expectations relating to different aspects of the rotation, including punctuality, self-motivation and self-learning, professionalism, quality of work, patient care activities and interactions, and interprofessional experiences. A good exercise to do prior to the learner starting is to develop a list of goals and objectives for your rotation. A goal is a more general, broad statement that you want the learner to accomplish from your rotation. What do you want the learner to get out of your rotation? For each goal, you can then come up with a list of specific, realistic, attainable objectives that you can measure to determine whether or not the student achieves your goal by the end of their rotation.¹⁰ (See <u>Appendix D-E</u> for goal and objective writing)

Depending when the learner's rotation falls in their rotation schedule and what rotations they have had prior to your rotation, you may need to adjust your expectations. You may have higher expectations for a student who has rotation later in their rotation schedule and who has had similar rotation experiences compared to a student who has your rotation at the beginning of their rotation schedule or has not had similar rotations experiences before. If you need to modify your initial expectations, you should still expect the student to improve and progress throughout your rotation, regardless of their baseline abilities. The minimum number of required rotation assignments should not change based on the student's level of competency, as these assignments are set as the minimum to pass your rotation. For more advanced students, you may expect them to complete advanced assignments and/or additional projects. For learners who may have a knowledge gap or whom this is a completely new rotation experience, it is reasonable to let them know that they may need to invest additional time or studying outside of their rotation hours.

Baseline Assessment

During orientation, it is helpful for you to learn about the student, as well as to share a little about yourself and your practice experience. Obtaining a baseline assessment of the learner's knowledge and previous clinical experiences (i.e. prior IPPE and APPE rotations, work experience) can be helpful in assessing your learner's knowledge, patient care skills, and clinical strengths (see <u>Appendix F</u> for an example of a baseline assessment). It can also help you identify knowledge gaps and areas for improvement so that you can tailor the rotation to meet the needs and cognitive level of the learner.



Projects

Precepting student projects requires specific goals and objectives to be defined. Rotations can have required projects, as well as optional or additional projects. Some projects can include¹¹:

- 1) Writing a drug monograph (and presenting it to the Pharmacy & Therapeutics committee)
- 2) Conducting a medication utilization evaluation
- 3) Presenting a nursing, pharmacy, or physician in-service activity
- 4) Presenting a patient case presentation
- 5) Creating patient education materials
- 6) Presenting a journal club
- 7) Writing a clinical pearl, drug update, or medication review for the pharmacy department newsletter
- 8) Presenting a disease state presentation
- 9) Presenting a mini-debate about a controversial topic
- 10) Revising or creating a policy or protocol
- 11) Data collection for a research project

When assigning a student a project, you should ensure that you have time to review at least one draft of the project before the deadline. This not only ensures that the outcome is value-added to you as a preceptor, but also completing the assignment is professional development for the student. It allows them to learn how to accept and incorporate feedback on writing and communication skills. When precepting projects, providing examples can help make them successful. Many times this will be the first exposure to this type of assignments, so having assignments they can emulate provides guidance without the preceptor needing to explain all of the details.

Strategies for Inexperienced Students

You should tailor the rotation to meet the needs and level of the individual learner. Depending on what rotations the learner has had prior to your rotation, you may need to adjust the student's initial patient load and complexity of topic discussions. Regardless of what setting you are in, the concept of "start low and go slow" can be applied to students who have baseline knowledge deficits or who have not had exposure to your clinical area. Again, this familiarity with the students' abilities should be established before or at the beginning of the rotation and progress should be re-assessed often during the rotation.⁷



Patient Care Responsibilities

Students who are not proficient in working up patients or who have knowledge deficits in the disease states seen on your rotation will require more time and practice. It is best to start off with a small patient load and gradually increase the number of patients. In the ambulatory care setting, it may be helpful for students to work up patients the night before. Rather than seeing patients on their own, the student should be accompanied by you or another pharmacist. When the student first starts on rotation they can have more of an observing role, and then, gradually, you can allow them to take more of a clinician role, where the preceptor plays more of a facilitator role.¹²

In the inpatient setting, students may need to come in extra early to work up their patients. Again, start with a few patients and gradually increase the number of patients each day and week. In building familiarity and proficiency with a few patients, students can both contribute more effectively to the healthcare team and build their clinical foundation and confidence.³

Positive feedback and recognizing frustration

Frustration from inexperienced students can manifest itself as apathy, anxiety, a decline in performance or many other ways. It is important to be cognizant of frustration, remind the student that they are present to learn and build their skills, not to provide optimal patient care immediately after starting. With realistic expectations set, it is also important to provide encouragement through positive feedback.¹³ It is just as important that students know what they are doing well as aspects that they should improve upon. Consistent positive feedback will build both confidence and good habits.

Repetition of foundational skills

At the start of students' clinical experiences, placing emphasis on skills that will be necessary when evaluating all patients will lead to a stronger clinical foundation. These skills may include: obtaining accurate medication histories, pharmacokinetic dosing, warfarin and anticoagulation counseling, drug counseling, assessment of renal function and dose adjustments, clinical documentation, IV to PO conversions, and others. These seemingly repetitive tasks are important for the student's learning. The more proficient a learner becomes in assessing less complicated patients, the better the student will be able to take advantage of more advanced learning opportunities.³



Assessing progress and providing appropriate challenges

Recognition of a student's progression is important as limited time is available on rotation to appropriately challenge the student and provide the best learning experience possible. As the student demonstrates competency with a few patients, progressing to more patients and then possibly the whole service is a way of continuously adjusting the level the student is challenged. Additionally, asking more difficult questions, providing the student with the opportunity to educate other patient care team members and allowing the student the autonomy to round independently are other methods to challenge high functioning students.¹⁴

Strategies for Filling Knowledge Deficits

Rounding Strategies

Rounding is a great learning experience for the learner, yet it can easily turn into a trap for passive learning, in which the student attends rounds and listens to the attending and medical team discuss the patients without contributing to the discussion or fully understand what is going on with the patient. In order for the student to gain the most from rounds, they should be fully working up their patients prior to rounds. Let the learner know that the expectation is that they should take it upon themselves to research disease states, terminology, labs, and other items that they are not familiar with. Encourage the student to be proactive in anticipating questions that might arise on rounds, as well as developing a plan and rationale for any of their recommendations. Teach the student how to use primary literature and guidelines to make an evidence-based recommendation. Many preceptors implement "prerounding" with the student, in which they discuss the patients prior to rounds. As a resident, you might find it helpful to pre-round with your student learners so that you are not surprised when discussion arises regarding their interventions. Pre-rounding can also help you work up the patients and assess the student's ability to work up a patient.

During rounds, encourage the student to take notes about terms and concepts that they do not fully understand so they can investigate after rounds and discuss with you and/or the attending pharmacist. They should also be taking notes on patient care items that they need to follow-up on after rounds, such as discharge counseling, medication levels, dose adjustments, drug information questions.

Teaching

Teaching is an important part of a resident's own learning and development as a preceptor and clinician.¹⁵ Teaching a student pharmacist on rotation can be done in many different ways. In order to be most effective, you should try to tailor your teaching method to best fit the learning needs of the



student. For example, some students learn best by reading about a concept so you can provide the student with reading material and then discuss afterwards. Other students are more visual learners and may respond better to pictures, diagrams, or videos to aide you in your discussion.

Topic Discussions

Though the rotation may have a set of core topics to cover throughout the rotation, you should be open to having additional topic discussions to tailor the rotation to the learners' interests and learning needs. At the beginning of the rotation, all of the learners and preceptors, including you, should work together to develop a list of topic discussions to review during the rotation. You and the attending pharmacist/other preceptors can establish who will be leading each discussion. As a resident, you may be asked to lead more basic topic discussions with the student whereas more senior preceptor may lead discussions on complex disease states. You may also expect the student(s) to lead a topic discussion.

To prepare for topic discussions, the learners should be provided with specific learning objectives to ensure that both the topic discussion leader and participants are reviewing similar concepts and material to prepare for the topic discussion.¹⁸ Providing reading material, such as landmark trials and guidelines, is helpful, but not necessary if one of your objectives is for the learner to find primary literature and guidelines for the disease state that you will be discussing. This provides an added opportunity for the preceptor to provide guidance on literature evaluation and how to select the most appropriate evidence for clinical decision making.

Feedback

Prior to the start of the student's rotation, you and the attending pharmacist/other preceptors should establish who will be completing and submitting the student's midpoint and final evaluation. This task is generally the responsibility of the preceptor-on-record, though may be a valuable exercise for interested residents. As a preceptor, you should be providing your learner(s) with informal feedback on a daily basis. Residents should provide feedback to the attending pharmacist/other preceptors about the student's performance to complete the formal evaluations. Direct feedback during these formal evaluations should be completed by both all preceptors and the resident.

In terms of feedback, the student may be more comfortable having a detailed discussion on areas of improvement with the resident, which is an advantage of the layered learning model.¹⁴ The resident can speak about his or her own growth since being a student and what areas to focus on that will be most beneficial in the coming years for the student.



The preceptor is able to provide a broader overview on the progress of the student and what areas to explore to develop potential career interests. The preceptor also often has a closer connection with the college or school of pharmacy and may connect with resources such as the director of experiential education for especially challenging students.

Other Resources

There is a plethora of online and written texts regarding precepting. There are also continuing education webinars related to precepting. (*Refer to Appendix A*)

Precepting Different Layers – Rotation Student versus Employed Intern

Precepting rotation students can be very different from precepting employed interns. Students usually have a classification of IPPE or APPE which gives you some guidance to their baseline knowledge. With employed interns, they can vary in their training from a first-year student pharmacist to a fourth-year student pharmacist. Understanding the curriculum of your local School or College of Pharmacy may help you better understand what disease states are covered in each professional year. Also, IPPE or APPE students are often scheduled daily for consecutive days and weeks. Interns may not work consistent schedules or locations. For employed interns, offer a quick touch base at the start of each shift, set combined goals for the shift, and conduct a quick assessment of their baseline.

State Regulations

Some states may require additional certification, examinations, and registration with the state's Board of Pharmacy..¹⁹⁻²² It is important to determine whether you need to register as a preceptor in your state of practice.



Appendix A: Online Resources for Preceptor Development

- 1. American Society of Health-Systems Pharmacists Preceptor Toolkit: <u>https://www.ashp.org/Pharmacy-Practice/Resource-Centers/Preceptor-Toolkit</u>
- 2. American Society of Health-Systems Pharmacists Teaching Certificate for Pharmacists: http://elearning.ashp.org/products/6724/teaching-certificate-for-pharmacists
- 3. American Pharmacists Association Advanced Preceptor Training: https://www.pharmacist.com/apha-advanced-preceptor-training
- 4. The Pharmacist's Letter Therapeutic Research Center: Preceptor Training & Resource Network: <u>http://info.therapeuticresearch.com/preceptor-training-and-resource-network</u>
- 5. University of Pittsburgh. Preceptor Resources: PittPharmacy Training Modules: <u>http://www.pharmacy.pitt.edu/programs/elp/training_modules.php</u>
- 6. University of Maryland Online Preceptor Development Modules: <u>https://www.pharmacy.umaryland.edu/about/offices/elp/online-preceptor-development-modules/</u>
- 7. University of Texas CPE for Preceptors: <u>https://sites.utexas.edu/cpe/featured-online-cpe/preceptors/</u>
- 8. Texas Tech University Health Sciences Center School of Pharmacy. Preceptor Mini-Series 1: Preceptor Pharm Tools <u>https://ttuhsc.learningexpressce.com/index.cfm?fa=view&eventID=8229</u>
- 9. Texas A&M HSC Rangel College of Pharmacy. Precepting Toolkit: Exercises and Worksheets: <u>http://healthsciences.howard.edu/education/colleges/~/media/Files/education/pharmacy/PRE</u> <u>CEPTING-TOOLKIT.ashx</u>
- American Society of Health-Systems Pharmacists Webinar: How to Handle a Failing Student. Release date: May 7, 2018. Available at: <u>http://elearning.ashp.org/products/6705/how-to-handle-a-failing-student</u>
- American Society of Health-Systems Pharmacists Webinar: Preceptor's Playbook: Tactics, Techniques, & Strategies. Release date: March 1, 2017. Available at: http://elearning.ashp.org/products/5894/preceptors-playbook-tactics-techniques-strategies



Appendix B: Written Resources for Preceptor Development

- 1. Cuellar LM, Ginsburg. Preceptor's Handbook for Pharmacists, 3e. Bethesda, MD: American Society of Health-Systems Pharmacists, 2016.
- 2. Doty RE. Getting Started as a Pharmacy Preceptor, 1e. Washington DC: American Pharmacists Association. 2011.
- 3. Soric MM, Schneider SR, Wisneski SS. The Effective Pharmacy Preceptor. Bethesda, MD: American Society of Health-System Pharmacists, 2017.
- 4. Worrall CL, Aistrope DS, Cardello EA, et al. Priming the Preceptor Pipeline: Collaboration, Resources, and Recognition: The Report of the 2015-2016 Professional Affairs Standing Committee. AJPE 2016;80(9):S19.



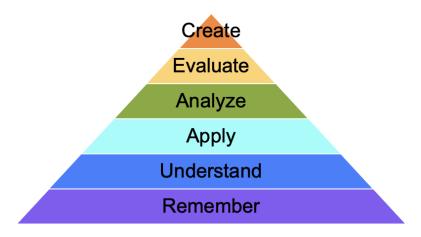
Appendix C: Resources for Clinical Practice Development

- 1. American Society of Health-Systems Pharmacists Professional Certificate Programs: https://www.ashp.org/professional-development/professional-certificate-programs
- 2. Pennsylvania Pharmacists Association. Pharmacists' Patient Care Toolkits. <u>https://www.papharmacists.com/page/Toolkitshome</u>



Appendix D: Goal and Objective Writing for Preceptors

When thinking about your goals, you can think about it in a stepwise approach where at the beginning of your rotation, you may just expect the student to be able to observe, look up dosing, etc. Then as they progress on their rotation, you may want them to achieve a higher-level goal. Below is a version of Bloom's Taxonomy that depicts different levels of learning and knowledge domains, starting at the bottom and working towards the top of the pyramid where a higher-level of thinking is achieved.



Write out the goals of your rotation:

| Goal 1: | |
|---------|------|
| Goal 2: | |
| Goal 3: | |
| | |
| Goal 4: | |
| Goal 5: | |



Now, for each goal, write SMART (specific, measurable, attainable, relevant, timely) objectives for each goal using a verb word from the box below to start your sentence.

| Remember | Understand | Apply | Analyze | Evaluate | Create |
|---|---|---|---|---|---|
| Define Give an example of Group Identify Label List Locate Name Outline Quote Recall Recognize Record | Understand Cite examples of Demonstrate use of Describe Determine Differentiate between Discriminate Discuss Explain Express In your own words Identify Interpret | Apply Arrange Demonstrate Dramatize Employ Exhibit Generalize Illustrate Interpret Interpret Interview Make Manage Manipulate Operate | Analyze Appraise Calculate Categorize Compare Conclude Contrast Correlate Criticize Deduce Debate Detect Determine Develop Diagnose | Evaluate Appraise Assess Assign points Choose Compare Critique Defend Estimate Fvaluate Judge Measure Rate Revise | Arrange Assemble Collect/compile Compose Construct Create Design Develop Devise Forecast Formulate Generate Imagine Invent |
| Record Relate Reproduce Show Underline/circle Write | Interpret Locate Pick Report Restate Review Recognize Select Retell/restate Translate Respond Practice Simulate | Operate Practice Relate Schedule Shop Use Utilize Initiate | Diagram Diagram Differentiate Distinguish Draw conclusions Estimate Identify Infer Inspect Inventory Predict Relate Solve Test | Revise Score Select Validate Value Test | Invent Make Manage Organize Plan Prepare Produce Propose Predict Reconstruct Set-up Synthesize Systematize |

Goal 1: ______

- A. Objective 1:

 B. Objective 2:
- C. Objective 3: ______

Example:

Goal: By the end of this rotation, the student should be able to accurately measure a patient's blood pressure and provide evidence-based recommendations for the obtained blood pressure.

Objective 1: Demonstrates proper and accurate technique in measuring a manual blood pressure in a primary care setting.

Objective 2: Assesses blood pressure reading based on JNC 8 guidelines to determine stage of hypertension.

Objective 3: Recommends appropriate patient-specific pharmacologic therapy, including drug, dose, frequency, based on JNC 8 guidelines.



Appendix E: Resources for Goal and Objective Writing

- Austin Z. How to design and use learning objectives in clinical teaching. The Pharmaceutical Journal 2016 Jan 26. Available at: <u>https://www.pharmaceutical-journal.com/learning/learningarticle/how-to-design-and-use-learning-objectives-in-clinicalteaching/20200251.article?firstPass=false
 </u>
- Turner TL, Sanguino SM. Verb list for writing behavioral objectives. Available at: <u>https://pedialink.aap.org/File%20Library/About%20AAP%20CME/Verb_List_for_Writing_Behavioral_Objectives-2015-.pdf</u>
- 3. Scordo KA. Writing behavioral objectives. Available at: <u>http://www.npsymposium.com/wp-content/uploads/2013/02/Scordo-writing-objectives.pdf</u>



Appendix F: Pocket Baseline Assessment of Learners

- 1. List prior IPPE and APPE rotations and briefly describe patient care activities you did while on rotation.
- 2. Given your career goals, interests, strengths, and weaknesses, list at least three goals that you would like to accomplish during your rotation.
- 3. On a scale of 1 to 10, (with 10 being excellent), how would you rank yourself in the following areas?
 - a. Written communication skills: ______
 - b. Verbal communication skills: _____
 - c. Public speaking / lecturing: _____
 - d. Organized teaching techniques: _____
 - e. Interpersonal skills (people skills): _____
 - f. Follow-through (with assignments, projects): _____
 - g. Self-confidence (professionally): _____
 - h. Ability to take constructive criticism: _____
 - i. Therapeutic knowledge base in the following areas (list areas): ______
- 4. List any additional areas/procedures or individualized learning activities not listed above that you would like to focus on during your rotation. (*This may include extra teaching responsibilities and/or projects if these are areas of special interest.*)
- 5. Describe the frequency and type of preceptor interaction you feel to be ideal. Where do you see your preceptor fitting into your professional development and maturity?
- 6. Describe how you typically interact with healthcare professionals in the practice setting. What is your level of comfort in these interactions?
- 7. How do you learn best? Describe your learning style.
- 8. Describe your current method of pre-rounding/working up patients.



References

- 1. Pinelli, NR, Eckel SF. et al., The layered learning practice model: Lessons learned from implementation. Am J Health-Syst Pharm 2016; 73(24): 2077-2082.
- Calloway-Sykes K. The Benefits of Becoming a Preceptor for Pharmacy Students and Residents. Pharmacy Times. 2016 March 01. Available at: <u>https://www.pharmacytimes.com/contributor/kathy-calloway-sykes-bs-pharm-mba/2016/03/the-benefits-of-becoming-a-preceptor-for-pharmacy-students-and-residents</u> (Accessed 4/6/19).
- 3. Bates J, Buie L, Daniels R et al. Expanding care through a layered learning practice model, *American Journal of Health-System Pharmacy 2016;*73(22):1869–1875.
- 4. Kasper B, Brownfield A. Evaluation of a Newly Established Layered Learning Model in an Ambulatory Care Practice Setting. Curr Pharm Teach Learn. 2018 Jul;10(7):925-932.
- 5. DiPaula BA, Mohammad RA, Ayers P, Basalyga V, Burton A, Bush C, Farthing K, Marshall VD, Shah BM. Residents as preceptors and educators: What we can learn from a national survey to improve our residency programs. Curr Pharm Teach Learn. 2018 Jan Feb;10(1):21-27.
- 6. Loy BM, Yang S, Moss JM, et al. Application of the layered learning practice model in an academic medical center. Hosp Pharm 2017;52(4):266–272.
- 7. Fitzsimmons DS, Colbert J, Hendley RT, et al. Preceptor-Student Relationship. In: Cueller LM, Ginsburg DB, eds. *Preceptor's Handbook for Pharmacists, 2e.* Bethesda, MD: American Society of Health-System Pharmacists. 2009.
- 8. Worrall CL, Aistrope DS, Cardello EA, et al. Priming the preceptor pipeline: collaboration, resources, and recognition: the report of the 2015-2016 Professional Affairs Standing Committee. Am J Pharm Educ 2016;80(9):Article S19.
- 9. Grasha AF. A Matter of Style: The Teacher as Expert, Formal Authority, Personal Model, Facilitator, and Delegator. Teaching, Vol. 42, No. 4 (Fall, 1994), pp. 142-149.
- University of Colorado. The Center for Faculty Development. Assessment & Instructional Alignment: Learning Objectives. Available at: <u>http://www.ucdenver.edu/faculty_staff/faculty/center-for-faculty-</u> <u>development/Documents/Tutorials/Assessment/module3/index.htm</u> (Accessed 4/9/19).
- 11. Cameron K, Fernandes O, Lap E, et al. Increasing capacity for experiential rotations for pharmacy learners: lessons learned from a multisite teaching hospital. CJHP 2016;69(1):23-29.
- 12. McDonough RP, Bennett MS. Improving communication skills of pharmacy students through effective precepting. Am J Pharm Educ. 2006 Jun 15;70(3):58.
- 13. Ignoffo R, Chan L, Knapp K, Chan E, Ip E, Bandy J, Besinque K, Colbert J, Duby JJ, Galanto JS, Gloudeman M, Havard P, Lackey G, Lozano E, Scott J, Stewart TL. Efficient and effective precepting of pharmacy students in acute and ambulatory care rotations: A Delphi expert panel study. Am J Health Syst Pharm. 2017 Oct1;74(19):1570-1578.
- 14. Hammond DA, Norris KR, Phillips MS. Embracing challenges when co-precepting pharmacy students. *Hosp Pharm*. 2014;49(4):348–354. doi:10.1310/hpj4904-348.
- 15. Havrda DE, Engle JP, Anderson KC, et al. Guidelines for resident teaching experiences. Pharmacotherapy 2013;33(7):e147-e161.
- 16. Austin Z. Development and validation of the pharmacists' inventory of learning styles (PILS). Am J Pharm Educ 2004;68(2):37.
- 17. Leong C, Battistella M, Austin Z. Implementation of a near-peer teaching model in pharmacy education: experiences and challenges. CJHP 2012;65(5):394-398.
- 18. McClendon KS, Malinowski SS, Pitcock JJ, et al. A multipreceptor approach to ambulatory care topic discussions. *Am J Pharm Educ.* 2014;78(4):77.



- 19. Washington State Department of Health. Pharmacist Preceptor Certification Application Packet. October 2018. Available at: <u>https://www.doh.wa.gov/Portals/1/Documents/Pubs/690194.pdf</u> (Accessed 4/6/19).
- Licensing requirements for pharmacists. Texas State Board of Pharmacy. Administrative Code Title 22 (Part 15), Chapter 283 (TexReg 3390; 2009 June 7). Available at: <u>http://txrules.elaws.us/rule/title22_chapter283_sec.283.6</u> (Accessed 4/6/19)
- 21. Texas State Board of Pharmacy. Preceptor Certification. Available at: <u>https://www.pharmacy.texas.gov/infocist/preceptor.asp</u> (Accessed 4/6/19).
- 22. Stevenson TL. Precepting in Alabama: School of Pharmacy Expectations/ Requirements & State Board of Pharmacy Rules/Regulations. 2017. Available at: <u>https://www.auburn.edu/academic/pharmacy/ce/pdf/0917-precept.pdf</u> (Accessed 4/6/19).

