PRECEPTING SERIES:

Meeting Precepting Challenges with Layered Learning

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The practical and logistical hurdles associated with precepting multiple learners are by no means novel observations; debates of optimal class sizes, teacher-to-learner ratios, and individualized instruction have long characterized academic communities. More recently, however, increased enrollment in pharmacy programs has seen the conversation transition from school grounds to hospital hallways as greater numbers of learners arriving for student rotations and residency training demand new methods of experiential education. One such approach to manage more learners is through layered learning.

The purpose of this article is to briefly summarize published examples of layered learning in pharmacy practice and present experiential site-based challenges that can be met by applying layered learning principles.

Background

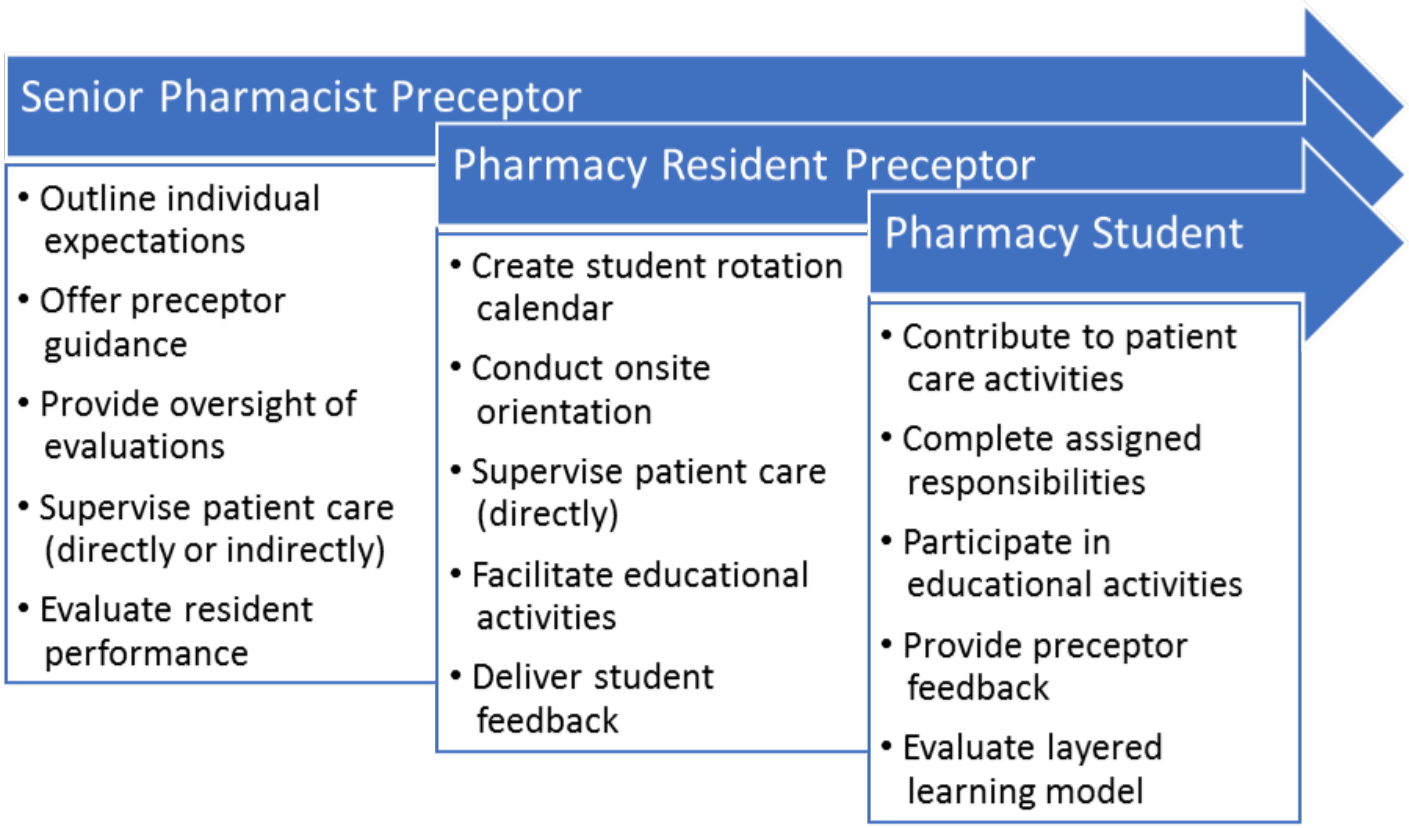
Layered learning practice models (LLPMs) have been defined and described in varying degrees and settings, but common components include the implementation of a preplanned system, an open approach to communication, underlying resourcefulness, and prioritization of feedback and evaluations.[1,2] When applied effectively, LLPMs can be mutually beneficial to both learners and the experiential site. Along with potential improvements in the personalization and depth of the practice experience for the learner, LLPMs can enable the site to better incorporate learners, balance precepting responsibilities, and facilitate practical means of learner assessment.[1,2] As such, through LLPMs, preceptors can instruct multiple learners while simultaneously distributing workload and reallocating time for clinical and administrative responsibilities.

LLPM Structure

Layered learning practice models employ a teaching strategy typified by multiple layers of learners underneath a senior pharmacist preceptor.[1] Each layer has pre-designated responsibilities, with higher level learners acting in preceptor roles for lower level learners. An example of layered learning responsibilities for each preceptor and learner level is provided in Figure 1.

While LLPMs were first described by the University of North Carolina Hospitals, Loy et al. subsequently outlined the successful implementation of a LLPM to an existing program at the Durham Veterans Affairs Medical Center.[1,2] Importantly, the article describes in detail four key steps within a successful LLPM: orientation, pre-experience planning, implementation, and post-experience evaluation. First, during orientation, preceptors and residents become familiar with the LLPM, discuss the expectations of the resident, and review resources (i.e. precepting guides, examples of previous student schedules, etc.). Next, in pre-experience planning, responsibilities are outlined, the student rotation schedule is confirmed, and the resident initiates contact with the student learner. Implementation includes an

FIGURE 1. Example of Layered Learning Responsibilities



orientation for the student to the LLPM, followed by the resident serving as primary preceptor for the rotation. Finally, post-experience evaluation takes place in written and verbal formats between all learner and preceptor levels to promote LLPM quality improvement.

LLPM Benefits

Though not invulnerable to implementation barriers and pitfalls, LLPMs can support favorable settings for experiential teaching and learning. The precepting challenges addressed by LLPMs include the ability to:

Host Multiple Learners

Generally, the first considerations given to precepting multiple learners are the capabilities to incorporate a given number of learners at a site and to maintain target preceptor ratios. One recent publication sought to address the concept of utilizing learners and preceptors in a layered model to further patient care.[3] This study by Bates et al. described a team-based LLPM in which a resident and pharmacy student provided discharge medication reconciliation and counseling services under the supervision of a precepting pharmacist. Overall, the LLPM facilitated an increase in medication interventions and patient encounters, supporting the utility of layered learning in the advancement of pharmacy services and meaningful incorporation of learners. Moreover, a 2017 systematic review by Loewen et al. characterized and evaluated various learner: preceptor ratios across medical professions, including a "tiered or learner-as-preceptor" approach reflective of LLPMs.[4] While potential difficulties associated with inadequate preceptor exposure, conflict between learners, and increased administrative or operational requirements were noted, the "tiered" approach improved preceptor time restrictions, shared learner knowledge, and site placement capacity. Interestingly, this review identified the 2:1 and 2+:2+ learner: preceptor ratios as potentially optimal, highlighting the advantages of intentionally precepting multiple learners at a given time.

Adapt Preceptor Roles

One of the more notable challenges a preceptor can face is a mismatch between the depth of instruction and a learner's needs or abilities. This discrepancy can be especially troubling if fixed workload or rotation responsibilities call for a degree of independence either below or beyond a learner's capacity. Thankfully, an implicit advantage of LLPMs is the ability to adapt teaching strategies to the individual learner. When advanced learners take part in overseeing the core responsibilities of beginner learners, a given learning objective can be adjusted to reflect any of the four precepting roles: direct instruction, modeling, coaching, and facilitation.[5] For example, a learner with no experience conducting medication histories would likely benefit from additional coaching compared to a student who works as a medication reconciliation intern. While available academic literature primarily highlights this advantage through utilization of pharmacy residents, the principle can certainly extend outside of residency programs. Preceptors may place introductory learners with more advanced pharmacy students, pharmacy technicians, or non-pharmacy staff for

the purposes of patient care observation, reinforcement of operational processes, or exposure to clinical services. Intentional scheduling of overlapping learner levels helps ensure the indicated preceptor roles and learning opportunities are employed in each instance. By and large, it is this conformability that affords the shared learner knowledge and precepting time improvements offered by LLPMs.

Evaluate Resident Performance

According to the American Society of Health-System Pharmacists Accreditation Standards for Pharmacy Residency Programs, the ability to employ the four preceptor roles is an expectation of all pharmacy residents.[5] Adoption of these roles often entails a multifaceted approach. Previously described challenges encountered by residents in new precepting responsibilities range from exemplifying professionalism standards to evaluating student performance, necessitating varying degrees of guidance from senior co-preceptors.[6] Additionally, without intentionally scheduled precepting experiences, demonstrating and evaluating competency in these preceptor roles can become functionally difficult. In practice, layered learning helps streamline assessment of this residency program standard. When implemented consistently, LLPMs not only guarantee overlap of learner levels, but also establish the framework necessary for the support and comprehensive evaluation of pharmacy residents. In turn, residents are benefited genuine, organized opportunities to precept and mentor other pharmacy learners as an integral part of their residency program.

Conclusion

In summary, LLPMs in experiential pharmacy education have the potential to benefit all participants. Senior preceptors can maximize the number of learners they manage and enhance their productivity in clinical practice; residents gain the experience of teaching multiple types of learners at various levels while building their leadership skills and autonomy; students can start patient care activities with efficiency and utilize resident and senior preceptors for career path guidance and mentorship. Ultimately, and most importantly, patients benefit from expanded pharmacy services made possible through the effective precepting of multiple learners.

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