Miniview *Pharmaceutical Education*

Clinical pharmacy experiential education and training: A White Paper on preceptor development

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ABSTRACT

Pharmacist's responsibility has grown with increased clinical pharmacy education and practice in the experiential training curriculum. This transition necessitates acquiring advanced clinical skills and experiential training by pharmacists and pharmacy educators. An experiential curriculum should complement the didactic curriculum and align with the overall program goals of the school of pharmacy. When developing an experiential curriculum, vital phases must be addressed including analysis, design, practice site development, identifying preceptors, and implementation. The analysis phase of rotation development collects and evaluates data regarding the student, preceptor, and practice site. The design phase is the nucleus or central coordinating function that assures the alignment and coordination of learning objectives, activities, and evaluations. Next, developing pharmacy practice sites that are designed to create opportunities for students to gain practice experiences commensurate with the expectations of the curriculum set forth by the pharmacy program is essential. There also needs to be a detailed and ongoing process instituted to ensure the selection and development of qualified practitioners/preceptors. Lastly and most importantly, the implementation phase is where the actual training delivery occurs. During this period, all the tools and materials for the rotation are gathered, and the procedure for training both preceptors and students is delivered and refined. There also needs to be detailed and prompt feedback on performance paired with opportunities to put this feedback into practice. A well-defined experiential curriculum including the prerequisites for practice sites and preceptors should be available at pharmacy schools.

Keywords: Experiential education, Experiential learning, Preceptor

BACKGROUND

Pharmacy education and practice in Nigeria is undergoing tremendous transformational change. There has been an expansion of the role of the pharmacist with the enhancement of clinical pharmacy education and practice in the training curriculum. Although this change permits pharmacists to take on new patient care roles and responsibilities, it also requires pharmacists and pharmacy educators to acquire advanced clinical skills and training to assume these new responsibilities. When properly designed, experiential training can provide students with examples of real-world applications, avenues for active participation, and in-depth exposure

to various clinical settings of pharmacy practice. Despite the benefits of experiential training, implementation efforts integrating experiential training into the pharmacy curriculum in Nigeria have encountered significant challenges. Identified opportunities include the need for uniformity and structure as well as validated tools to ensure standardized training.

Therefore, the Nigerian Association of Pharmacists and Pharmaceutical Scientists in the Americas (NAPPSA)through its Education Committee, collaborated with a group of pharmacy educators in the United States and Nigeria to write a preceptor development manual. The primary objective of the manual was to provide guidance and the necessary tools to pharmacists in Nigeria, who are engaged in experiential education, to improve precepting skills, and develop quality sites that are conducive to learning. The manual provided a practice framework for the development of experiential education in various settings and has been utilized by preceptors in both academic and non-academic settings to create individualized strategies to build successful learning experiences, particularly in the clinical pharmacy settings all over Nigeria. This White Paper, based on NAPPSA Preceptor Development Manual, provides a practice framework for the development of experiential education that can be leveraged in various pharmacy practice settings.

INTRODUCTION

The Association for Experiential Education defines experiential education as a "philosophy that informs many methodologies in which educators purposefully engage with learners in direct experience and focused reflection to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities."[1] The ideal experiential learning environment offers the student the opportunity to apply concepts and skills learned in the didactic setting.

An experiential curriculum should complement the didactic curriculum provided by a school of pharmacy and align with the overall program goals of the institution. An experiential learning experience is commonly referred to as a "rotation" because students will have the opportunity to pass through various experiences. These experiences typically consist of required "core" and "elective" rotations and can be introductory or advanced based on the expected skill level of the student. The school of pharmacy generally establishes these classifications during the development phase of its experiential education curriculum.

A rotation should provide active participation and in-depth experiences for students to acquire practice skills, improve critical thinking, and develop the level of confidence and responsibility needed for independent and collaborative practice. Rotation experiences should integrate, reinforce, and advance the knowledge, skills, attitudes, and abilities developed in the pre-rotation curriculum.[2] Rotation experiences should also enhance student communication and collaborative skills with diverse patient populations and professionals.

Although experiential programs are generally regulated by individual schools of pharmacy and accreditation agencies, it is important that preceptors understand the program requirements and specifically where the rotation experience falls in the program (e.g., required rotation and elective rotation). This White Paper includes specific components for all preceptors to consider when developing learning experiences including analyzing the needs of the students, designing the rotation based on learning objectives, developing both preceptor and practice site, effectively implementing the learning experience, and evaluating proficiency and overall experience.

ANALYSIS

The best instructions are ones that are effective, efficient, appealing, and enduring.[3] Therefore, it is important to strategically plan out the learning experience. Although often overlooked, analysis is a vital part of creating a rotation as its outcomes become building blocks for the resulting design, development, and evaluation activities. Analysis may be performed at the beginning of the experiential learning or throughout the rotation. There are five different analyses that may be included in the front-end analysis. These include analysis of the goal, learner, task, preceptor needs, and practice site.

Goal analysis

Defining the goals of a learning experience is akin to determining the destination of a journey so that directions can be mapped. Goals should be clear, concise, and straightforward. To ensure buy-in and continued support, it is important goals support the mission statement of the sponsoring department in addition to the goals of the profession, management goals, and goals of the organization that houses the rotation site. In addition, goals should align with those of other stakeholders such as students, the parent universities, and pertinent governing bodies in healthcare and education.

Learner analysis

Learner analysis involves gaining precise knowledge and understanding of the students, who will be completing the rotation. This is a key step to making critical decisions in the design of that rotation such as the pace of the learning activities, amount of structure required for learning, amount

and type of learning guidance, type of assigned preceptor, and type of feedback provided. Learner analysis may be performed at the time of overall learning experience design and with each rotation, for individual student. This involves gathering data from the students and about the students. This information may be obtained by interviews or questionnaires/surveys with those who work with the students and students themselves, observations of the target students or records/documents created by students. Relevant information for learner analysis may include prior knowledge and skills, previous experiences personal and social characteristics, physical characteristics, and disabilities.[4]

Task analysis

Task analysis is the delineation of the rotation task such that students can easily understand the required steps. It is used in various disciplines to investigate the thought processes and discrete actions behind the performance of a task and has proven useful in many health professions for the development of more accurate, comprehensive, and tailored teaching materials for students. By performing task analysis, preceptors can articulate their own tasks in a way that makes it easy to explain to a student what is required of them. It makes the hidden visible by describing in detail the tasks and sub-tasks that the student will perform. It also helps to prioritize and sequence tasks.

Preceptor needs analysis

It is important that preceptors examine their needs and current level of development at the initial stage of planning a rotation and periodically throughout the process. This involves identifying structural and competency needs. The obtained information is useful in planning for personal development within the context of improving required skills and preceptor development. Competency needs may include skills for direct patient care, communication, technology, organization, precepting, and research. Structural needs may include time needed to plan and implement the rotation, preceptor availability, library resources, instructional resources, and materials including stationeries, personal computers, and laptops.

Practice site analysis

Practice site analysis takes into consideration where students will be applying and practicing the skills they acquire at the rotation. This helps channel resources to facilitate learning and create a realistic learning environment. It may be helpful to prioritize practice site needs with an understanding of which needs to lay before the establishment and in what order. Things to consider include the location of the practice site, training environment, and practice culture.

DESIGN

Learning is a change in the student's knowledge attributable to experience.[5] While the analysis phase of rotation development seeks to gather and analyze data about the student, preceptor, and practice site, the design phase serves as the nucleus or central coordinating role that ensures the alignment and coordination of learning objectives, activities, and assessment. The design phase manages the activities of the preceptors, departmental leads, clinical and non-clinical staff, as well as college faculty to enable a good experience and the attainment of learning goals. The design phase also plays a leadership role throughout the rotation directing the activities in the analysis, development, implementation, and evaluation phases. It is analogous to a traffic cop at a busy intersection with information and challenges from every direction requiring decisions.

General functions in the design phase include articulation and alignment of objectives, learning activities, duration and evaluation, design of the analysis, implementation and evaluation instruments, syllabus development, management of the learning process, and quality management of all processes and products of the rotation. Learning objectives should be aligned with the information garnered from the analysis phase and included in the rotation syllabus.

Learning objectives

Learning objectives should be written with the desired outcome of the rotation in mind. The objectives should define what the learner should be able to do at the completion of the rotation. When considering rotation learning objectives, it is important to ask: What should the student accomplish during this rotation? How will the student accomplish it? How will it be determined that a student has accomplished it? Learning objectives should be written to be specific, measurable, achievable, relevant, and time-focused (SMART).[6]

- *Specific* – Be precise about the desired achievement
- *Measurable* – Quantify objectives
- *Achievable* – Ensure realistic expectations/feasible
- *Relevant* – Align with practice and/or organizational goals
- *Time-focused* – State when the objective will be achieved.

Bloom's taxonomy of learning outcomes can be used to help write learning objectives that reflect SMART changes in behavior due to learning.[7]

Alignment

Learning objectives, instructional strategies, and assessments should be formulated and aligned to work seamlessly to support learning and promote high-quality education.[8,9] Alignment is defined as "the degree to which expectations

and assessments are in agreement and serve in conjunction with one another to guide the system toward students learning what is expected."[10] A strong alignment has not been demonstrated to guarantee improved achievement, but it can provide evidence of content validity, identify opportunities for improvement, and contribute to accountability.[5]

Syllabus

A rotation syllabus is the primary method of communicating the rotation design and expectations to the student. A syllabus communicates the learning objectives of the rotation, the "what," "where," and "how" of the rotation, and the overall expectations of the rotation. Providing a comprehensive syllabus to a student can help prepare the student for success and decrease the chances of misunderstanding. The key components of a syllabus include the learning objectives, rotation and practice site description, rotation expectations (including ethics, professionalism, and attire), and required activities or assignments, rotation schedule or calendar, tools, and resources for learners, and assessment methods.

PRACTICE SITE DEVELOPMENT

It is essential to develop pharmacy practice sites where students can be directly involved with patient care. Potential practice sites must be developed to create the best opportunities for student learning.

Pharmacy practice experiential training sites should:
1. Be patient-centered and have pharmaceutical care as the focus of the practice
2. Promote evidence-based practice
3. Ensure adequate workspace and staffing to provide quality pharmaceutical care to patients
4. Assure that preceptors and pharmacy personnel are qualified, knowledgeable, and have the desire, ability, and time to incorporate students into their practice
5. Utilize technology (informatics) sufficiently to support the operations of the practice site
6. Receive support from the site ownership or administration for providing student pharmacist learning experiences.

The practice site should have opportunities for students to gain practice experiences commensurate to the expectations of the curriculum established by the pharmacy program. These tasks include: Providing opportunities for students to learn specific disease therapy management; developing provider-patient communication skills; and using ethical behavior related to the provision of pharmaceutical care.

Workflow incorporation is another vital aspect of practice site development that can improve student and preceptor experience. Preceptors may use the task analysis discussed in the analysis section of this manual to help guide students in performing their daily patient care activities. Careful consideration should also be given when selecting activities and assignments for the practice experience. Assignments and tasks should be appropriate for the student's level of practice and knowledge and time for completion.

Administrative and departmental support

Before developing a practice site for experiential learning, the preceptor should obtain administrative and departmental support.

To meet the learning objectives for the practice experience, administrative support should be provided to enhance the capacity of the practice site to develop the following characteristics:
- A practice environment that fosters and supports interactions between pharmacists and students with patients
- Sufficient professional, technical, and clerical staff
- The best available time for preceptor and student interactions
- And collaborative professional and/or training relationships with other healthcare providers.

Providing experiential instruction can be challenging without adequate administrative and departmental support and can lead to preceptor fatigue and eventual burnout. Students too can be subject to unwelcoming and hostile working environments that hinder professional growth and development. Rotations can be beneficial to pharmacy establishments through the implementation of appropriate student-led projects and protocols that benefit patient outcomes, increase health awareness, improve operational workflow, and provide additional services.

The World Health Organization defines collaborative practice to occur when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, caregivers, and communities to deliver the highest quality of care across settings.[11] This not only promotes learning for students but also advances the course of pharmacy in the health system. Administrative facilitation of multi-disciplinary collaborative opportunities with medical doctors, nurses, dieticians, community health workers, laboratory scientists, etc., will help ensure a well-rounded practice site.

To expand the breadth of direct patient care services provided by pharmacists and continue to meet the demand for experiential education, pharmacy students need to be visible and utilized as an asset to the health system, serving as an extension of the pharmacist. To achieve such a model, administrators in the department of pharmacy need to support the development of quality practice sites

suitable for the professional development of pharmacy students to enable them to become effective members of the healthcare team.

Partnerships with schools of pharmacy and other members of the healthcare team

The practice site should have established partnerships with schools of pharmacy. This includes involvement with the experiential department to discuss the type of rotation the site can accommodate. It is also important for preceptors to be aware of the expectations and curriculum of the affiliated pharmacy program to facilitate the development of appropriate activities for the experiential training of its students. Experiential training provided by preceptors should complement and supplement practice knowledge provided by pharmacy programs to facilitate the development of professionally mature and competent pharmacists.

The practice site should secure and maintain signed affiliation agreements with the pharmacy program(s) and each affiliation agreement should ensure that all experiences are conducted in accordance with state and federal laws. Affiliation agreements should include pharmacy program and student responsibilities to the practice site, details of potential preceptor appointment to the pharmacy program, preceptor and practice site obligation to the pharmacy program, details of payment or reimbursement if applicable, details of liability coverage for students, procedures for handling student absenteeism and unprofessional conduct, and details for termination of the agreement between the practice site and pharmacy program. Finally, practice sites should be regularly evaluated by pharmacy programs to ensure that standards are being upheld.

PRECEPTING

A preceptor is a teacher, instructor or practitioner, who facilitates learning and provides practice experiences to students in their respective fields (Stedman's Dictionary 2022).[12] Due to the extensive involvement and influence of preceptors on pharmacy education, a detailed and ongoing process needs to be instituted to ensure the selection and development of qualified practitioners. This section explores the necessary eligibility criteria, skills, and resources needed for effective precepting in pharmacy education.

Determination of preceptor eligibility

Factors that need to be considered when selecting qualified preceptors for a pharmacy program include practice qualifications, credentials, years of practice experience, passion, and motivation for teaching. To ensure quality pharmacy practice experiences, preceptors should have the necessary qualifications and credentials in the practice

area that they are precepting. In the United States, the Accreditation Council for Pharmacy Education (ACPE) requires preceptors to have the professional credentials and expertise commensurate to the responsibilities of the professional program.[2]

In addition to practice qualifications, preceptors should have sufficient years of practice to facilitate effective learning in their respective fields. Most pharmacy programs require preceptors to have one to three years of practice experience in their precepting field. The General Pharmaceutical Council requires preceptors in Great Britain to be registered pharmacists with at least three years of practice experience in the area that they wish to tutor.[13] Pharmacy preceptors should be motivated, committed, and passionate about experiential instructions. A survey conducted to evaluate student perception of preceptor excellence among 549 preceptors in the United States found that role modeling and showing an interest in teaching demonstrated the strongest association with preceptor excellence.[14]

Necessary qualities and skills for effective preceptors

There are key qualities for preceptors to embody which allow for effective precepting. These qualities include being accessible, adaptable, patient, engaging, professional, and having a positive attitude, among others.[14,15] It is also essential for preceptors to serve as professional and positive role models for students as they continue to develop their professional identity. In addition, preceptors should be experts in their field, ethical in practice, and passionate about patient care.

Effective time management is a vital skill as preceptors seek to balance facilitating student learning while actively engaging in patient care activities and other responsibilities. Preceptors should incorporate learning activities into their workflow to minimize competing responsibilities and duplication of efforts. When appropriate, students should be utilized as an extension of the care provided by the preceptor, as this allows for a more practical and robust learning experience. Providing clear and timely communication or feedback is another vital skill for preceptors to develop.[16] Furthermore, preceptors should utilize effective conflict resolution skills when confronted with challenging students. Finally, preceptors should be skillful at teaching and facilitating student learning. Strategies like the "One-minute Preceptor" developed by Neher *et al.* are an effective way to provide the necessary framework for clinical or practice-based instruction.[17]

In addition to these skills, competency skills are also required for effective preceptorship. These competency skills include, skills for effective: direct patient care, communication, time management, technology utilization, organization, curriculum

design, discussion facilitation, journal article review, and research. A strategic effort must be made to equip preceptors with the necessary knowledge, skills, and confidence required to be successful. These skills are typically acquired gradually, so efforts should be ongoing and continuous with a self-developed and individualized plan for each preceptor.

Preceptor development and continuous education

Preceptor development is an essential aspect of pharmacy student experiential learning. Preceptors who receive training were found to be more confident in clarifying expectations, evaluating student knowledge, and helping students develop their critical thinking skills.[18] Preceptor development is also a key component of accreditation standards for Colleges of Pharmacy.[2]

Several pharmacy organizations and programs have created preceptor development resources that pharmacy programs can utilize to facilitate preceptor development or as references to create new resources. Preceptor development programs should enforce the skills and knowledge needed to facilitate effective practical teaching. These programs utilize various media, including live workshops and seminars, online webinars and training videos, preceptor manual and training resources, and 1-on-1 visits from experiential staff and faculty.[19] It is also vital for preceptors to incorporate feedback from students and personnel from their affiliated pharmacy program to improve the structure and content of their practice experiences. Faculty mentorship is an additional useful tool for preceptor development.

Pharmacy programs can also develop training programs for preceptors who currently do not meet the requirements to be preceptors due to inadequate practice experience or other restrictions. These training programs should be created with the intent of helping pharmacists gain the necessary experience or qualifications to become a preceptor in a time-sensitive and structured manner. Although there are no specific requirements for pharmacy precepting in African countries such as Nigeria, intending preceptors can acquire additional training by enrolling in an MSc or PhD in Clinical Pharmacy program at Nigerian pharmacy schools or through postgraduate professional training offered by the West African Postgraduate College of Pharmacy. Pharmacy programs may also utilize qualified non-pharmacist preceptors for a limited amount of pharmacy practice experience. ACPE allows for non-pharmacist providers to precept students if they are aware of the professional competencies and expectations of pharmacists and value their contributions to patient care.[2] Students can benefit significantly from interdisciplinary practice-based settings as it reinforces the importance of multi-disciplinary collaboration and highlights the roles and strengths of different healthcare providers.

Experiential learning is a vital part of pharmacy education, and the importance of the pharmacy preceptor cannot be overemphasized. Preceptors must balance their job requirements and the educational demands of their students. Strategic efforts are imperative to provide tools for training and development to enable preceptors to address their challenges and be more satisfied in their roles.

IMPLEMENTATION

While the analysis, design, and development phases of creating a rotation are mostly planning stages, the implementation stage is where the actual delivery of the training occurs. It involves continuous creation and modification of the rotation to ensure that maximum efficiency and positive results are obtained. During this period, all the tools and materials for the rotation are gathered, and the procedure for training both preceptors and students is delivered and refined. The goal of implementation should be to deliver training that is effective and efficient. The implementation of training is typically successful if the analysis and design are thoroughly performed but the following key steps may need to be executed to ensure that learning is successful.

1. Develop a timeline for the implementation of planned activities
2. Review all required tools and documents and ensure they are complete and ready for use
3. Communicate with all staff involved in the rotation and ensure that roles and responsibilities are delineated and buy-in is maintained
4. Create an orientation checklist and ensure students are adequately informed of expectations for the rotation
5. Integrate evaluation in implementation for quality improvement.

Preceptor roles and responsibility

The roles and responsibilities of a preceptor include a variety of different methods of teaching. This may include direct instruction, modeling, coaching, and facilitating learning. Preceptors may perform learner analysis for each student at the beginning of each rotation. Information gathered should include prior experiences, professional goals, and baseline knowledge of certain didactic topics. Students should be enabled to see the connection between the rotation and achieving their long-term goals. This increases the chances of engagement in the rotation. A rotation-specific pre- and post-test may be performed to demonstrate learning improvement through the rotation. A mid-rotation assessment may be considered if a student does not seem to be learning at the expected pace.

Students may expect learning experiences similar to didactic learning and often find it challenging that patients do not

present with a single disease state at a time or that there may be more than one correct answer. The connection between the didactic and activities of patient care may also not readily be appreciated by new students. It is important to be flexible and take the time to train the students on "real-life" situations.

Orientation and training

The 1st day of every rotation should generally be set aside for orientation. Basic human needs should be addressed such as the location of the toilet; where to find water; a cafeteria where food may be purchased; and a refrigerator where food from home may be stored. If there are areas of the rotation site that are restricted to certain employees, this information should be provided to the students. Emergency exits and emergency procedures should be communicated as well. Logistics such as where to meet and what time to meet every day should be reviewed. Attendance requirements and regular business hours should be discussed with incoming students.

Activities that are beneficial as part of orientation include an introduction to the staff at the practice site, dress code, provision of name tags, provision of rotation syllabus, and communication of expectations and how students will be evaluated. During orientation, patient privacy should be discussed, and expectations of privacy should be reiterated.

EVALUATION AND ASSESSMENT

In medical and pharmaceutical education, the focus has shifted from knowledge acquisition to the achievement of competencies required to care for individuals and populations. Specific learning activities and outcomes are designed to help the student attain defined milestones in their education; that is, to build competency as providers. Detailed and prompt feedback on performance, paired with opportunities to put this feedback into practice, helps the student achieve these milestones. This approach addresses what the students are expected to do rather than what they are expected to learn.[20,21]

Providing effective feedback and various feedback models

Feedback is essential for professional growth; it provides direction and increases the confidence, motivation, and self-esteem of the individual. Feedback should be frequent, face-to-face, and provided in small snapshots.[22] The best feedback sessions are interactive and conversational in nature; it is intended to be an active process where the student is engaged and involved.

An acronym that helps to elucidate the features of good feedback is EISTOPS.

- E = Be EXPLICIT that you are providing feedback
- I = Be INTERACTIVE – have a conversation, a discussion
- S = Be SPECIFIC in your feedback
- T = Be TIMELY – feedback is most effective when given immediately after the event has taken place
- O = Provide OBJECTIVE feedback based on your observations of what the student said or did
- P = Provide feedback to the student in PRIVATE, if appropriate
- S = SUMMARIZE – have the student tell you what they understood the feedback to be, and how they can improve.

Multiple sources of feedback are most effective. Providing a student with immediate feedback about specific activities that occur during the rotation helps prevent mistakes from being repeated. Table 1 highlights three types of feedback models and the pros and cons for each model. This is not a comprehensive list of models, and most preceptors will develop their own individual feedback style or model.

When appropriately structured, feedback increases students' confidence and facilitates the identification of strengths and weaknesses to further develop their skills.[23]

Table 1: Feedback models.

	Key features	Pros/cons
Sandwich method	One specific criticism "sandwiched" between two specific praises.	Fast and efficient; does not always lend itself to two-way communication.
Pendleton's rules	Ask the student what went well, tell them what went well, ask them what can be improved and then tell them what can be improved.	Encourages self-reflection; well balanced between preceptor and learner.
BOOST method	Balanced, observed, objective, specific, and timely.	Thorough method; may not easily facilitate two-way communication.

Types of assessment

While feedback is intended to influence how students perform in the future, assessment is an evaluation of completed work. Multiple assessment methods are needed to provide an adequate evaluation of a student's progress. Formative assessment is used to monitor student learning.[24] This type of assessment provides immediate feedback and provides the students the opportunity to change or improve upon how they perform specific activities during their current rotation and to avoid repeated mistakes. Examples of formative assessment include providing direct feedback on a written patient

care note or case studies. Summative assessment, often in the form of a final project or evaluation, occurs at the conclusion of the learning process or rotation and evaluates what the student has learned.[25] If the summative feedback is in the form of an evaluation, a learner should receive no feedback that has not previously been conveyed.

The primary differences between formative and summative feedback are when they occur in the teaching-learning process and what is done with the information learned from each type of assessment.[5] Formative feedback is used to immediately modify the student's performance, whereas summative feedback is typically designed to measure proficiency related to curricular outcomes and determine student progression to the next phase of the curriculum or graduation.

Self-evaluation or reflection

Self-evaluation and reflection play a key role in the assessment and learning on an experiential rotation. When having a student complete a self-evaluation, it is ideal to have them use the same assessment tool that is used by the preceptor to allow them to compare their self-assessment to the preceptor's assessment. This can be performed for specific activities such as journal clubs or case presentations or for global evaluations such as at the midpoint or end of the rotation.

Preceptors should help facilitate the reflection process for students by having them go through the "What; So What; Now What" process [Figure 1] for different experiences.[26] Similar to self-evaluation, reflection can be used for specific activities or as a part of global evaluations.

Evaluation and assessment are essential components of the learning process for a student. The absence of feedback can amplify the feeling of uncertainty most students have when beginning a new experience, so it is key to provide positive feedback and constructive criticism throughout
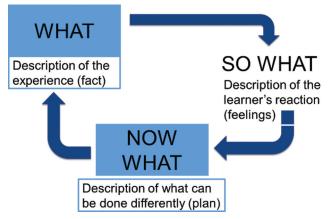
the rotation. Multiple types of assessment should be used throughout the rotation, and students should be made aware of these assessments and the tools that will be used at the start of the rotation. Self-evaluation and reflection can complement the feedback and evaluations provided by the preceptor.

CONCLUSION

Experiential training is an essential component of pharmacy education which can be conducted across all pharmacy disciplines. All accredited schools of pharmacy should have a well-defined experiential program that outlines the requirements for practice sites and preceptors. This program should be designed in collaboration with health systems and practicing pharmacists. The feasibility and ability of the practice site(s) and preceptor(s) to offer such educational opportunities to pharmacy students should be put into consideration.

Ethical approval

The Institutional Review Board approval is not required.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

Figure 1: Rolfe's Reflective Model.

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