

BRIEF**Development of an Entrustment-Supervision Assessment Tool for Pharmacy Experiential Education via Sequential Stakeholder Focus Groups**

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Objective. To devise a pharmacy-specific, expanded Entrustable Professional Activities (EPA) entrustment-supervision scale, which frames preceptor ratings of entrustment in a prospective and retrospective manner for use in experiential learning settings.

Methods. A series of focus group sessions were conducted to solicit expert opinion to develop and refine two entrustment-supervision scales. Purposive sampling was used to identify experts from different professional groups (physicians, pharmacy experiential administrators, and pharmacy practice faculty) and who had extensive knowledge regarding EPAs and at least one publication related to EPAs. Panelists were invited to participate via email. Three focus sessions were conducted by videoconferencing between June and September 2019. The primary outcome was development of a pharmacy-specific EPA entrustment-supervision assessment tool. Secondary outcomes were individual entrustment-supervision statements across five levels of the entrustment-supervision scale.

Results. The focus group consisted of four pharmacy practice faculty, two experiential administrators, and one academic physician. Four concepts emerged from the focus group discussion: 1. need for more granularity in entrustment-supervision scales; 2. limitations due to differences in licensure requirements across the United States; 3. colleges/schools of pharmacy already use expanded scales; and 4. uncertainty how to rate entrustment-supervision when a student exhibits unprofessional behavior.

Conclusion. A pharmacy-specific, expanded EPA entrustment-supervision scale will be useful to support longitudinal assessment of learners in experiential settings utilizing EPAs. Determining when to use a prospective versus retrospective perspective requires further evaluation.

Keywords: entrustable professional activities, performance assessment tool, practice readiness

INTRODUCTION

Competencies describe the knowledge, attitude, and skill that need to be mastered for a learner to be able to perform a professional activity.^{1,2} Competency-based education is essential for health professions to assure the public that each professional is capable of high quality care and to reinforce the importance of life-long learning.³ The 2016 Accreditation Council for Pharmacy Education (ACPE) Standards supports the use of competency-based strategies in pharmacy education similar to transformations occurring in medical education.⁴⁻⁶

Entrustable professional activities (EPAs) describe professional tasks that a clinician is expected to perform autonomously after acquiring the requisite knowledge and experience.⁷ A trainee's ability to perform an EPA is typically determined by the supervisor's assessment of the trainee's level of trustworthiness.⁷ EPAs can serve as a link between competencies and professional duties in practice and as a framework for faculty to make ad hoc assessments and summative evaluations of the level of supervision or entrustment needed for each learner in a clinical environment.^{1,8-13} Fifteen EPAs, categorized into 6 domains, were devised by the 2015-2016 Academic Affairs Committee of the American Association of Colleges of Pharmacy (AACCP) for pharmacy education to describe the core EPAs for new pharmacy graduates.¹⁴⁻¹⁶ These 15 core EPAs for new pharmacy graduates have the potential to improve efficiency of evaluations, be more meaningful to learners, and better document pharmacy students' growth over time and readiness for practice.^{12,17} However, there is a need to further develop an assessment strategy when using EPAs in pharmacy education.

Student performance based on EPAs is evaluated by the level of supervision required, rather than assigning a score, percentage, or letter grade typically used when rating student performance in traditional academic coursework.^{8,9}

The 2015-2016 AACP Academic Affairs Standing Committee recommends new pharmacy graduates should, at a minimum, be able to perform each of the core EPAs with reactive supervision.¹⁵ Thus, new pharmacy graduates should be able to perform these activities without direct supervision, but may still require the supervisor to be readily available and to have their work double-checked.^{14,18} This level of supervision has been referred to as level III in the literature (Table 1). There are substantial differences between levels I, II, and III. However, due to these relatively large differences in the currently available entrustment-supervision scales, it is difficult to track incremental improvements in learner performance, particularly during the early stages of skill development, over time.¹⁹ Thus, more granularity in these lower levels is needed.

Currently, in medical education there are multiple entrustment-supervision scales. Two such scales that are widely recognized are the Chen supervision scale and the Ottawa Clinic Assessment Tool.^{13,19,20} However, these scales frame entrustment decisions from preceptors (ie, supervisors) in different ways (Table 1). The Chen scale asks a preceptor to express their assessment as a description of the proposed level of supervision of a learner in future work.¹⁹ In contrast, the Ottawa scale asks the preceptor to describe how much supervision the preceptor provided during the experience.²⁰ No research has directly compared the two assessment approaches. The Association of American Medical College's Core EPA Pilot noted in May 2017 that evidence regarding the validity of the Chen and Ottawa scales was either limited or absent in the context of undergraduate medical education (UME).²¹ Thus, we do not know whether a prospective or retrospective approach is the most useful way to make entrustment and supervision decisions. Moreover, these two scales are not designed to be applied in pharmacy education and use language that is specific to medicine, such as the level of oversight required during a surgical procedure or placement of a central line.^{19,20} Our goal was to devise a pharmacy-specific, expanded EPA entrustment-supervision scale that prospectively frames preceptor ratings of the learner's level of entrustment, similar to the Chen scale, and retrospectively frames entrustment ratings, similar to the Ottawa scale.

METHODS

A series of three focus group sessions were conducted to gather expert opinion to develop and refine pharmacy-specific level of supervision scales. Focus groups were the qualitative method selected to best understand the experiences of pharmacy educators, clinical practitioners, and educational scholars regarding the use of EPAs as an assessment strategy in the experiential settings as it enable the researchers to gather data in a semi-structured manner and allow participants to respond to each other's ideas.²² Purposive sampling was used to identify and invite experts to participate in the focus group who had extensive knowledge regarding and experience using EPAs. The research team initially identified experts through published works or professional organizational work related to EPAs or experiential education. Researchers sought an interprofessional panel, including physicians, pharmacists, and experiential education administrators to increase the content validity of the interprofessional and pharmacy practice activities as well as feasibility from an administrative perspective. Experts were recruited via email invitation. The goal sample size was eight participants across different professional groups (physicians, pharmacy experiential administrators, and pharmacy practice faculty).

Panelists were invited to participate in three focus group sessions via Webex (Cisco 2018) videoconferencing. The three focus sessions were held between June 2019 to September 2019. For inclusion in the analysis, focus sessions required at least one of each professional group (physician, pharmacy experiential administrators, and academic pharmacists) and 75% of the total group of participants to attend. Figure 1 describes the objective for each of the focus sessions and the actions taken by the research team following each session. The primary author facilitated each focus sessions using a set of semi-structured questions. Recordings of each session were used by the research team to make tool modifications. A modest financial incentive, a \$50 Amazon gift card, was provided to each panelist who participated in all three focus sessions.

The primary outcome was an EPA assessment tool. Secondary outcomes were individual entrustment-supervision statements across five levels of the entrustment-supervision scale. Secondary outcomes were individual entrustment statements for levels of supervision and entrustment of learners across five levels. Focus group recordings were made available to the research team. Within one week of the virtual focus group session, the research team reviewed the recorded focus group discussion and met via videoconferencing for post-focus group tool development discussion. During this post-focus group session, the research team discussed concepts that emerged and implemented those ideas into the assessment tool. Drafts of the tool were sent to the expert participants one week prior to the scheduled focus session (focus sessions #2 and #3).

RESULTS

Seven experts were confirmed and participated in all three focus sessions. The focus group consisted of four pharmacy practice faculty, two experiential administrators, and one academic physician. Each expert had extensive knowledge regarding EPAs, including at least one publication related to EPAs and competency-based education.

Concepts emerged in each of the focus sessions. In focus session one, (a) the lack of granularity of each of the level of supervision was not useful for early learners and (b) limitations of EPAs as an assessment tool due to state laws that restrict student's from performing certain tasks without direct supervision. Additionally, (c) some colleges and schools of pharmacy are already using prospectively framed supervision scales.¹⁹ Based on this data, the research team devised a draft revised tool with five levels of entrustment with sublevels. During focus session two, the question of (d) how to rate unprofessional behavior on an entrustment scale was discussed. Additional editorial feedback was received and adjustment of the tool was completed. The final focus session provided (e) approval of the expert focus group of the final tool. The final tool is comprised of two matching components, a prospective and a retrospective frame for asking the level of entrustment and supervision questions. Each component has five levels with additional sublevels. The pharmacy-specific tool can be found in Table 2.

DISCUSSION

The core EPAs for pharmacy graduates enables deeper implementation of competency-based education in pharmacy.¹⁵ This potential shift from time-based educational models to competency-based assessments holds the promise of improving the practice readiness of learners to independently perform the core work of the profession. However, EPA statements must be operationalized for assessment purposes including a supervision scale to use in the experiential setting. Our goal was to develop a pharmacy-specific, expanded EPA entrustment-supervision scale asking preceptors to rate a learner's trustworthiness, or conversely a preceptor's level of supervision, using both a prospective and a retrospective approach. These tools are prepared with language appropriate for pharmacy practice and add the granularity of sublevels within the entrustment-supervision scale that is useful for pharmacy preceptors to provide learner-centered support and feedback while maintaining high-level patient care during introductory and advanced pharmacy practice experiences that was not previously available.

Determining the practice readiness of each of its graduates is a critical responsibility of each college or school of pharmacy. Unlike medical education, where post-graduate training is required before independently caring for patients, new pharmacy graduates are expected to perform the professional activities of a pharmacist across multiple care settings on the day their license is granted.¹⁵ However, the practice readiness of new pharmacy graduates has been questioned, particularly their ability to independently perform direct patient care activities.²³ EPAs can act as a summative evaluation for practice readiness, particularly in the experiential setting, by describing the committed level of autonomy a learner has to perform a specific professional duty.^{12,13} This developed entrustment-supervision scale can provide comparable assessments of pharmacy learners across various pharmacy practice settings by preceptors to better describe a learners' ability for the professional work, or practice readiness.²⁴ However, this is challenging in states that have restrict the ability of a student pharmacist to complete an EPA, particularly with the use of the retrospective scale. The prospective scale allows preceptors in restrictive states to provide assessments of students for their potential in licensed practice. By utilizing EPAs in this manner, it recognizes students' ability to complete professional tasks, aligning with patient safety goals as well as motivating and supporting new learners through a clear understanding of how their performance measures compared to activities of their profession.¹⁹

The shift towards using EPAs in pharmacy education enables educators and students to contextualize instruction as a continuum of learning toward the competent performance of specific tasks and roles. Advantages of an EPA assessment structure include promotion of a learner-centered approach focused on their abilities, trustworthiness, and growth, particularly in the experiential setting.²⁵ This flexibility provides an opportunity for preceptors to meet students where they are in their learning journey and instill the important concept of life-long learning. Fostering these habits of inquiry to build a pharmacists' professional identity is essential for continued development across the span of their career.²⁵ This developed entrustment-supervision scale provides a framework for pharmacy learners from novice to near graduation to best understand where they are on the spectrum towards becoming an autonomous pharmacist in a practical setting and has the potential to continue to drive them throughout their careers towards supervisory roles. Next steps could potentially focus on a narrower scope on skills by observing practice activities and using a checklist of foundational steps in each EPA.^{26,27}

This work comes with limitations. Although there is interest in EPAs in pharmacy education, the number of experts who have experience using EPAs in the experiential setting are limited. Thus, the panelists invited to participate in our focus groups may miss some practical components that would increase the utility of the scale. Further, with a small group of experts, not all practice specialties are represented, such as critical care, oncology, pediatrics, or transplant. Using and validating this tool is needed to support a wide-spread adoption.

This work developed a pharmacy-specific, expanded EPA entrustment-supervision scale that can be used as an assessment tool in pharmacy education in experiential settings. The expanded nature of this scale has the potential to describe learner progress towards practice readiness in their pharmacy experiential education. Further work is needed to validate these entrustment-supervision scales and test whether there are differences in outcomes using a retrospective versus prospective approach.

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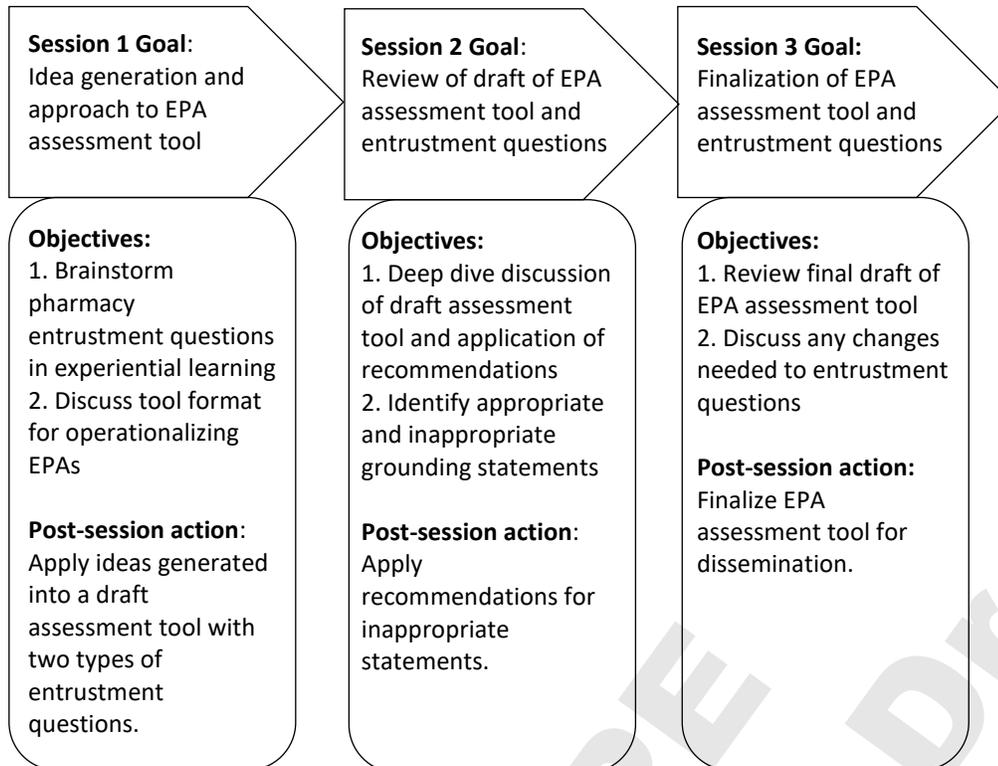
Table 1. Entrustment-Supervision Scales for EPAs^{12,19,20}

	Ottawa Scale <i>In supervising the student, how much did you participate in the task?</i>	Chen Entrustment Scale <i>If you were to supervise the student again, how would you assign the task?</i>
Level of Supervision/Entrustment		
1/Low	1. "I had to do." (ie, requires complete hands-on guidance, did not do, or was not given the opportunity to do)	1a. Inadequate knowledge/skill (eg, does not know how to preserve sterile field); not allowed to observe 1b. Not allowed to practice EPA; allowed to observe
2/Moderate	2. "I had to talk them through." (ie, able to perform tasks but requires constant direction) 3. "I had to prompt them from time to time." (ie, demonstrates some independence, but requires intermittent direction) [spans Levels 2 and 3]	2a. Allowed to practice EPA only under proactive, full supervision as coactivity with supervisor 2b. Allowed to practice EPA only under proactive, full supervision with supervisor in room ready to step in as needed
3/High	3. "I had to prompt them from time to time." (ie, demonstrates some independence, but requires intermittent direction) [spans Level 2 and 3] 4. "I needed to be there in the room just in case." (ie, independence but unaware of risks and still requires supervision for safe practice)	3a. Allowed to practice EPA only under reactive/on-demand supervision with supervisor immediately available, all findings double-checked 3b. Allowed to practice EPA only under reactive/on demand supervision with supervisor immediately available, key findings double-checked 3c. Allowed to practice EPA only under reactive/on demand supervision with supervisor distantly available (eg, by phone), findings reviewed
4/Complete	5. "I did not need to be there." (ie, complete independence, understands risks and performs safely, practice ready)	4. Allowed to practice EPA unsupervised
5/Complete	(no corresponding level)	5. Allowed to supervise others in practice of EPA

Table 2. Prospective and Retrospective Entrustment-Supervision Scales

Level	Entrustment-Supervision Statements	
	Prospective	Retrospective
1a	I <u>would not trust</u> the learner to perform or even observe this task. The learner lacks the professional behavior, knowledge, and related skill to perform or even observe this task.	I <u>did not allow</u> the learner to perform or even observe this task.
1b	I would trust the learner to <u>thoughtfully observe</u> (but not perform) this task. The learner has foundational knowledge and skill about the task.	I allowed the learner to <u>observe</u> (but not perform) this task.
2a	I would trust the learner to perform this task <u>WITH the preceptor</u> and under full supervision. The learner will require direction, guidance and help during their performance of the task.	I allowed the learner to perform this task <u>WITH me</u> and under full supervision.
2b	I would trust the learner to perform this task under full supervision and the <u>preceptor ready to step in</u> , as needed. The learner is new in performing the task alone and guidance should be immediately available during the task.	I allowed the learner to perform this task under full supervision and I was <u>ready to step in</u> , as needed.
3a	I would trust the learner to perform this task with <u>on-demand, nearby preceptor supervision</u> and ALL findings and work are checked immediately afterward .	I allowed the learner to perform this task <u>with me nearby</u> and I checked ALL work immediately afterward .
3b	I would trust the learner to perform this task with <u>on-demand, nearby preceptor supervision</u> and KEY findings and work are checked immediately afterward .	I allowed the learner to perform this task <u>with me nearby</u> and I checked KEY work immediately afterward .
3c	I would trust the learner to perform this task with <u>on-demand, remote preceptor supervision</u> and findings and work is audited soon afterward .	I allowed the learner to perform this task <u>with me remotely available</u> and I audited the work soon afterward .
4	I would trust the learner to perform this task independently and unsupervised.	I allowed the learner to perform this task independently and unsupervised.
5	I would trust the learner to perform this task independently as well as to supervise and teach other learners.	I allowed the learner to perform this task independently as well as to supervise and to teach other learners.
Not Observed	Not applicable to this practice setting.	Not applicable to this practice setting.

Figure 1. Focus Group Session Objectives and Development Plan across Three Sessions



Key: EPA = Entrustable Professional Activity

Accepted Draft