Commentary

Which Entrustment-Supervision Scale is Right for Pharmacy Education?

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\textbf{ABSTRACT}

Entrustable professional activities (EPAs) are an outgrowth of the competency-based educational model to support workplace-based learner assessments and evaluation. A learner’s performance of EPAs is assessed by the degree of provided entrustment and required supervision rather than by a score, percentage, or letter grade typically assigned in traditional academic coursework. Entrustment-supervision (ES) scales are used to document learner progression and steer learner development over time. The purpose of this article is to critique various ES tools in health professions education for utilization within an EPA framework for learner assessment in workplace-based settings and to determine which will best suit pharmacy education. Exploring the advantages and disadvantages across all types of ES scales is a critical step in determining the most useful ES tool for use within a specific pharmacy institution and across the Academy. An ES scale with the traditional 5 levels, a prospective assessment frame, and increased stratification at lower levels should be recommended by the Academy and utilized in workplace-based settings for formative and summative assessment to provide more valid assessment of learners, support the ideal of life-long learning, and give more meaning for pharmacy faculty and learners within assessment.

1. Introduction

Born of a need to assure that health professional learners are prepared for the work they perform, competency-based education (CBE) redefines a competent health care professional to have adequate knowledge, skills, and attitudes (KSAs) for practice when entering the workforce.\textsuperscript{1,2} Competencies can be abstract and challenging to assess. Entrustable professional activities (EPAs) grew from the CBE model to specifically provide workplace-based assessments and evaluation.\textsuperscript{3} An EPA describes a specific task within a profession,\textsuperscript{4} whereas a collection of EPAs defines the unique role and responsibilities of that profession.\textsuperscript{5} EPAs are unique as workplace-based descriptors versus competencies that are person descriptors, thereby objectifying assess-ments for decision-making on learner performance. Further, EPAs provide transparency of required work for learners and ES scales allow for progression with an entrustment-supervision (ES) scale to create a learner assessment. ES scales are unique to workplace-based assessment, challenging preceptors to reshape their clinical assessment approach compared with the classroom. Preceptors pair EPAs as descriptors of tasks with direct observation of the learner’s performance and use the ES scale to determine the level of entrustment and supervision. Considering the experiential education component is longitudinal across the Doctor of Pharmacy (PharmD) curriculum, ES scales will span novice to competent students and should denote significant progression of each student over time.

EPAs serve as a rich and tangible assessment communication tool. Formative assessments are lower stakes assessments that identify specific areas for improvement in which multiple assessments can be used to make summative assessments, such as a preceptor using weekly feedback of performance to complete their final rotation assessment.\textsuperscript{6} Summative assessments are high-stakes assessments at the end of a learning experience, determining progression in professional responsibility, with significant impacts on patient safety and learner matriculation.\textsuperscript{7,8} For summative assessments, EPAs incorporate sub-activities and competencies needed for determining a learner’s overall competency.\textsuperscript{9} EPAs are useful for formative assessments to encourage learner growth and reflection over time, as well as summative assessments for decision-making on learner performance. Further, EPAs provide transparency of required work for learners and ES scales allow for progression...
to be documented. However, scales without clear stratification at low levels of entrustment, in which novice learners will be, can be demotivating and frustrating for learners who are unable to recognize their progression over time. Further, learners may provide invalid, inflated self-reflection of performance that could pose patient safety risks.

Significant challenges with the landscape of ES scales pose barriers to implementation in pharmacy education. The sheer number of ES scales hinders the ability to select and know how to use them. Scales can use different frames (ie, what a student did versus what they can do), which is confusing to navigate in pharmacy education in light of licensure requirements. ES scales should clearly describe the continuum from novice learner to competent professional to support student self-reflection and life-long learning. It is critical for pharmacy educators to understand and implement ES scale features that balance learner growth with valid performance assessment.

2. Traditional ES Scales

Ten Cate defined the original ES scale as a level of supervision scale (Table 1). This scale focuses on the educator’s supervision with few descriptors of their oversight aside from their level of activeness and without mentioning the interplay of the educator’s entrustment to support the decision to change levels. In pharmacy education, this original 5-level scale is the most common scale described in early implementation in the experiential environment.7,12,13 Alternatively, entrustment scales were developed to couple the levels of supervision with descriptors of the educator’s trust of learners in a workplace.7,15 The learner’s performance should result in the same assessment level regardless of the language, either supervision or entrustment, highlighting their inverse nature. In pharmacy education, these traditional ES scales can be challenging for a novice learner to use for reflection and self-improvement, because the decision-making is not clear with a potential for different interpretations by the learner and educator.14 Further, this ordinal scale has large jumps between levels in which learners could potentially stall, leading to dissatisfaction and demotivation for those at the earlier stages of pharmacy education and training.

From traditional ES scales, adaptations developed with emerging themes for uniqueness, which have implications for pharmacy implementation, including how assessment statements are made, the number of levels utilized, and the applicability of scales across practice areas and disciplines.

3. Retrospective Versus Prospective

An ES scale can frame assessment retrospectively or prospectively. Retrospective assessment demonstrates observed learner performance in the workplace, whereas prospective assessment describes what an educator would allow the learner to do in their next workplace experience. Two scales that highlight this bidirectionality are the Mink supervision scale and the Ottawa Clinic Assessment Tool.15,16 The Mink scale asks preceptors to describe the level of learner supervision in future work (“In supervising the learner, how much did you participate in the task?”).15 In contrast, the Ottawa scale asks preceptors to describe how much supervision was provided in the moment (“In supervising the learner, how much did you participate in the task?”).16

Themes that provide a framework of trust for making educatory decisions include the following: the learner’s capability, integrity, reliability, humility, and agency.17 We can use these themes to consider the advantages and disadvantages to retrospective or prospective directions of assessment. A retrospectively framed scale may benefit assessment of the learner’s reliability, integrity, and capability as assessed through direct observation, particularly in longitudinal experiences in which preceptors have repeated opportunities to observe them.18 Repeated observation elevates the preceptor’s ability to trust the learner, increasing the ES level. In contrast, prospective ES scales are challenging to use in ad hoc assessments to assess reliability, because the reliability of a future performance could depend on only 1 observation. Further, it is difficult for an educator to ensure reliability, particularly in a high-stakes medical setting in which only 1 observation can risk patient safety.

No research has directly compared these 2 assessment approaches. Prospective data versus retrospective data are scarce, with none in the pharmacy literature.19–21 Despite this limited evidence and potential benefits to retrospective scales, there are important considerations for pharmacy education—namely, the inability to directly observe pharmacy learners complete EPAs that require licensure. Although prospective assessment may be a new concept for preceptors, the construct has long been implemented by graduating student pharmacists to perform licensed tasks.18 It is the responsibility of pharmacy preceptors to interpret and assess less obvious features to determine future performance in patient care.18,21 Prospective assessments of core pharmacy EPAs are the best way to determine “practice readiness” and should be the approach for the most effective competency assessment. Faculty development is critical to transition to this assessment approach.19

4. Four- Versus 5-Level ES Scales

Although traditional ES scales utilize 5 levels, other ES scales, such as the Valentine and OpTrust scales, shifted to 4 levels (Table 1).22,23 Both are similar to the traditional scale with simple language, limited descriptors, and originating from medical education. However, the fifth level typically reserved for entrustment to supervise or teach others is omitted, and lower levels do not reflect “observation only” as with traditional ES scales. A shorter scale may be easier for preceptors to use with fewer levels to place the learner. However, utilizing the OpTrust scale depends on a common understanding of the definition for entrustment and difference between “low, medium, and high.”23 Faculty consensus for definitions is critical to standardize assessment from site to site and preceptor to preceptor. These definitions should be readily available to the learner to understand their performance and to use the assessment for improvement.

Regardless of the number of levels, the ES scales are useful for learners and preceptors in their reflection of performance. ES scales provide a runway for student’s learning and performance across their career. The learner can understand current performance and set goals for progression as they grow. When an ES scale

### Table 1

<table>
<thead>
<tr>
<th>Level of supervision</th>
<th>Five level scale</th>
<th>Four level scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Observation but no execution, even with direct supervision</td>
<td>Needs frequent in-room review by supervisor</td>
</tr>
<tr>
<td>2</td>
<td>Execution with direct, proactive supervision</td>
<td>Needs onsite supervisor in the practice most of the time</td>
</tr>
<tr>
<td>3</td>
<td>Execution with reactive supervision, ie, on request and quickly available</td>
<td>Safe to practice with phone contact with supervisor</td>
</tr>
<tr>
<td>4</td>
<td>Supervision at a distance and/or post hoc</td>
<td>Safe to practice unsupervised</td>
</tr>
<tr>
<td>5</td>
<td>Supervision provided by the trainee to more junior colleagues</td>
<td>Low entrustability</td>
</tr>
</tbody>
</table>

 safe to practice with phone contact with supervisor
High entrustability
Low entrustability
Medium entrustability
Full entrustability
has fewer levels, learners falsely sense their competence without needing further development. This performance inflation is detrimental for life-long learning and growth. Additionally, fewer entrustment levels make it challenging to delineate high- and low-performing learners. The ordinal scale nature and fewer levels growth. Additionally, fewer entrustment levels make it challenging to delineate development. This performance inflation is detrimental for life-long learning and growth.

Entrustment scale and Jarrett scale, build sublevels within the ES levels for residency training. Allow wide variation in learner performance within a single level. Deciphering has fewer levels, learners falsely sense their competence without needing further development. This performance inflation is detrimental for life-long learning and growth. Additionally, fewer entrustment levels make it challenging to delineate high- and low-performing learners. The ordinal scale nature and fewer levels allow wide variation in learner performance within a single level. Deciphering between high and low performers is key for competitive post-graduate placement, such as residency training.

Standards for pharmacy education clearly denote the start of pharmacy education at the novice level in which observation is integral to building skill, and continuing professional development supports learning over a career. The Academy should maintain a 5 versus 4 point scale to ensure the ideal of life-long learning is supported with appropriate emphasis and expectations of ES levels as a student and licensed pharmacist. The Academy expects ES Level 3 (indirect, remote supervision) upon graduation. However, faculty may inappropriately choose to assess learners at a higher level (4 or 5) to differentiate learners. Invalid inflation signals that learning is complete, degrading learner motivation for continued development across their career and should be avoided to decrease patient safety risks. Rather than rating a learner at a higher ES level than is accurate for their performance, preceptor’s comments should be emphasized as a crucial mechanism for guiding life-long learning.

5. ES Scale Subleveling

Although some ES scales have fewer levels, others like the Chen Entrustment scale and Jarrett scale, build sublevels within the ES levels for more granular assessment. The Chen scale was derived for undergraduate medical education to support assess-ment in workplace-based settings for novice medical learners. However, some of the Chen scale’s language did not translate well to pharmacy settings. The Jarrett scale was based on the Chen scale with modifications for pharmacy. Table 2 highlights the variation of supervision across sublevels.

This granular view of performance and growth is useful for learners. Specific sublevels with grounding descriptors help learners better understand entrustment decisions of their performance, even within the same ES level, building meaning to the assessment. With this enhanced understanding of their ability, a learner can direct their professional development and learning through self-reflection. These expanded scales should be utilized across introductory to advanced pharmacy practice experiences. Transparency of progression in assessment across the PharmD curriculum will illuminate the hidden curriculum and provide tangible targets for students as they matriculate.

Preceptors can also benefit from sublevels within an ES scale. Sublevels support decision-making by describing actual attributes of the encounter, giving a more accurate reflection of supervision in practice. The sublevels boost transparency in assessments and enhance feedback discussions with learners. Additional choices may be paralyzing for some preceptors. Preceptor development is a critical component for adequate use of sublevels for unified definitions, such as coactivity versus full supervision with on-demand supervision (remote supervision) upon graduation. Considering the PharmD curriculum spans a large trajectory of growth, the Academy should promote this type of ES scale with augmented granularity to support faculty feedback, accurate assessment, and enhanced student self-reflection. Using this scale for frequent formative assessment, rather than only summative, should be additionally emphasized.

6. Specialty-specific ES Scales

Some ES scales are highly specific to a profession or specialty. The Weller and Jarrett scales tailor their language to surgical and pharmacy practice, respectively. Specialty-specific scales require little to no preceptor orientation or development because the descriptors are easily understood and readily used in practice. However, generalizability is limited across other areas, necessitating the effort of building ES scales for different specialties. The Jarrett scale is the most appropriate to use in pharmacy education, being derived from pharmacy educators and administrators with an understanding of entrustment, pharmacy education, and the importance of accurate assessment. This scale is available to provide workplace-based assessment across the pharmacy experiential curriculum.

7. Conclusion

An ES scale with 5 levels, prospective frame, and increased stratification at lower levels should be recommended by the Academy and utilized in workplace-based settings for formative and summative assessments to provide valid assessment, support life-long learning, and give more meaning to work for preceptors and learners.
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Declaration of Competing Interest

None declared.

References


24. Accreditation standards and key elements for the professional program in pharmacy leading to the doctor of pharmacy degree (standards 2016). Accreditation Council for Pharmacy Education (ACPE); 2015.

