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Understanding entrustable professional activities – Need of the hour - beginning in era of CBME-formulating an entrustable professional activity - Part 2

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Introduction

Competency-based education (CBME) has been regarded as the most significant pedagogical trend in medical education over the past two decades. In clinical settings, competencies are applied through Entrustable Professional Activities (EPAs), which are both observable and measurable. The goal is to link the general competencies of doctors such as medical knowledge, clinical skills, and professional attitudes with educational activities and evaluations during their clinical training [1].

What are Entrustable Professional Activities?

Entrustable Professional Activities (EPAs) represent the key, observable tasks that must be mastered before a resident is prepared for safe, independent practice within a particular specialty. They outline the expected work, communication, and professionalism of a competent physician. EPAs represent a shift in how residents are assessed. Unlike general competencies, EPAs emphasize clinical outcomes and tasks. Within a single EPA, faculty assess learners using broad domains that encompass knowledge, skills, professionalism, and communication [2].

Resident work performance, which is not easily observable in isolation, is transformed into observable actions and professional tasks, enabling direct assessment. EPAs recognize that performance is individualized and depends on the specific situation and task [3]. When thoughtfully designed, EPAs can help define a specific specialty while simultaneously setting clear expectations for learners [4].

Relevance of EPAs in Competency Based Medical Education (CBME):

Assessing medical residents through EPAs depends on experienced faculty making informed decisions about trustworthiness. These assessments consider more than just clinical skills; evaluators are required to take into account various aspects of the learner's performance during everyday activities, including knowledge, clinical abilities, discernment, conscientiousness, and honesty [5]. Competency-based graduate and postgraduate medical education programs have been expanding rapidly in response to evolving healthcare demands for over a decade [6-7].

Central to these developments is the idea that the quality of training should be reflected in the quality of care and ultimately in the performance of graduates and postgraduates. Given that postgraduate training primarily focuses on learning, training, and assessment, it revolves around the top two levels of Miller's hierarchical framework for clinical assessment (Figure 1). While knowledge and its application by residents are important, real-

world performance is most significant. The question remains: How can we effectively assess it? *Does competence necessarily predict performance?*

Competence and competencies are the qualities we want our graduates and postgraduates to achieve, but do they equate to performance? If a doctor is deemed competent, what if they do not perform according to their assessed competence? Performance encompasses more than competence alone; it involves elements that traditional assessment methods may not easily capture, such as attitude and willingness.

EPAs and medical training:

Medical trainees should possess sufficient medical knowledge, interpersonal communication skills (ICS), professionalism, problem-solving abilities, and system-based practice. These roles are so interconnected that assessing them separately is often impractical. Another challenge is the predictability of these skills in different situations; for instance, the ability to collaborate effectively in one scenario does not necessarily predict similar success in another. This holds true for other roles as well (Table 1).

Table-1: Showing relation of professional activities to competencies

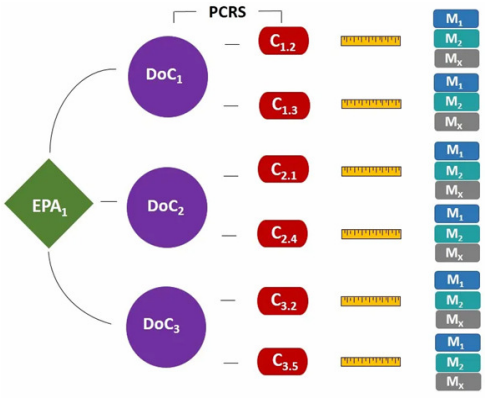
EPA	MK	PC	ICS	PROF	PBLI	SBP
Measuring Blood pressure	+	-	+	-	-	-
Performing venipuncture	+	+	+	-	-	-
Giving a morning report	+	+	+	-	-	-
Charting a meeting	-	+	+	+	-	-
Designing a treatment protocol	+	+	+	+	-	+

MK- Medical knowledge PC- Patient Care ICS- Interpersonal communication skills PROF – Professionalism PBLI- problem based learning improvement SBP – system based practice

Each EPA is aligned with a set of related milestones. Within the assessment system, every EPA is "mapped" to several corresponding milestones, as shown in Figure 1 [8]. In this new assessment framework, the score assigned to each EPA is automatically translated into a rating for each of the connected milestones, without requiring any further input from the evaluator. Each EPA covers multiple domains, and each milestone level contains 1 to 5 sub-components. This mapping assumes that the resident is performing consistently across all domains and milestone tasks within a specific subsection (Figures 2).

Fig-1: Miller's pyramid for clinical assessment [8]

Fig-2: Relationship between entrustable professional activities (EPAs), domains of competence (DoC), competencies (C), and milestones (M). [8]



Milestones represent the sub-competencies necessary for achieving a particular competency, arranged on a timeline. Each milestone marks a step in the learner's progression, where they are expected to perform competently, without supervision, on increasingly complex tasks [9]. These milestones define the expected abilities of

learners as they advance through their training, integrating cognitive, psychomotor, and behavioral domains. Milestones are observable and provide the foundation for assessing entrustable professional activities (EPAs) (Table-2).

Table-2: Milestones: steps in the learner's progress

Stages of competence	Mile stone	Trainee	Level of supervision	Assessment method
Novice	Level 1	Insufficient knowledge skill to do a task ;even with assistance difficult	Provider essential	SAQ, Viva
Advance beginner	2	Performs under full supervision	Proactive supervision	Student log book
Competent	3	Does not need supervision, can be trusted, knows when to ask help	Indirect supervision	Direct Observation
Proficient	4	Performs independently. Mainly formal supervision	No supervision needed	Work Place Based assessment/ Direct Observation
Expert	5	Performs skillfully, near perfection and attitude to innovate.	Ready to supervise	360 degrees evaluation

Approach to Developing EPAs:

EPAs typically require practitioners to integrate multiple competencies from various domains, such as content expertise, and skills in collaboration, communication, and management. Each domain of competence is applicable to a range of different activities. By combining domains of competence and EPAs in a matrix, it becomes clear which competencies a trainee must master before being trusted to perform an EPA [10-12]. This matrix outlines the specific criteria for assessment.

While developing a workplace curriculum, several questions arise:

1. *What is the work to be done?*
   This question helps identify EPAs. EPAs can vary in scope, ranging from small tasks (like measuring and reporting blood pressure) to larger ones (such as performing surgery), but they must always have a professional context.
2. *What must trainees demonstrate before we can trust them to do the assigned work?*
   For each EPA, the necessary competencies for making entrustment decisions must be defined. All these competencies must reach a required level before a trainee can be entrusted with a given task.
3. *How should trainees be prepared to meet these requirements?*
   Training activities should primarily focus on the EPAs, ensuring trainees fully understand each component. It is helpful to specify the expected experiences, knowledge, skills, and attitudes that guide trainees in their preparation for entrustment. While some preparation can occur outside the workplace, most will require workplace-based training.
4. *How do we assess trainees' readiness to pass the threshold of entrustment?*
   To assess whether a trainee is ready to cross the threshold of entrustment, we must ask specific questions: Do I need to assist this trainee? Can I leave the room or operating theater and return later? Will I trust that the information in the patient record will be adequate and sufficient when I review it the next day? These questions frame assessment within the context of supervision, making it meaningful when translated into entrustment decisions for a particular level of supervision. This guide addresses these four questions and supports competency in the workplace.

Formulating an EPA:

Each EPA must be described in detail, specifying its scope and limitations. The relevant competencies should be listed, including the knowledge, skills, and attitudes required to achieve competency, along with the corresponding milestones [13].

Additionally, an assessment method must be provided to determine whether the learner can be trusted with the essential components. This is outlined in Table 3. Moving forward, it is important for medical educators to define EPAs for specific specialties and remain attentive to the addition or removal of EPAs based on fundamental changes in practice. To ensure that EPAs are always aligned with learning objectives, regular practice, analysis, and updates should be conducted. This process would create a system of checks and balances, maintaining the focus of EPAs on what is essential for the profession, assessing EPAs effectively, and using identified gaps to improve the curriculum [14].

Table-3: Example of an EPA for a training of a resident in Obstetrics and Gynecology

Title of EPA	**Managing anemia in pregnancy**
Characteristics of EPA	Executable independently, observable, measurable, essential, reflects competencies, focused task
Setting	OPD, emergency, ward, community
Description	Interacting with patient and relatives Clinically examining the patient, evaluating Interpreting the history and clinical reports arriving at diagnosis Plan and execute further management to arrive at final diagnosis Working with her team juniors and seniors Documentation and HIS
Competencies required	EPA requires each further compartment in milestone (1-5)
Medical Knowledge	Demonstrate knowledge of: Incidence of anemia in pregnancy, Effect of anemia on pregnancy Effect of pregnancy on anemia Iron requirements during pregnancy Minor aliments which disrupt intake Methods to know degree and type and cause of anemia
Patient care	Clinical diagnosis, history and examination, Performing basic investigations, Planning and calculating iron requirements Planning and executing management Administering injectable iron. Knowing when to seek assistance, identifying adverse drug reaction, managing ADR and reporting Customising preparation and individualising as per situation
Communication skills	Eliciting history Counseling the patient and family on immediate management, follow-up & Interacting appropriately with team members Asking patient if she understood and paraphrase
Professionalism	Ethical and compassionate behavior with patient, families Provide support (physical, psychological, social and nutritional, vernacular) Recognize when it is necessary to advocate and effectively advocate Treat patients with dignity, civility and respect
Practice based learning	Identification of areas of deficiency and improvement by self-learning Constant updating self on recent advances Actively seek feedback from all members of the health care team Maintain awareness of the situation in the moment, and respond to meet situational needs
System based practice	Practice of rational management Understanding roles and services provided by local health care delivery systems Managing and coordinating care across delivery systems including ambulatory, rehabilitation, and skilled nursing.

Title of EPA	Managing anemia in pregnancy				
Level of achievement of EPA	Level 1 Novice At the beginning of first year. (JRY1)	Level 2 Advance beginner At the end first year (JRY1)	Level 3 Competent At the end of second year(JRY2)	Level 4 Proficient At the end of third Year (JRY3)	Level 5 Expert Consultant
Assessment	Multi-source, feedback, direct observation, case-based discussion, e-log book, MCQs, short structured questions, viva-voce, OSCE.				

Identifying EPAs:

Identifying EPAs as appropriate units of professional practice is crucial. One approach is to have a group of professionals with similar backgrounds analyze a week of work in their field, such as in a healthcare specialty ward, from day one to day seven. The goal is to identify units of work that can serve as an EPA. A critical question to consider is: What are graduates of the program expected to do when they begin a new phase, such as a JRY1 after graduation or an SR after residency? Various authors have provided lists of such activities (Raymond et al., 2011; Dijkstra et al., 2013) [15-17].

Number and Breadth of EPAs:

EPAs can vary in size, and there is no definitive answer to the "right" breadth or number of EPAs. The scope of responsibility varies when an EPA is entrusted to a trainee under indirect supervision. For instance, the first EPA that could be assigned to a medical student might be "measuring blood pressure." If the activity is entrusted in this context, it qualifies as a true EPA.

Conclusion

The foundation of CBME lies in adopting a learner-centered and patient-focused approach [18], both of which are entirely achievable if we are committed to pursuing them. Maintaining a central focus on the patient should be a defining feature of every phase or semester. Implementing CBME and EPAs will be a challenging task in the coming decade but solutions are feasible as comprehensively explained in this article .The remedy lies in saying *"If there is will, there is way"*

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