Important definitions

* Competency = an ability that integrates multiple components (knowledge, skills, values and attitudes)

* Competence = array of abilities across multiple aspects of performance (domains); context and stage of training is relevant

* Domains of competence: broad areas of competence; in aggregate these domains provide a descriptive framework for a profession


Additional definitions

* Entrustable professional activities (EPAs): tasks/responsibilities that faculty entrust to a trainee to execute without supervision, once adequate competence has been obtained.

* Milestones: description of a behaviors that mark developmental progression/trajectory toward competency.


The role of assessment in competency-based medical education (CBME)


* Assessment facilitates developmental progression of competence
* Assessment must be continuous, frequent, and criterion-based
The importance of assessment

* For learners and teachers
  * For progression in training/advancement decisions
* For healthcare systems
  * For certification/licensing
* For patients
Assessment of learning and assessment for learning

* Assessment for learning: assessment is “embedded” in the educational process, is information-rich (multiple sources), identifying strengths and weaknesses to steer and foster learning for each student

Criteria for “good assessment”

- Validity: Appropriate to measure desired outcomes and evidence-base exists to support use of assessment for stated purpose
- Reliability and equivalence: adequate sampling; reproducible results
- Feasibility (cost effective)
- “Catalytic effect”: motivates learner and provides feedback
- Acceptability (learners, teachers, other stakeholders)
Reflection: Sharing Exercise

What are the biggest challenges related to assessing learners... *for me*?
Frameworks of assessment organize our expectations

* Analytic frameworks “deconstruct” competence into components that can be evaluated on their own
* Synthetic frameworks apply a “holistic” view of performance in the context of practice
* Developmental frameworks identify progression through stages

<table>
<thead>
<tr>
<th>Type of Framework</th>
<th>Analytic</th>
<th>Synthetic</th>
<th>Developmental</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Knowledge-skills-attitudes; ACGME competency domains</td>
<td>Entrustable Professional Activities (EPAs)</td>
<td>Dreyfus &amp; Dreyfus stages of expertise</td>
</tr>
</tbody>
</table>

**Competence =**

- **Analytic**: “Sum” of measures of performance of discrete elements
- **Synthetic**: Inferred through observation of task performance
- **Developmental**: Each stage represents “higher” level of performance; competence is not the “endpoint”
Each approach has strengths and limitations

- **Analytic**: facilitates specific feedback but disconnected with practice, requires measure of all components to establish competence
- **Synthetic**: activity/practice-based but holistic and may not permit specific feedback, assumes competence
- **Developmental**: allows longitudinal assessment but sequential and assumes uniform progression through competency domains, competence “mid-point” on scale
Competent: performance not based solely on rules but also on experience; able to deal with complexity with analysis and planning (Carraccio C et al. Acad Med 2008); training and supervision needed for non-routine complex tasks—supervision available within minutes for routine complex tasks/in room for non-routine (ten Cate O et al. Acad Med 2010)

The “meta-competency” of critical thinking underlies EPAs for health professionals

- Attributes that are a part of each stage: metacognitive abilities, attitudes and skills

- Stages of critical thinking: unreflective thinker; beginning; practicing; advanced and accomplished critical thinker; devolved state-the challenged thinker
  - The practicing critical thinker is familiar with cognition but does not apply principles to solving problems, demonstrates willingness to acknowledge uncertainties and applies effort to analyze initial thinking strategy

Milestones are behavioral descriptions of the attributes of competence and provide detail to enable empirical observations.

They are developmental in nature and identify progression (pathway/trajectory) towards developing competence.

Swing SR et al. JGME 2013; 5(1): 98-106
In applying any framework, we need to decide **what** we should measure and **how**...
Miller outlined the importance of assessing knowledge, skills and performance.

Assessment in the workplace is challenging

- Activities/tasks in the “real world” are unpredictable and are not standardized
- Authenticity of observation-introduced and inherent biases of observers
- Subjectivity of assessments
- Various expertise/experience of observers
- Generalizability of tasks/performance being assessed
  - Intra-individual variability (emotional, physical state)
  - Impact of others in the work environment

Addressing challenges in assessment

- Frequent sampling (reliability)
- Incorporating assessment into daily work with learners (cost and acceptability)
- Evaluating implementation (acceptability)
- Perform assessment in authentic clinical environments (validity)
- Involving learners in the assessment process

The challenge of analytic approaches: ensuring that a learner can integrate required behaviors

- Must use meaningful measures of performance
- The “power” of direct observation
- Obtaining a “panoramic” view

Authentic assessment requires direct observation of behaviors in context.

- Evaluation (judgments about learners) must be integrative and synthetic using data from an adequate (broad sample) of learner performance.

EPAs: Measuring the activities of professional work

* Parts of essential professional work in a given context
* Require adequate knowledge, skills, attitudes
* Lead to recognized output of professional labor
* Should be confined to qualified personnel
* Should be executed within a time frame
* Should be observable and measurable in process and outcome
* Should reflect one or more competencies

ten Cate O and Scheele F. Acad Med 2007; 82: 542-547.
“Patients’ and instructors’ trust in a trainee and their entrustment of responsibility... are essential concepts in this approach because they reflect... a trainee’s readiness to bear professional responsibility.”

ten Cate O and Scheele F. Acad Med 2007; 82: 542-547.
As learners demonstrate mastery of an EPA, they no longer require direct supervision and ultimately, can be trusted to supervise more junior colleagues.

Learners can achieve mastery of different EPAs at different times in their training and at different times than their peers.

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Applying an integrated approach to facilitate formative and summative assessment

- “…linking the EPA to its critical competencies... and then to the developmental milestones for those competencies, will provide a much more comprehensive picture of the learner, which will enrich the supervisor-learner discussion and speed the journey to entrustment.”

Englander R and Carraccio C. Acad Med 2014; 89: epub ahead of print
Specific, behavioral descriptions of expected performance (relative to a standard) allow assessors to use the same “data points” to arrive at decisions and provide learners with detailed information.

Particularly important for learners who are struggling or who need remediation.
“But if the old way of assessing learners was essentially ‘I’ll know it when I see it,’ then EPAs move us to ‘I’ll know what’s important for a learner to perform and I’ll know it when I see it.’

The addition of behavioral descriptors to the equation moves us to

“I’ll know what’s important for the learner to perform, I’ll know what specifically to look for so I can recognize it when I see it, and I’ll be looking for and recognizing the same thing as my colleague.”

Englander R and Carraccio C. Acad Med 2014; 89: epub ahead of print
Effective use of workplace-based assessment to ensure learning requires that faculty receive training on the use of the tools/instruments and on methods to provide appropriate and useful feedback


Training in:
- Behavioral observation
- Performance measurement
- Setting and applying a unified frame of reference

How can we apply these concepts to design assessment(s) for health professions learners?
Competencies for interprofessional collaborative practice

- Competency domains
  - Values/ethics for interprofessional practice;
  - Roles/responsibilities;
  - Interprofessional communication;
  - Teams and Teamwork
    - Integrates the knowledge and experience of other professions--appropriate to the specific care situation--to inform care decisions while respecting patient and community values and priorities/preferences for care

Reference list of general physician competencies


- 8 domains; 58 competencies
  - Patient care
  - Knowledge for practice
  - Practice-based learning and improvement
  - Interpersonal and communication skills
  - Professionalism
  - Systems-based practice
  - Interprofessional collaboration
  - Personal and professional development
Interprofessional Collaboration

* Demonstrate the ability to engage in an interprofessional team in a manner that optimizes safe, effective patient- and population-centered care
  * Use the knowledge of one’s own role and the roles of other health professionals to appropriately assess and address the health care needs of the patients and populations served

EPA 9: Collaborate as a member of an interprofessional team

“But if the old way of assessing learners was essentially ‘I’ll know it when I see it,’ then EPAs move us to ‘I’ll know what’s important for a learner to perform and I’ll know it when I see it.’ The addition of behavioral descriptors to the equation moves us to “I’ll know what’s important for the learner to perform, I’ll know what specifically to look for so I can recognize it when I see it, and I’ll be looking for and recognizing the same thing as my colleague.”

Englander R and Carraccio C. Acad Med 2014; 89: epub ahead of print
“I’ll know what’s important for the learner to perform,
I’ll know what specifically to look for so I can recognize it when I see it,
and
I’ll be looking for and recognizing the same thing as my colleague.”
So... in small groups, please consider the following...

* What specifically would you look for?

* What type(s) of assessments would allow you to document performance of a learner?
Critical functions associated with EPA9

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* Identify team members’ roles and the responsibilities associated with each role.
* Establish and maintain a climate of mutual respect, dignity, integrity, and trust.
* Communicate with respect for and appreciation of team members and include them in all relevant information exchange.
* Use attentive listening skills when communicating with team members.
* Adjust communication content and style to align with team-member communication needs.
* Understand one’s own roles and personal limits as an individual provider and seek help from the other members of the team to optimize health care delivery.
* Help team members in need.
* Prioritize team needs over personal needs in order to optimize delivery of care.
“Most relevant domains of competence”

AAMC CEPEAR Drafting Panel Report 2014

* Interpersonal and communication skills
* Professionalism
* Systems-based practice
* Interprofessional collaboration
“Competencies within each domain critical to entrustment decisions”

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* IPC 1
* IPC 2: Use the knowledge of one’s own role and the roles of other health professionals to appropriately assess and address the health care needs of the patients and populations served
* IPC 3
Description of behaviors associated with entrustment

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Pre-entrustable behaviors

* Identifies roles of other team members but does not recognize how or when to use them as resources. Does not communicate the value of other professionals on the team to the patient/family.

Entrustable behaviors

* Understands the roles and responsibilities of and effectively partners with all members of the team. Supports activities of other team members, and communicates their value to the patient/family.
Expected behaviors for an entrustable learner

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* Acts as an active and integrated member of the team who in most situations prioritizes team goals over one’s own professional goals.
* Understands the roles of other team members, seeks their counsel, actively listens to their recommendations, and incorporates them into practice.
* Typically communicates in a bidirectional manner and keeps all team members informed and up to date.
* Modifies and adapts communication content and style based on audience, venue, receiver preference, or type of message.
* In most situations, is able to read one’s own emotions and anticipates and reads the emotions of others.
* Maintains a professional demeanor in all but the most trying of circumstances.
* Actively engages with the patient and other team members to coordinate care and provide for seamless transitions between care providers and from one setting to another.
Now... in your small groups, discuss what type(s) of assessment you would use to grant a STAR for EPA 9
“The mantra for the journey will be ‘how do we improve medical education to provide better care to patients.’”