

Competencies, Goals, Objectives

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Objectives:

- Provide a framework for making goals, objectives, competencies
- Define goals, objectives, competencies and outcomes
- Compare and contrast objectives and competencies
- Define EPA (entrustable professional activities)
- Contemplate advantages of an EPA framework

Framework



Novice with no experience wants to work in a garage

“Learning”



Garage owner wants a new engine mechanic

Framework: alignment – all geared to the same end



Detailing?
Knowledge vs. skill?
Oil changes vs. diagnostics?



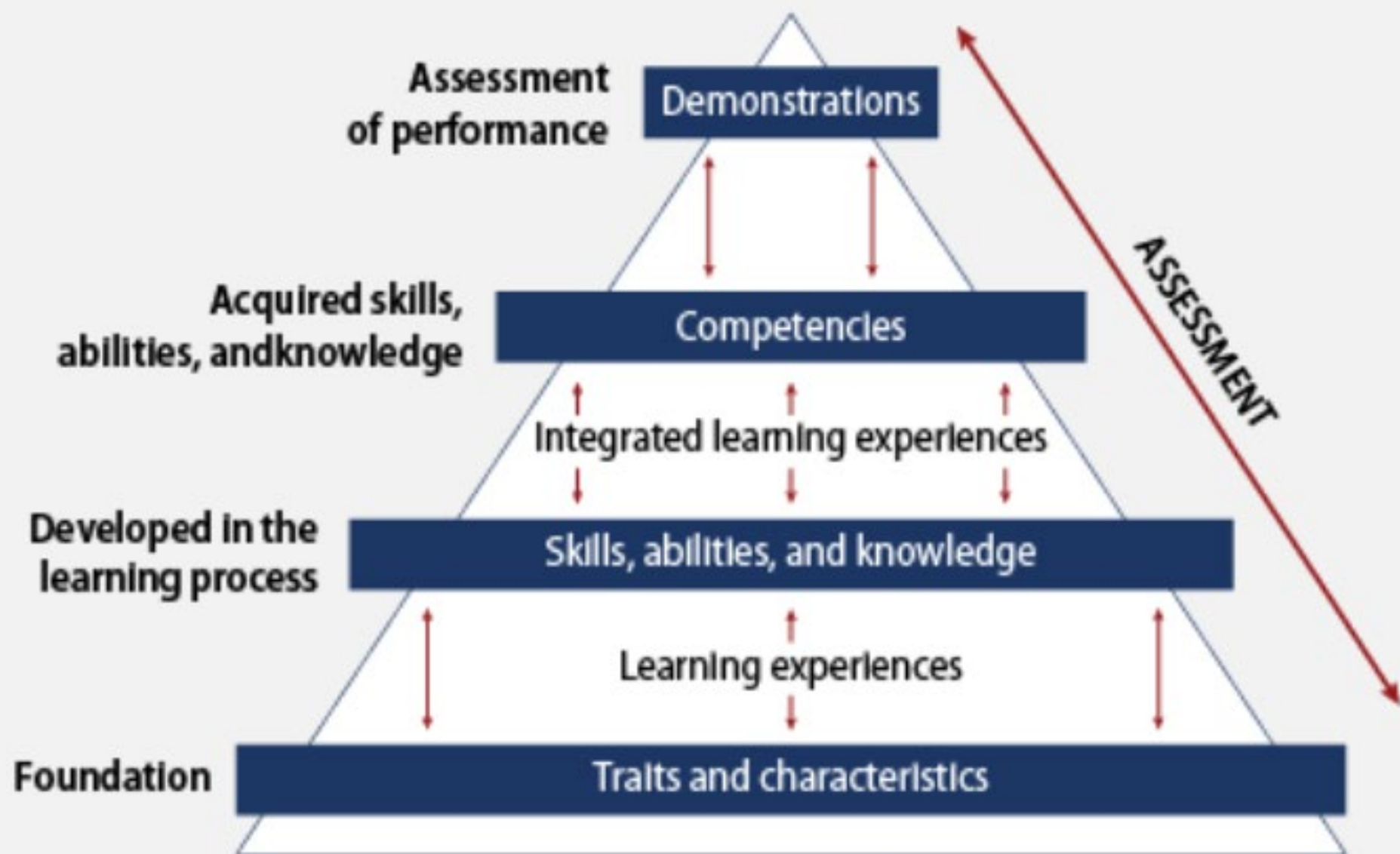
"Learning"



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Source: U.S. Department of Education, 2001.

Definitions

- Knowledge:
 - The condition of being aware of something that is acquired through training and experience
- Skill:
 - The ability to physically perform an activity or task and includes physical movement (including talking) and application of knowledge
- Ability:
 - The capacity to perform physical or mental activities that are associated with a particular task



You design a course for Novice. What should be the goal of the course?



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Definition: goal

- A broad statement about the intended intent/purpose/outcome of the learning session/course
- Provides overall direction for the learning
- Achievable but not necessarily measurable or observable
- Serves as the foundation for *objectives*

Course X is designed to give the student a broad exposure to all aspect of auto mechanics

Course X will prepare the student to student to successfully apply for a job as an auto mechanic

Course X will prepare the student for a career in small engine repair

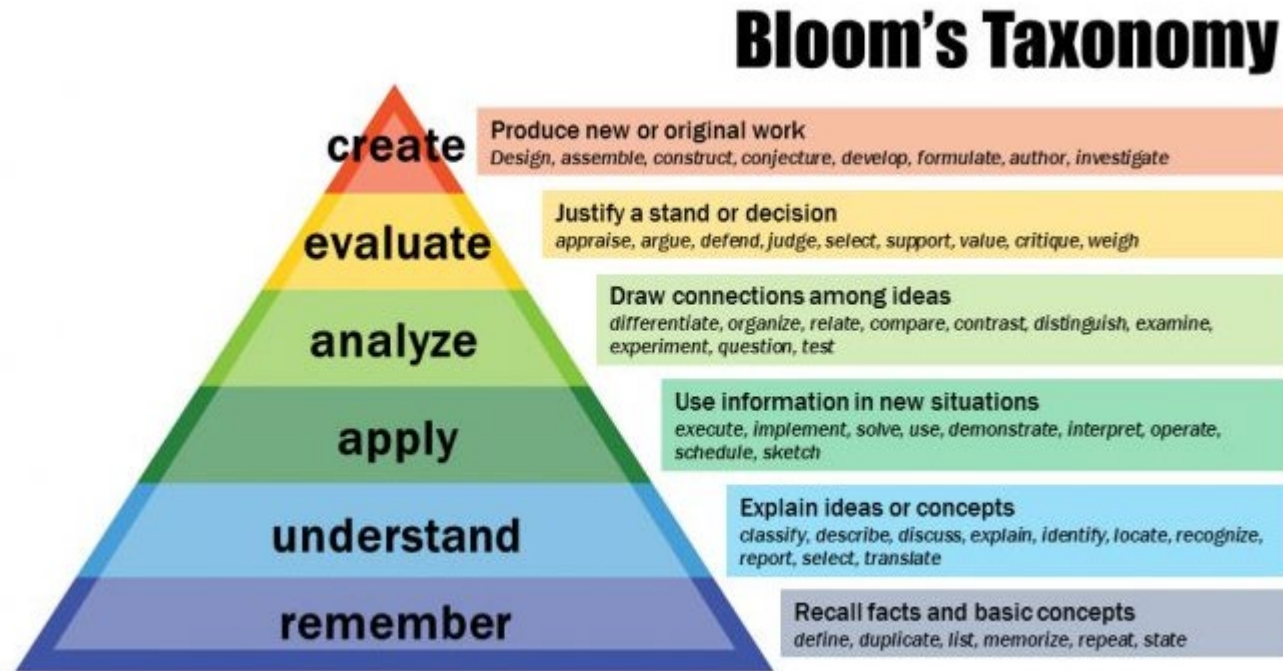
Definitions: objectives

- Statement that clearly expresses what the participant will be able to do at the completion of the course or program
- “SMART”
 - Specific
 - Identifies what a participant is *intended* to be able to do once the learning has occurred
 - Contains verbs that are observable and measurable



Writing objectives

- By the end of the session the participant will be able to:
 - (verb) (outcome of interest)
 - Knowledge
 - Skills
 - Attitudes



Task: Novice has enrolled in a course to prepare her for a new career.

- Course Goal: Course X will prepare the student to successfully apply for a job as an auto mechanic
- Her first learning session is on changing engine oil
- Write three objectives for the first learning session



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Possible objectives

- By the end of this session, the participant will be able to:
 - Locate and remove the drain plug
 - Determine the appropriate oil weight to use
 - Add the appropriate amount of oil
 - Change the oil filter
 - Explain to a customer what they have done
 - Compare and contrast fully synthetic vs semi synthetic oil

Are these aligned with the goal of the course?

Immediately after the session, Novice is tested. Here are the three test items:

- Question 1:
 - List two advantages of fully synthetic oil over semi-synthetic oil
- Question 2:
 - Name three automobile manufacturers that only recommend Mobil Oil products
- Test item 3:
 - In this engine, show me where the drain plug is

Are these appropriate?

Assessment

Objective

- Compare and contrast fully synthetic vs semi synthetic oil
- Locate and remove the drain plug
- ?

Assessment

- List two advantages of fully synthetic oil over semi-synthetic oil
- In this engine, show me where the drain plug is
- Name three automobile manufacturers that only recommend Mobil Oil products

Assessment

- All assessment HAS to be linked to objectives

You decide that you need to change the oil on your 8 year old car. When you go the service station do you...?

- Ask if the mechanic can
 - Locate and remove the drain plug
 - Determine the appropriate oil weight to use
 - Add the appropriate amount of oil
 - Change the oil filter
 - Explain to a customer what they have done
 - Compare and contrast fully synthetic vs semi synthetic oil
- Ask them to change the oil and give advice as to whether this is a good time to use semi-synthetic oil for your high mileage car?

Definition: competencies:

- What an individual needs to be able to do to successfully perform their job or task
 - Bundles of essential knowledge, skills and abilities required to achieve an acceptable level of performance
 - More general than objectives
 - Still observable and measurable

Competency

- The student will be able correctly to change the engine oil and oil filter (in less than 20 minutes)
- The objectives related to the competency
 - Locate and remove the drain plug
 - Determine the appropriate oil weight to use
 - Add the appropriate amount of oil
 - Change the oil filter

Competency and outcomes

- Goals: purpose
- Objectives: intended outcomes
- Competencies: learner outcomes

Medical Education Program Objectives

1. Patient Care

Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health

- 1.1 Perform medical, diagnostic, and technical procedures considered essential to enter post-graduate training
- 1.2 Gather essential and accurate information about patients and their conditions through history-taking, physical examination, laboratory data, imaging, and other sources
- 1.3 Develop and prioritize a differential diagnosis through clinical reasoning
- 1.4 Order and interpret appropriate laboratory tests, imaging studies, and other tests based on scientific evidence and clinical judgment
- 1.5 Develop and carry out management plans that are patient-centered, safe, effective, and value based
- 1.6 Counsel and educate patients and their families to empower them to participate in their care, engage in preventative health, and facilitate shared decision-making
- 1.7 Recognize a patient requiring urgent or emergent care and initiate evaluation and management
- 1.8 Recognize and discuss end of life and palliative care with patients and families in the appropriate clinical context
- 1.9 Provide appropriate referral of patients, including ensuring continuity of care throughout transitions between providers or settings, and following up on patient progress and outcomes
- 1.10 Provide health care services to patients, families, and communities aimed at preventing health problems or maintaining health

Complications

- Classic objective:
 - The learner will be able to take an age-appropriate history and complete an age-appropriate physical examination

Think about this objective. You are bringing your febrile, irritable, autistic child to see a first year pediatric resident on July 1. Would you want to add any additional criteria to this objective?

Complications:

- Objectives/competencies can include measurement criteria
 - How often (e.g. 90%)
 - Degree of difficulty (acute minor illness)
 - Under what conditions (emergencies)
 - Compared to whom (a standard)
- Rarely include measurement criteria in *clinical* medicine
 - Assessment of medical knowledge
 - 70% correct or must achieve at the 5%
 - Clinical skills examination

How else could we decide that the auto mechanic can not only change the oil but figure out the squeaking sound

OR

The brand new pediatrician will provide excellent care

Entrustable Professional Activities (EPAs)

- *Units of professional practice* that constitute what clinicians do as daily work
 - Responsibilities or tasks that must be done in patient care
 - These tasks can be small or big
- EPAs constitute the description of work and are independent of persons
 - Competencies describe persons
- EPAs can be delegated to learners if they are deemed ready for them
- The decision to transfer a responsibility to a learner has been called an entrustment decision

Why EPAs in medical school?

- Medical school graduates seemed insufficiently prepared for indirect supervision at the start of residency
- Core EPAs define a shared set of clinical activities that residents are expected to perform on day 1
 - In situations of varying complexity

What in the world does entrustable mean?

- Trustworthiness in applying knowledge, skills, and attitudes in the performance of an EPA

*Can you develop any standards of trustworthiness (for students)?
We all do this explicitly or implicitly every day!*

Modified Chen entrustment scale: If you were to supervise this student again in a similar situation, which of the following statements aligns with how you would assign the task?	Corresponding excerpt from original Chen entrustment scale (Chen et al 2015)
1b. “Watch me do this.”	1b. Not allowed to practice EPA; allowed to observe
2a. “Let’s do this together.”	2a. Allowed to practice EPA only under proactive, full supervision as coactivity with supervisor
2b. “I’ll watch you.”	2b. Allowed to practice EPA only under proactive, full supervision with supervisor in room ready to step in as needed
3a. “You go ahead, and I’ll double-check all of your findings.”	3a. Allowed to practice EPA only under reactive/on-demand supervision with supervisor immediately available, all findings double-checked
3b. “You go ahead, and I’ll double-check key findings.”	3b. Allowed to practice EPA only under reactive/on demand supervision with supervisor immediately available, key findings double-checked

Modified Ottawa scale: In supervising this student, how much did you participate in the task?	Original Ottawa scale (Rekman et al 2016)
1. “I did it.” Student required complete guidance or was unprepared; I had to do most of the work myself.	1. “I had to do.” (i.e., requires complete hands-on guidance, did not do, or was not given the opportunity to do)
2. “I talked them through it.” Student was able to perform some tasks but required repeated directions.	2. “I had to talk them through.” (i.e., able to perform tasks but requires constant direction)
3. “I directed them from time to time.” Student demonstrated some independence and only required intermittent prompting. 4. “I was available just in case.” Student functioned fairly independently and only needed assistance with nuances or complex situations.	3. “I had to prompt them from time to time.” (i.e., demonstrates some independence, but requires intermittent direction) 4. “I needed to be there in the room just in case.” (i.e., independence but unaware of risks and still requires supervision for safe practice)
5. (No level 5: Students are ineligible for complete independence in our systems.)	5. “I did not need to be there.” (i.e., complete independence, understands risks and performs safely, practice ready)

How do EPAs relate to competencies

- EPA reorganizes competencies into observable units of clinical work by function
 - Each function is a subunit of work required to perform an EPA
- EPA is the whole; the competencies are the parts
 - Can monitor the parts but focus on the whole

Patient Care (PC)

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Medical Knowledge (MK)

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Interpersonal and Communication Skills (ICS)

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

Residents are expected to:

- communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;
- communicate effectively with physicians, other health professionals, and health related agencies;
- work effectively as a member or leader of a health care team or other professional group;
- act in a consultative role to other physicians and health professionals; and,
- maintain comprehensive, timely, and legible medical records, if applicable.

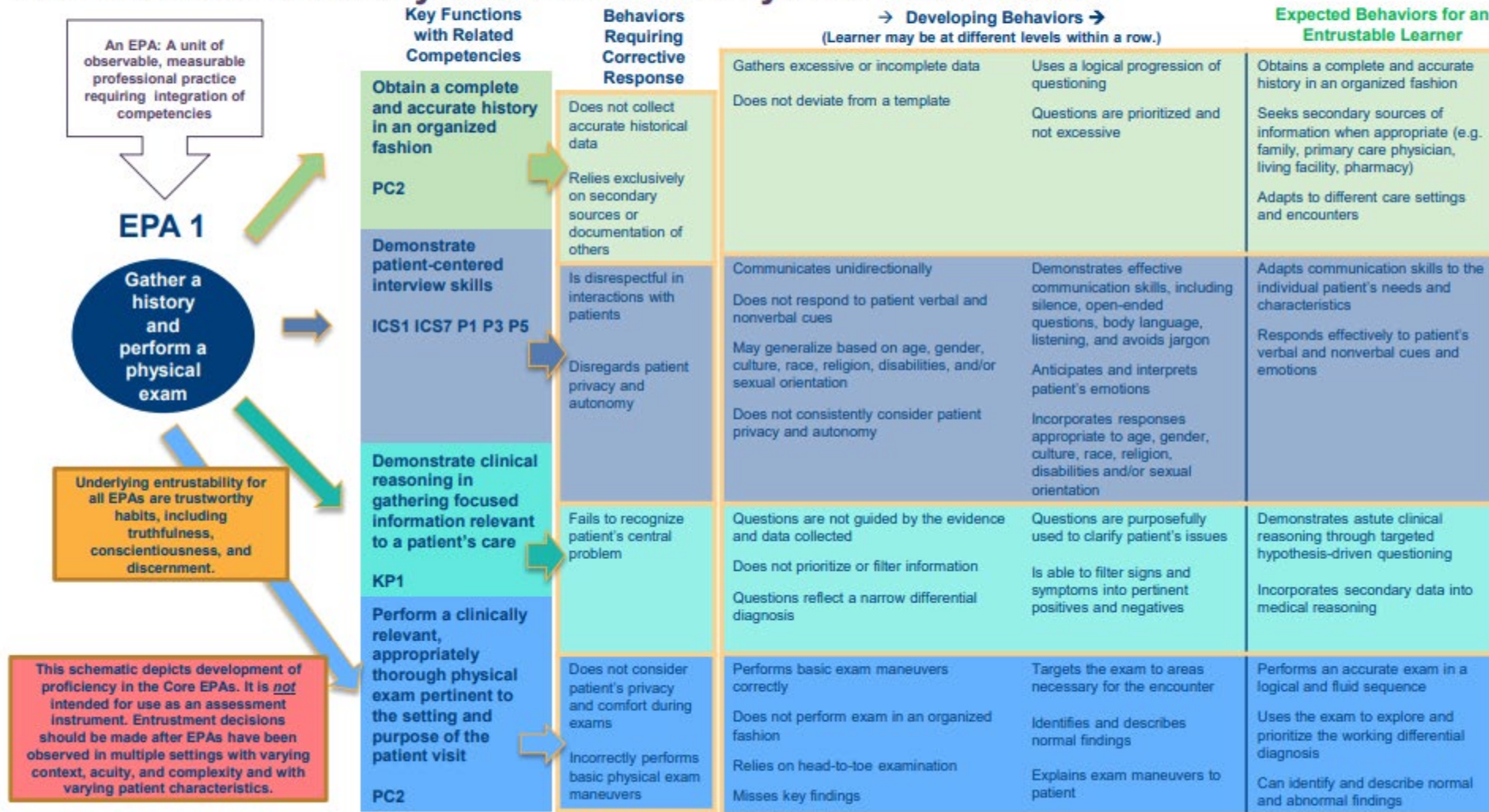


Core Entrustable Professional Activities for Entering Residency



Tomorrow's Doctors, Tomorrow's Cures®

EPA 1: Gather a History and Perform a Physical Examination



1. PATIENT CARE (PC): Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health

- 1.1 Perform all medical, diagnostic, and surgical procedures considered essential for the area of practice
- 1.2 Gather essential and accurate information about patients and their condition through history-taking, physical examination, and the use of laboratory data, imaging, and other tests
- 1.3 Organize and prioritize responsibilities to provide care that is safe, effective, and efficient
- 1.4 Interpret laboratory data, imaging studies, and other tests required for the area of practice
- 1.5 Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment
- 1.6 Develop and carry out patient management plans
- 1.7 Counsel and educate patients and their families to empower them to participate in their care and enable shared decision making
- 1.8 Provide appropriate referral of patients, including ensuring continuity of care throughout transitions between providers or settings and following up on patient progress and outcomes
- 1.9 Provide health care services to patients, families, and communities aimed at preventing health problems or maintaining health
- 1.10 Provide appropriate role modeling
- 1.11 Perform supervisory responsibilities commensurate with one's roles, abilities, and qualifications

The chart is anxiety inducing! However

- What are some potential advantages to an EPA framework?

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