# Competency Identification
# Designing Competency-Based Curricula

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# Menu for today

- Competencies: why and what is missing in curricula
- Identification of the competencies (theory + examples)
- Group work and discussion

# Learning Objective

After the training, the participants are able to :

- Explain how to identify the competencies essential for the given profession

Statements about Competencies : **who agrees, please stand up**

1. Derive from analysis of professional roles
2. Derive from conceptual framework, guidelines, accreditations outlining professional responsibilities.
3. Define the expected outcomes in knowledge, skills, and attitudes essential for professional tasks (e.g. IPLOs)
4. They are clearly defined and openly communicated before the instructional phase begins (e.g. LOs)
5. Graduates of a competency-based education (CBE) program display diverse competency profiles

# Why do we think something is missing in curricula?

Curriculum GAP :

- Traditional curriculum neglect the knowledge and skills needed for today's job market (Bunshaft et al., 2015)
- Employer dissatisfaction with lack of employability skills was reported across different fields (Bandaranaike, 2018 Eldeen et al., 2018)
- Over the past decade, employers have increasingly demanded better-skilled graduates (OECD, 2004; Tomlinson, 2008)

# What is missing from curricula?

- Skills that help graduates solve complex real-life problems in the 21st-century workplace (McLaughlin, Kennedy, & Reid, 2015).

- Communication, critical thinking, and problem-solving are the most valued generic skills (Clegg, 2013; Hodge et al., 2011; Prinsley & Baranyi, 2015).

- Team working, communication, critical thinking, problem solving, leadership, managerial skills (Lowden et al., 2011)

# What is missing from curricula?

**Competency** : "a knowledge, skill, or attitude that enables one to effectively perform the activities of a given occupation or function to the standards expected in employment" (International Board of Standards for Training and Performance Instruction, 2005). **Graduate Attitudes** are a subset of competencies. (ElAtia, 2020)

**Employability skills:** "a set of achievement- skills, understandings, and personal attributes- that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workplace, the community, and the economy" (Harvey, 2005; Maxwell and Armellini, 2018; Yorke, 2006).

AKA: ***Soft skills, transferable skills, graduate employability*** **etc.**

# Medicine


## Competent Medical Doctor

CanMEDS 2015 Physician Competency Framework. Ottawa: Royal College of Physicians and Surgeons of Canada

# Medicine

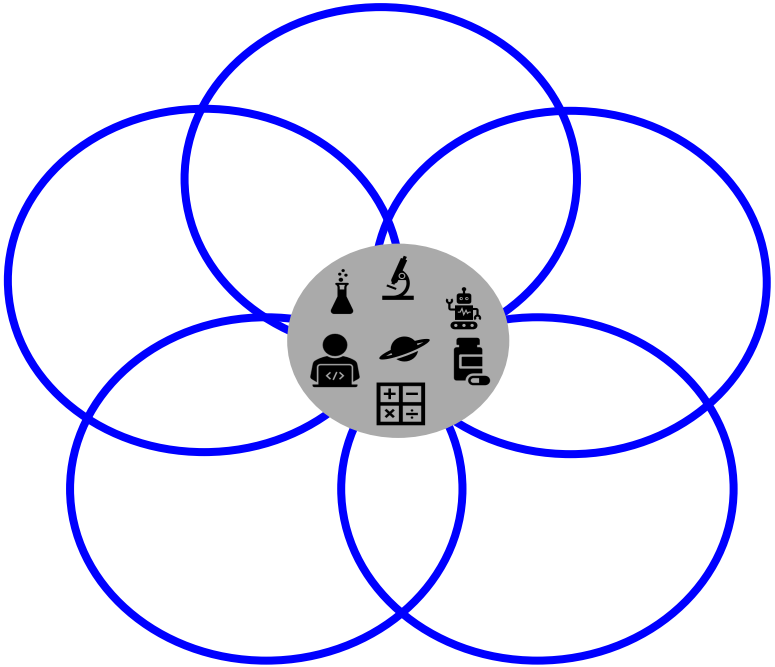
Entrustable Professional Activities (EPAs)

EPAs outline specific tasks that trainees can be trusted to perform, are vital to the profession, and reflect one or more key competencies (O'Dowd et al. BMC Medical Education, 2020)

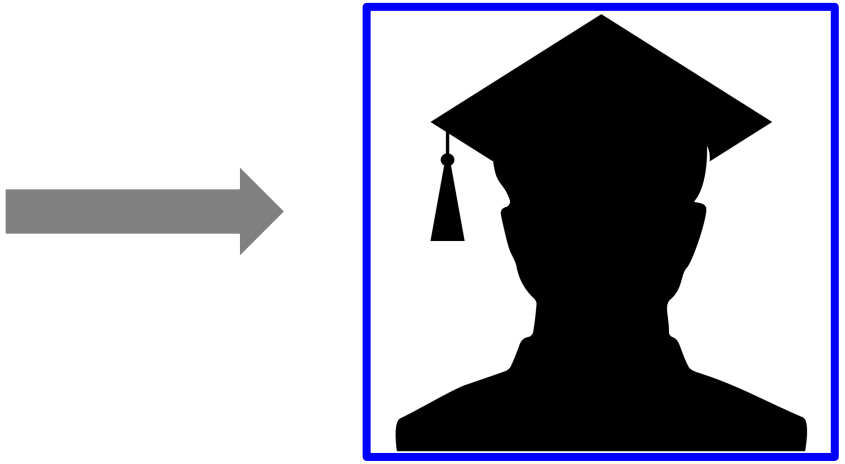
Example of the task : To communicate with patient about prevention doctor needs to be:

- Communicator
- Health Advocate

# Any other context e.g. STEM

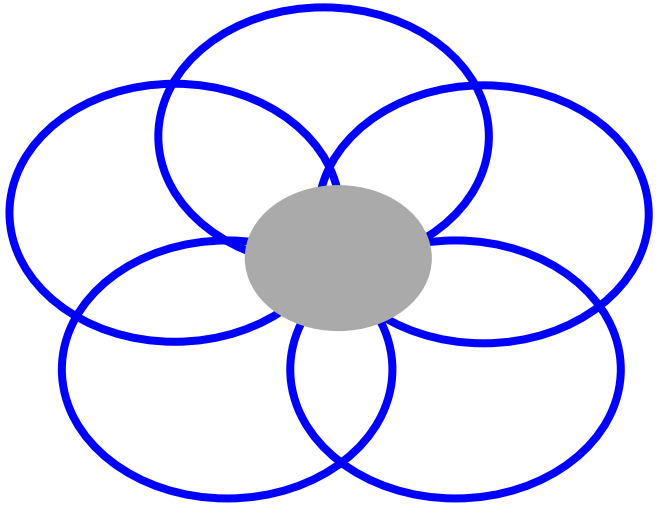


Competent graduate = expert



Employability skills for a given profession = the same idea as EPA. They can become a set of your competencies

1. Key task(s) of the expert after the graduation
2. What competencies your graduate needs to perform those task efficiently?



# Example: Curriculum Review, IEM MSc

- **Identified a gap:** “Something is missing in our MSc.”
- **Current state:** IPLOs aligned with Dublin descriptors.
- **Actions taken:**
  - Reviewed other IEM programs.
  - Referenced ABET standards (Accreditation Board for Engineering and Technology).
  - Asked: *What are the key tasks for graduates?*
- **Outcome:** Proposed new competencies to address the gap.

1. Knowledge Base in Engineering Management
2. Systematic Problem-Solving
3. Functional and Performance Diagnostics
4. Design Process
5. Multidisciplinary Skills Application
6. Academic and Industrial Research
7. Data-Driven Design and Innovation
8. Lifelong Learning and Autonomous Professional Development
9. Communication Across Diverse Audiences
10. Ethical Responsibility and Impact Assessment
11. Leadership in Multicultural and Interdisciplinary Teams

# Example: Course Design: *Reducing Pharmaceuticals in Water*

- **Goal:** Develop a course on medical waste in water.
- **Framework:** Adjusted CanMEDS for Pharmacy.
- **Approach:** Identified roles needed for the task of reducing water waste.

**Key Roles Addressed:**

- **Expert:** *Knowing*—Solve a patient case.
- **Communicator:** *Advising*—Discuss with patients.
- **Leader:** *Stakeholder Analysis*—Draft a strategic plan for change

Lets do the same in groups

First, choose **1 graduate (choose the context)** you will focus on. Next, select **1 key task he/she will do**. Then, c**hoose two** most critical graduate attitudes for the discussed task. Name the competency that the GA would be grouped under.

- DO not choose the expert (it is given)

| Choose the graduate =profession  | Choose a key task that the graduate will need to perform/do | Choose 2 key graduate attributes needed to finalize the task (skip the knowledge/expertise) | Name the competency that the GA would be grouped under. |
|---|---|---|---|
| | Name of the task (2-3 words)<br><br>Main deliverable(s) of the task =what graduates need to do (e.g. talk to…, write to/about…, work with…, decide on…. Etc.)<br>- | .<br>.<br>. | Competency 1<br><br>Competency 2<br><br>Competency 3<br><br>….. |

*Exercise inspired by the literature e.g. DOI 10.1007/s10459-008-9118-2 or Jeonghyun Kim, Competency-based Curriculum: An Effective Approach to Digital Curation Education doi:10.12783/issn.2328-2967/56/4/2 and many others*

# Thank you for your attention

If you have any questions or would like to discuss or brainstorm, please contact me

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