



ทิศทางการพัฒนา การศึกษาสำหรับ บุคลากรด้านสุขภาพใน ศตวรรษที่ 21

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การใช้อย่างสมเหตุผล

Anachronistic Education

- Fragmented, outdated, and static curricula
- Produce ill-equipped graduates
- Mismatch of competencies to society needs
- Tribalism of the professions
- Poor teamwork; persistent gender stratification of professional status



Where is education going?

- From time-based programs to outcome-based programs
- From (lecture-based) teacher centered programs to (holistic task) learner centered programs
- From knowledge orientation to competency-based education
- From competency to entrustable professional activities (EPA)

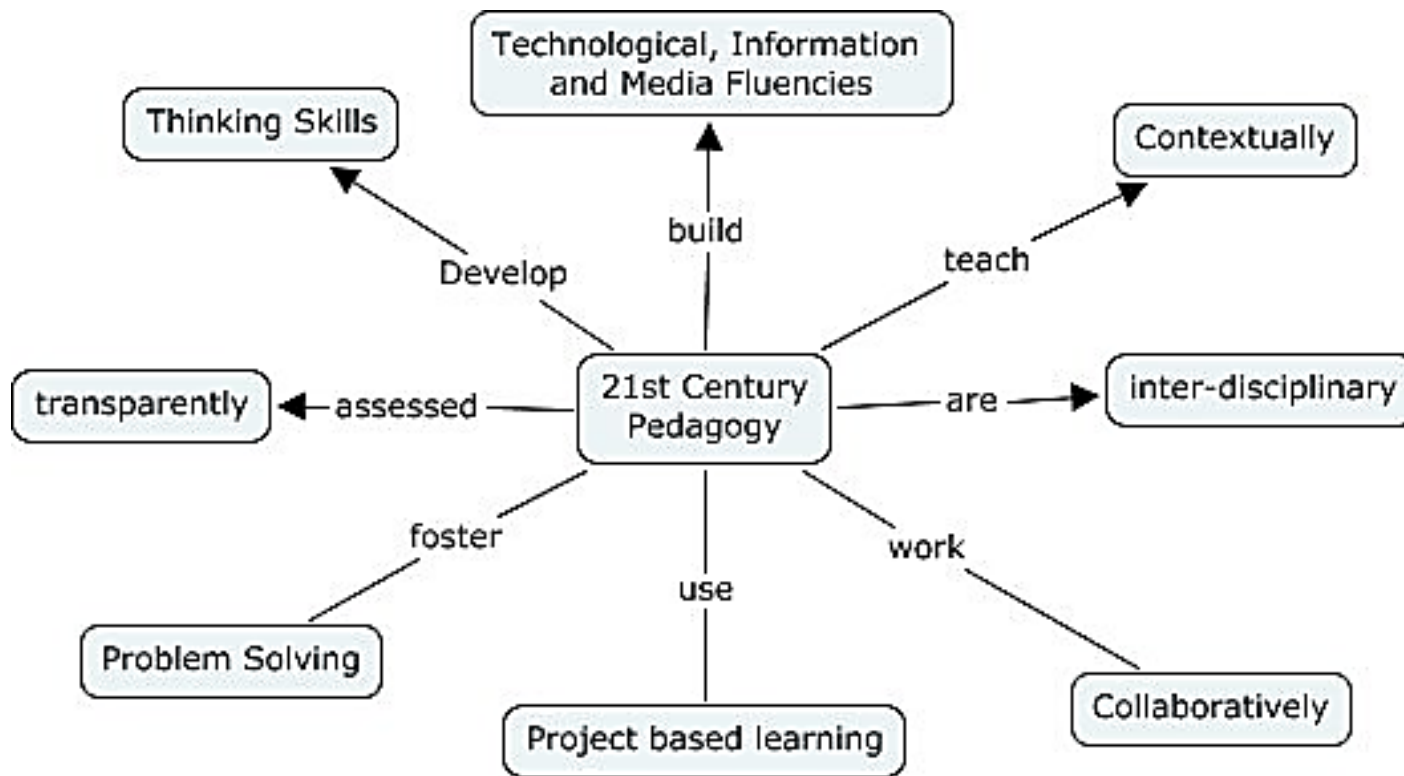


Where is education going?

- From hospital-based education to community-based education
- From uniprofessional education to interprofessional education
- From classroom assessment to work-based assessment



21st Century Pedagogy





Health Professionals for a New Century *The Lancet*

Three Generations of Reform



Instructional	Scientific curriculum	Problem-based learning	Competency driven: local-global
Institutional	University-based	Academic centers	Health-education systems

Transforming and scaling up
health professionals'
education and training

WORLD HEALTH ORGANIZATION
GUIDELINES 2013



World Health
Organization

Transforming and
scaling up health
professionals'
education and training
WHO Guidelines 2013

9 Areas 11 Recommendations

- Faculty development
- Curriculum development
- Simulation methods
- Direct entry of graduates
- Admission procedures
- Streamlined educational pathways and ladder programmes
- Interprofessional education
- Accreditation
- Continuous professional development (CPD) for health professionals



Box 4 Twelve core interventions to promote more rational use of medicines

1. A mandated multi-disciplinary national body to coordinate medicine use policies
2. Clinical guidelines
3. Essential medicines list based on treatments of choice
4. Drugs and therapeutics committees in districts and hospitals
5. Problem-based pharmacotherapy training in undergraduate curricula
6. Continuing in-service medical education as a licensure requirement
7. Supervision, audit and feedback
8. Independent information on medicines
9. Public education about medicines
10. Avoidance of perverse financial incentives
11. Appropriate and enforced regulation
12. Sufficient government expenditure to ensure availability of medicines and staff

**WHO
Policy
Perspectives
on Medicines**



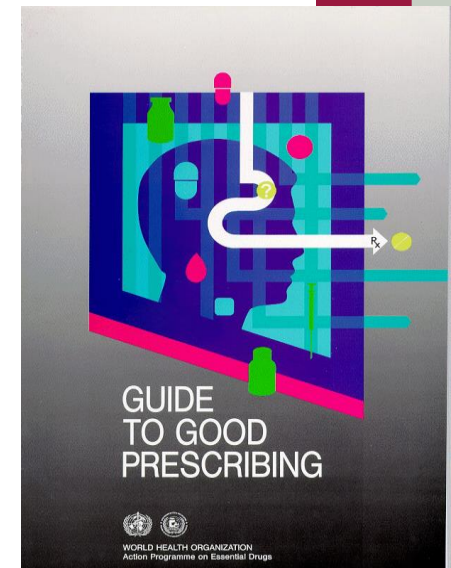
September 2002
World Health Organization
Geneva

➔ Problem-based training in pharmacotherapy in undergraduate curricula

- The quality of training in pharmacotherapy for undergraduate students can *significantly influence future prescribing*.
- Rational pharmacotherapy training, *linked to clinical guidelines and essential medicines lists*, can help to establish good prescribing habits.

➔ Problem-based training in pharmacotherapy in undergraduate curricula

- Training is more successful if it is *problem-based, concentrates on common clinical conditions, takes into account students' knowledge, attitudes and skills*, and is targeted to the students' future prescribing requirements.
- *The Guide to Good Prescribing* describes the problem-based approach, which has been adopted in a number of medical schools.



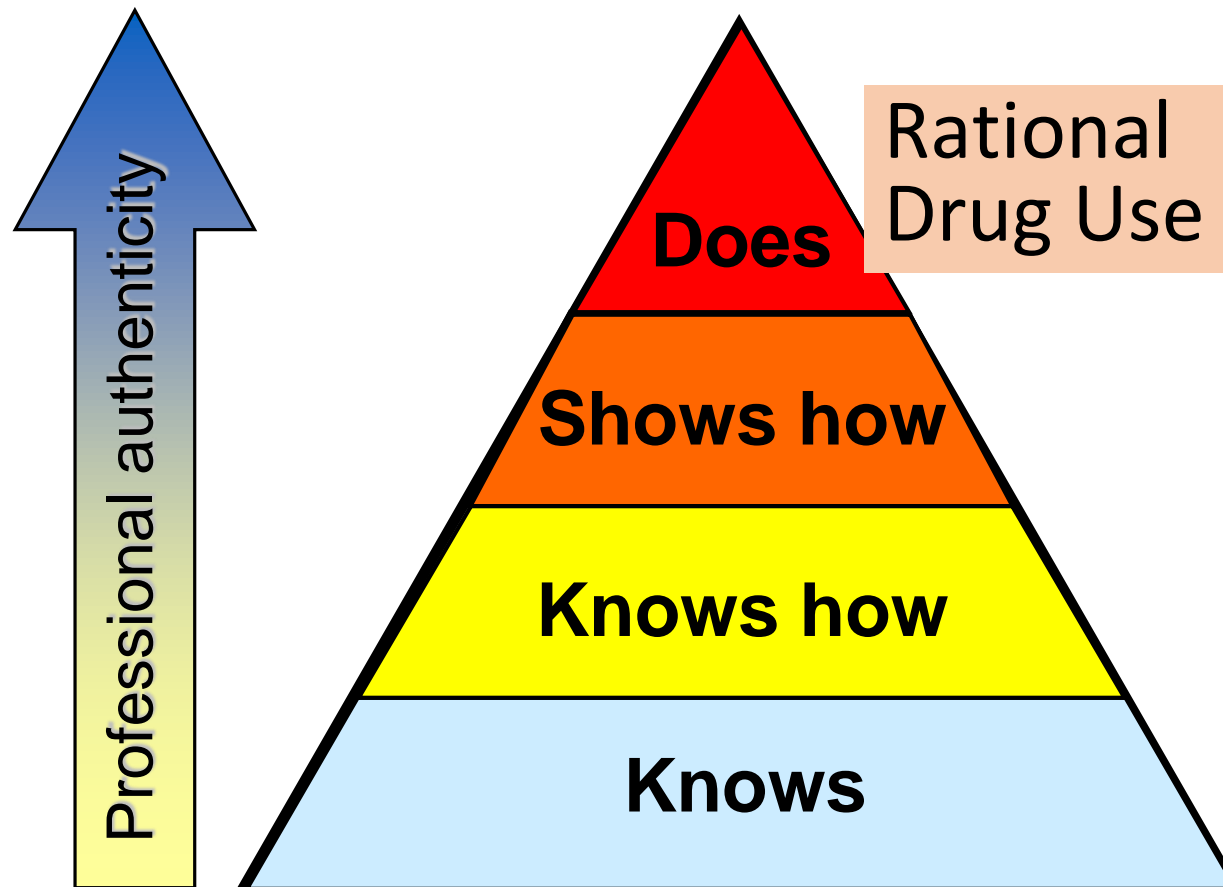
Essential Competencies in Prescribing: A First European Cross-Sectional Study Among 895 Final-Year Medical Students

- **Basic Pharmacology**: basic principles of how drugs act in biological systems including pharmacodynamics, pharmacokinetics and pharmacogenetics
- **Clinical Pharmacology**: application of pharmacology principles and methods in clinical practice (e.g. adverse drug reactions, drug interactions, errors, adherence and rational drug selection)

Essential Competencies in Prescribing: A First European Cross-Sectional Study Among 895 Final-Year Medical Students

- **Pharmacotherapy**: process of rational prescribing for specific clinical conditions (i.e. how to choose a specific drug for an individual patient)

Climbing the Pyramid



Challenges

- Continuing widespread *irrational prescribing of drugs*
- *Knowledge alone is not enough* to change behaviour
- Many new drugs and second-line drugs are very expensive
- *Medical and pharmacy training is still very traditional*; with much emphasis on drug knowledge and very little on public health, prescribing skills, drug management and patient care.



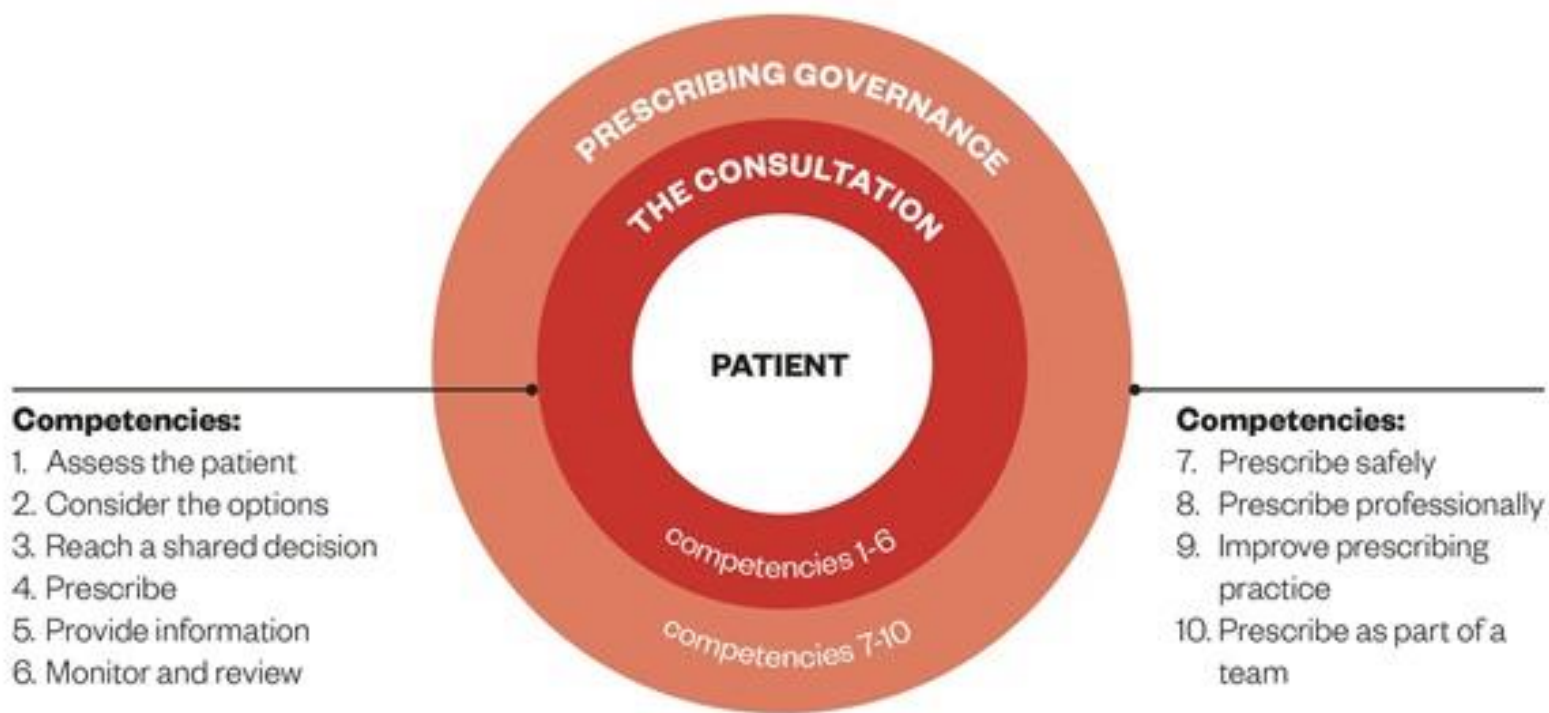
Teaching RDU

Program Concepts (“5 C’s”)

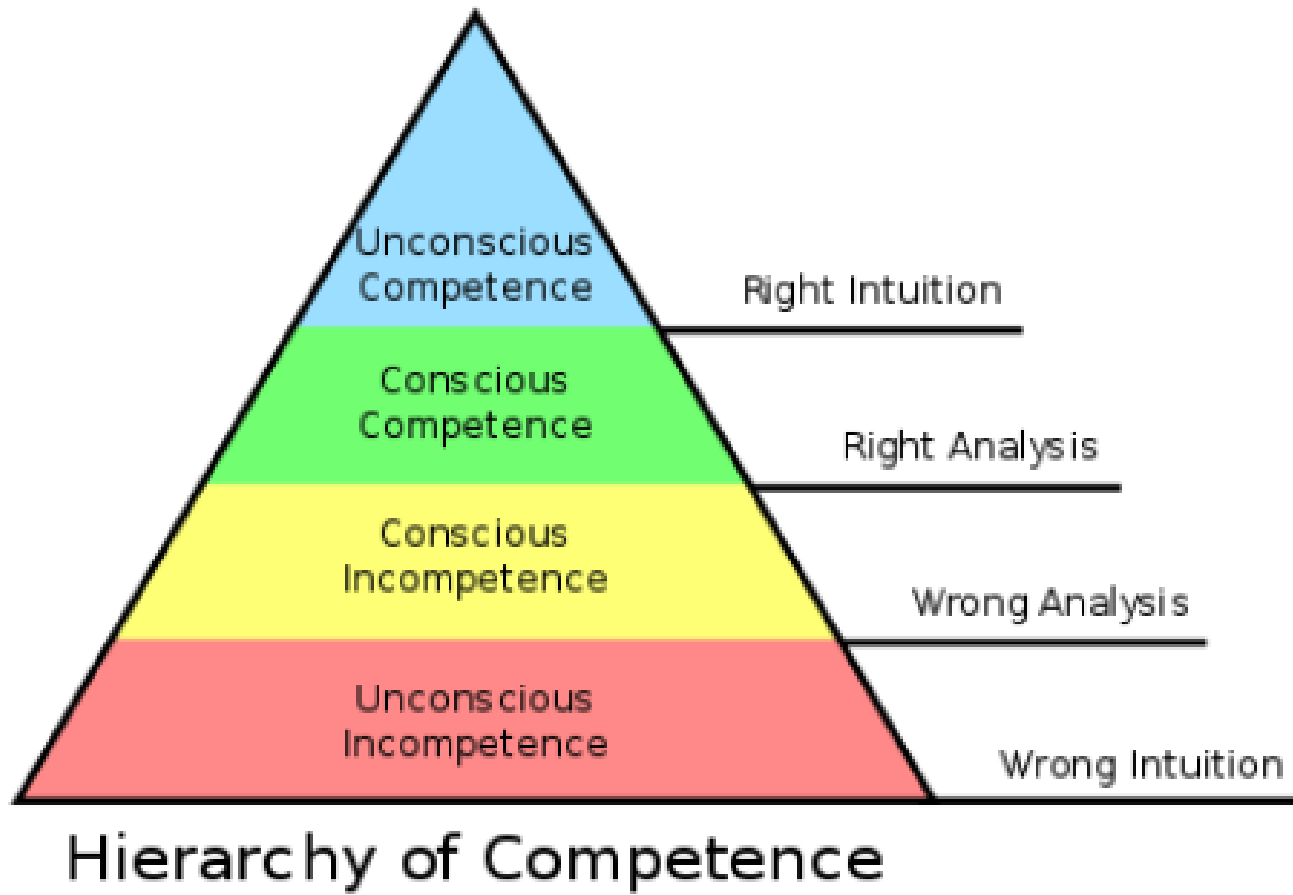
- Teaching should be **C**linically cased
- Real **C**ases should serve as the teaching focus
- Teaching should be **C**ontinuous
- **C**oordinated with the students’ other learning objectives
- **C**reates learning environment of RDU



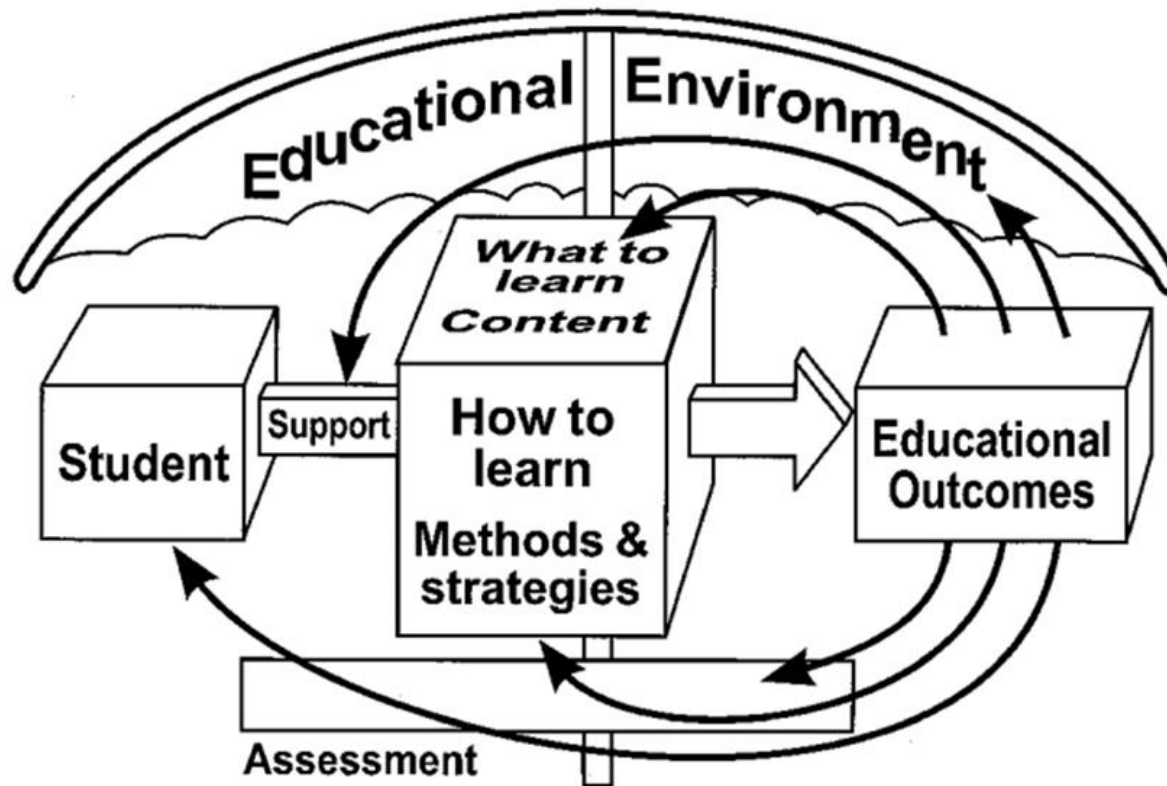
Prescribing Framework of All Prescribers



Hierarchy of Competence



Competency-Based Education



R.M. Harden, 1999

Ten Learning Modules for Thai RDU Core Curriculum

1. หลักการและความสำคัญของการใช้ยาอย่างสมเหตุผล
2. ขั้นตอนการสั่งใช้ยาอย่างสมเหตุผล
3. การสื่อสารสำหรับการใช้ยาอย่างสมเหตุผล
4. การคำนึงถึงความปลอดภัยของผู้ป่วยในการใช้ยา
5. วิกฤตเชื้อดื้อยาและการใช้ยาต้านจุลชีพอย่างเหมาะสม
6. เวชจริยศาสตร์กับปัญหาการใช้ยาอย่างสมเหตุผล
7. การใช้ยาอย่างสมเหตุผลเพื่อการเข้าถึงยาอย่างคุ้มค่าและเป็นธรรม
8. ความร่วมมือแบบสหวิชาชีพในการใช้ยา
9. การประเมินหลักฐานทางการแพทย์ และแหล่งเรียนรู้ในการใช้ยาอย่างสมเหตุผล
10. การพัฒนาความสามารถอย่างต่อเนื่องเพื่อการใช้ยาอย่างสมเหตุผล

A Competency Framework for All Prescribers

M1 Concepts and Principles	
M2 Good prescribing practice	1. Assess the patient 2. Consider the options 3. Reach a shared decision 4. Prescribe 5. Provide information 6. Monitor and review
M3 Communication for RDU	
M4 Patient Safety	7. Prescribe safely
M5 Antibiotic resistance and impact	
M6 Ethics and RDU problems	8. Prescribe professionally
M7 Equity and cost-effectiveness concern	
M8 Interprofessional roles	10. Prescribe as part of a team
M9 Information resources and evidence-based RDU	9. Improve prescribing practice
M10 CPD in RDU	

Learning Environment

- Role model
- Hospital policy on drug use
- RDU Hospital



Competency-Based Assessment (CBA)

CBA is producing evidence to make a judgment [decision] about whether the person is competent in relation to a particular standard



Philosophy of CBA

- **Criterion referenced**
Assessment is against standard, or a set of criteria to establish competency.
- **Evidence-based**
A process that matches evidence of competency against a standard.
- **Participatory**
Candidates are involved in the process of assessment



Components of CBA



Standards

A standard of competence or benchmark of performance

Evidence collection

Established methods for the collection of evidence of competence

Framework for comparison

Framework for the comparison of evidence against standards to establish performance level

Quality assurance

Assurance of quality of process

Assessment

- Needs to be continuous and frequent
Formative > summative
- Criterion Based
Allows for appropriate expectations
Developmental (milestones)
- Take place in the clinical environment
Work-based assessment
- Requires the use of high quality
assessment tools
One single evaluation may not be perfect
Consider the use of multiple tools
- Qualitative approaches to assessment
can be valuable

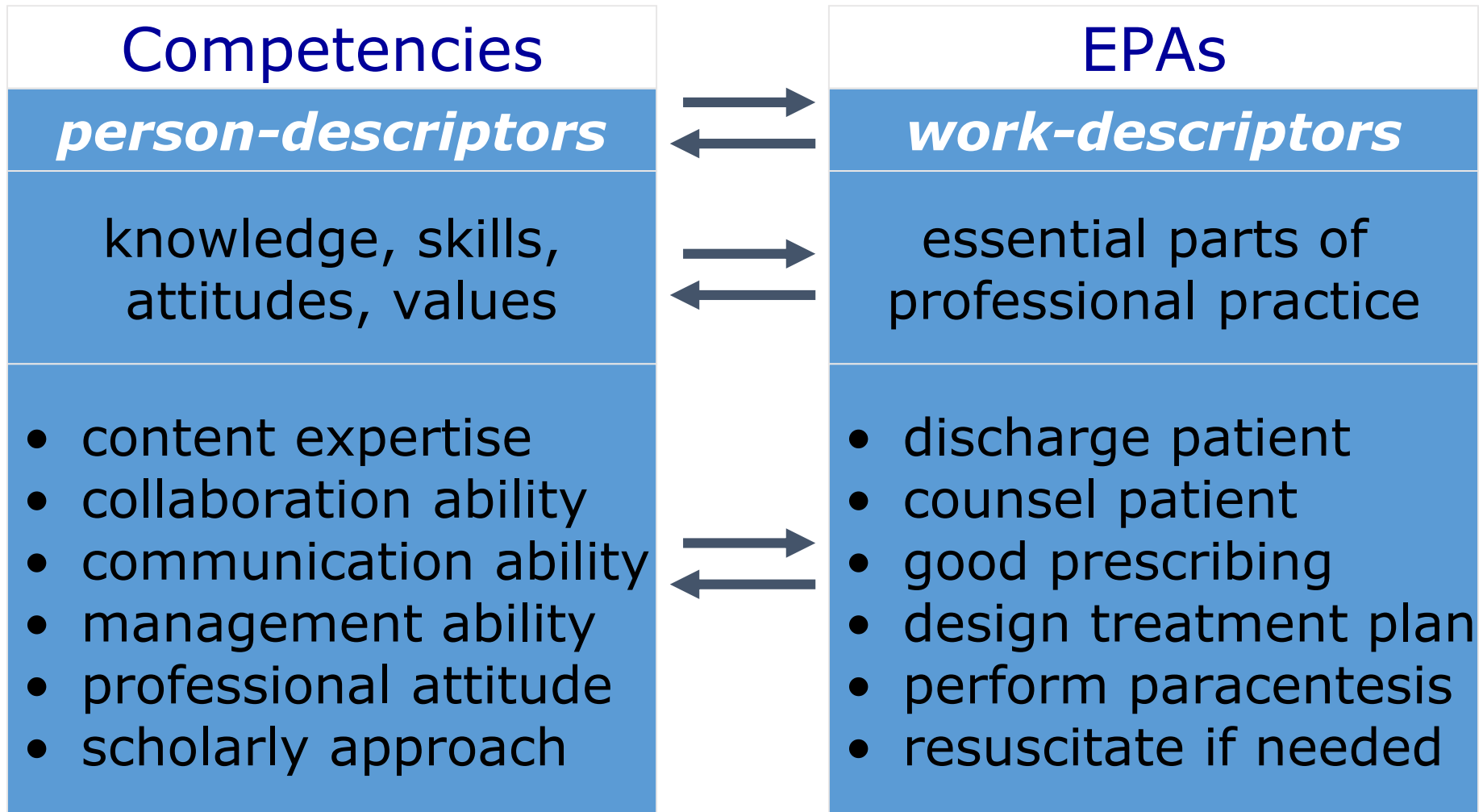


Entrustable professional Activity (EPA)

Units of professional practice, defined as tasks or responsibilities that trainees are entrusted to *perform unsupervised* once they have attained sufficient specific competence. EPAs are, therefore, suitable for entrustment decisions.

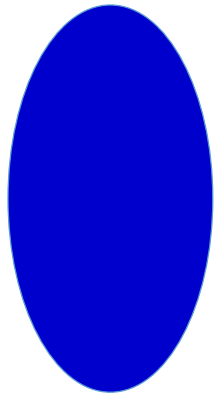


Competencies vs. EPAs

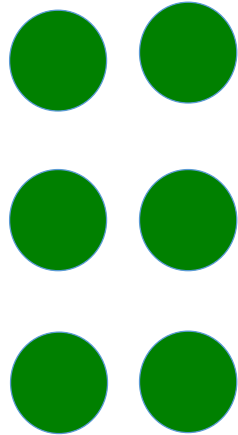


EPAs require multiple competencies

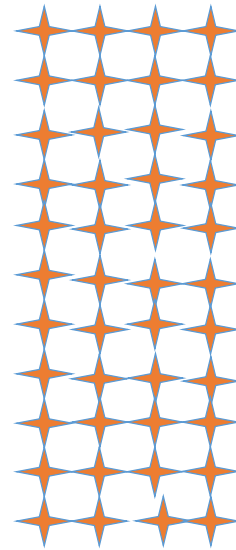
	EPA1	EPA2	EPA3	EPA4	EPA5
Competency1	++	++	+		++
Competency2	+		+	++	
Competency3	+	++			+
Competency4		+	++	++	
Competency5	+		++	+	
Competency6	+	+	+		++



EPAs



Domains of
Competency



Milestones



EPA

Entrustable Professional Activity (EPA)





*True success is not in the learning,
but in its application
to the benefit of mankind.*

จากสมุดบันทึกวิชาวิทยาศาสตร์ของสมเด็จพระมหิตลาธิเบศร
อดุลยเดชวิกรม พระบรมราชชนก