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Enter your name and school when you join the room

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https://todaysmeet.com/IAMSEwebinarSept22

UMC Utrecht

IAMSE Webinar, September 22, 2016

Entrustment decision making in EPA-based curricula

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University Medical Center Utrecht

The Netherlands

Disclosure statement

No conflict of interest reported

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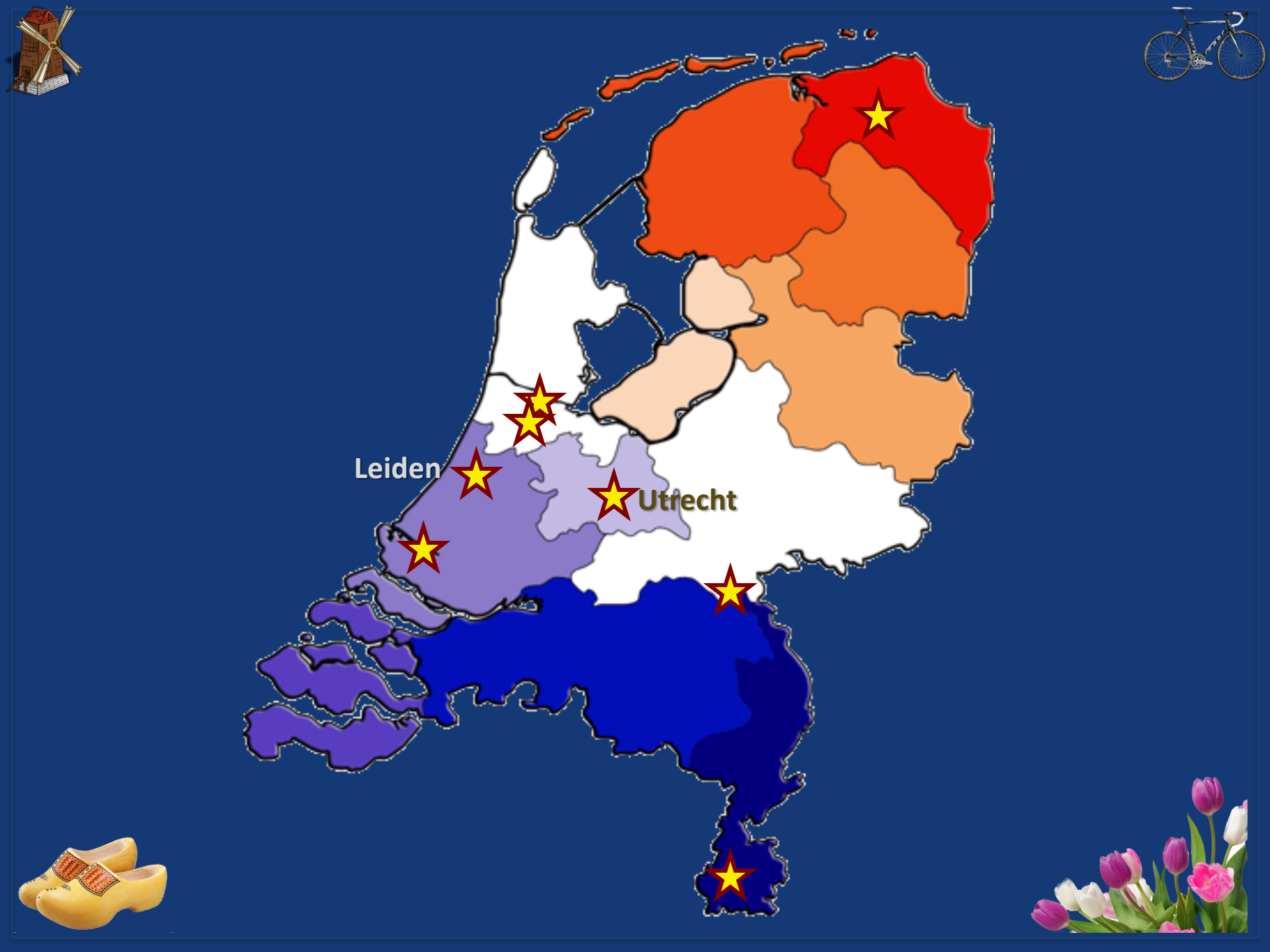
Leiden
Utrecht

University Medical Center Utrecht

“X-ray” of UMCU’s education building, designed to resemble a body with lungs and CV system

What score would you give the architect?

What score would you give the architect?

Fail	Below expectations	Meets expectations	Exceeds expectations
1 2	3 4 5	6 7 8	9 10

What criteria cross your mind?

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- **Comparison** with other medical education buildings
- **Reputation, charisma, professionalism** of the architect

Overview

- Competency-based medical education
- Update on entrustable professional activities
- Current issues in assessment in the workplace
- Entrustment as assessment

Competency-Based Medical Education

Philosophy

- Better, broader description of the physician
- From *assuming* to *assessing* competence
- Only graduate physicians meeting standards
- Based on competence, not just time in training

Practice

- Detailed description of competencies
- Struggle with teaching and assessment

Analytic framework approach

Analytic framework approach

The doctor

Pangaro & ten Cate 2013

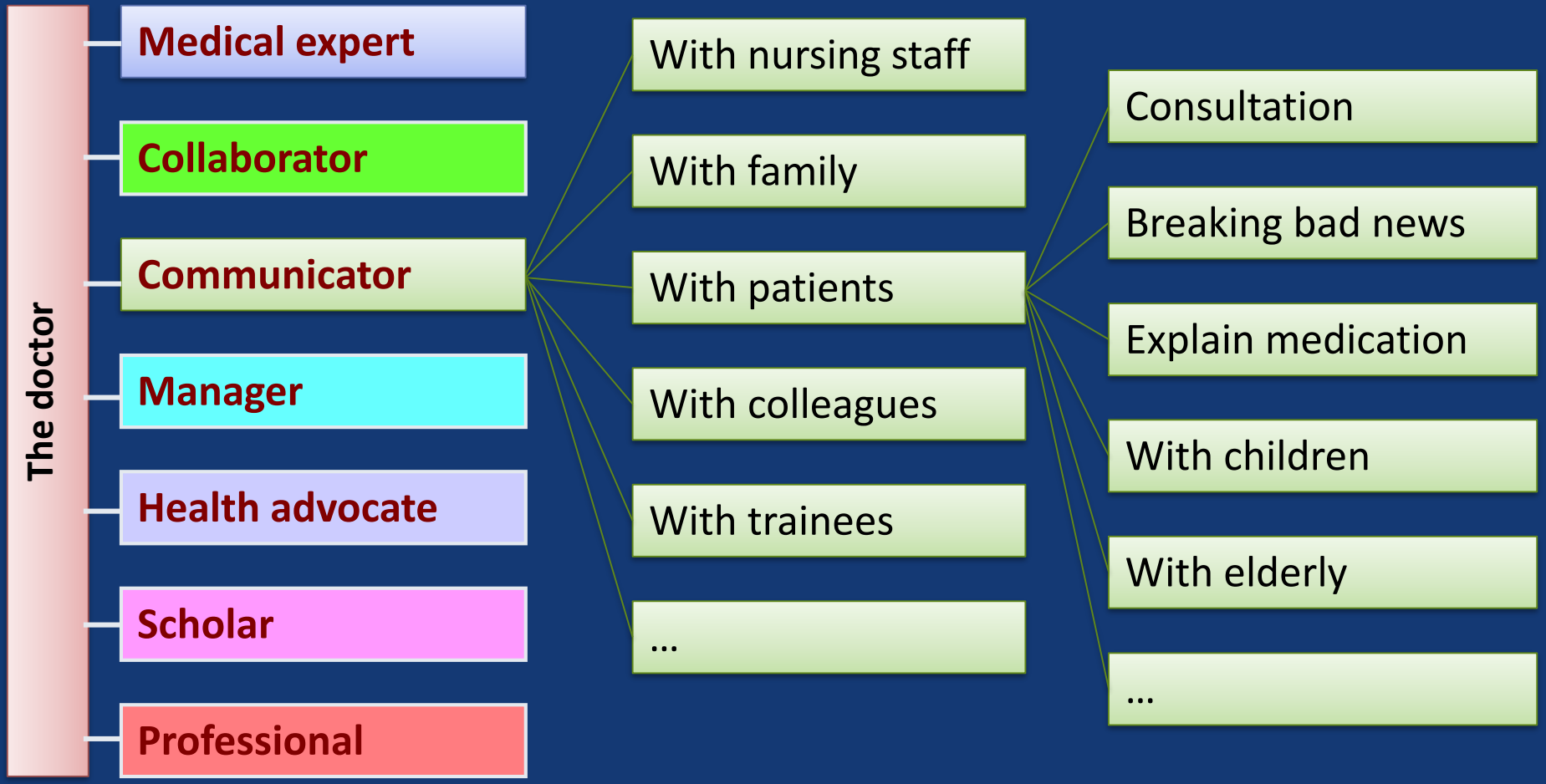
Analytic framework approach

Pangaro & ten Cate 2013

Analytic framework approach

Pangaro & ten Cate 2013

Analytic framework approach



Pangaro & ten Cate 2013

Operational problems

- Regulators (ACGME) need data to support program revalidation decisions
- Data must show confidence that trainees meet predefined standards
- However, competence descriptions too analytical to be covered in assessment; still lack validity
- Items in competency frameworks feel as remote from practice
- Complaints of bureaucracy in collecting and reporting data, feels like time wasted

Created to ground competencies in practice:

Entrustable Professional Activities

Units of professional practice (tasks) that may be entrusted to a learner to execute unsupervised, once he or she has demonstrated the required competence

Enables a shift of focus from individual competencies to the work that must be done

ten Cate, 2005, 2013

E.P.A.

- ***Entrustable***: acts that require trust – by colleagues, patients, public
- ***Professional***: confined to occupations with extra-ordinary qualification and right
- ***Activities***: tasks that must be done

EPAs ground competencies in daily practice

EPAs versus competencies

- EPAs: units of work / tasks that must be done
- Competenties: qualities of individuals

EPAs versus competencies

- EPAs: units of work / tasks that must be done
- Competenties: qualities of individuals

- One can possess competencies; one cannot possess EPAs

Physician Worklist

Competencies versus EPAs

Competencies	EPAs
person-descriptors	**work-descriptors**
knowledge, skills, attitudes, values	Essential units of professional practice
• content expertise • health system knowledge • communication ability • management ability • professional attitude • scholarly skills	• discharge patient • counsel patient • lead family meeting • design treatment plan • Insert central line • Resuscitate patient

ten Cate et al 2015

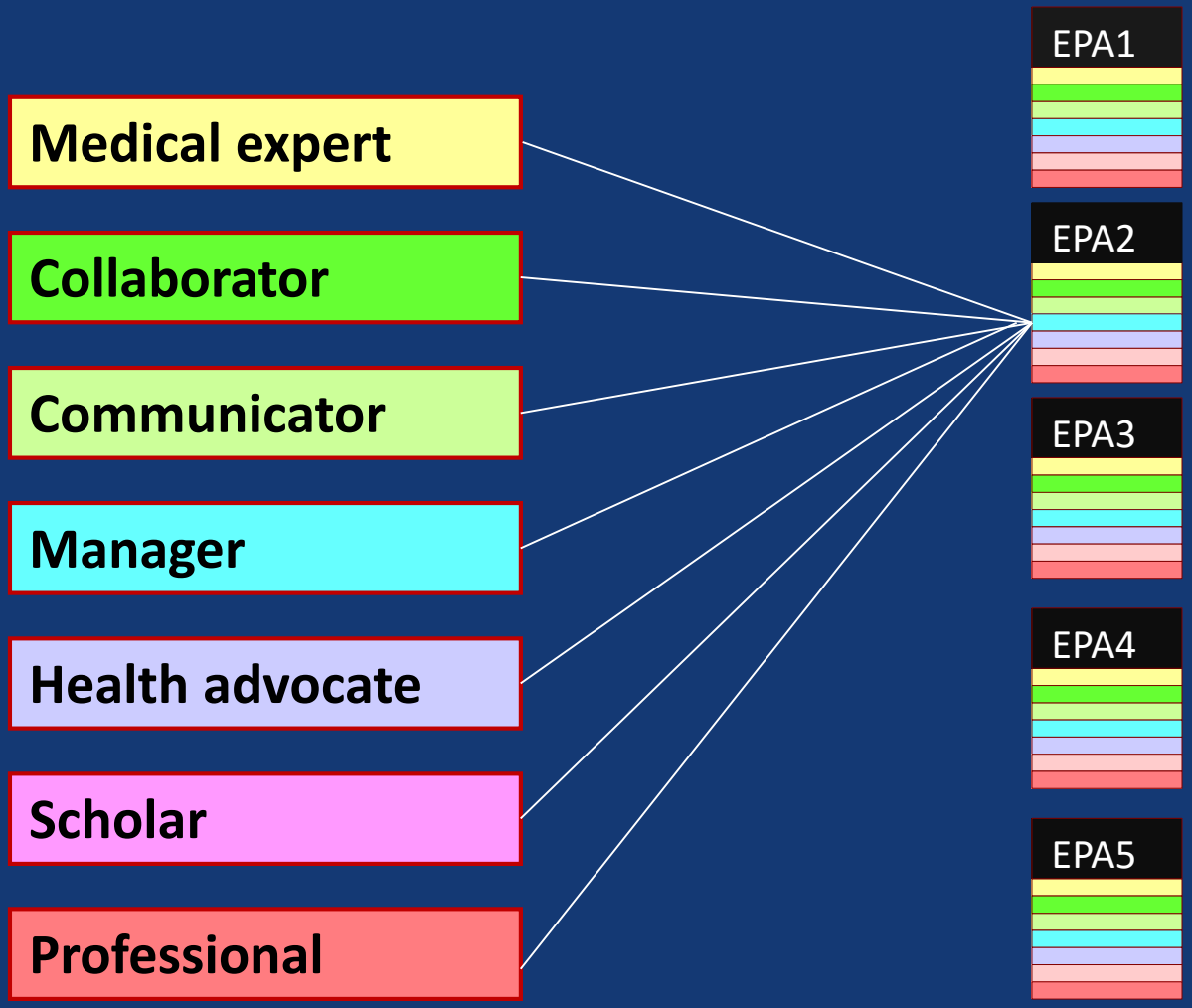
Does it fit?

The matrix:
EPAs require multiple competencies

	EPA1	EPA2	EPA3	EPA4	EPA5
Medical expert	++	++	+		++
Collaborator	+		+	++	
Communicator	+	++			+
Leader		+	++	++	
Health advocate	+		++	+	
Scholar	+				++
Professional	+	+	+		

Pangaro & ten Cate 2013

Synthetic EPA framework approach



Pangaro & ten Cate 2013

Operational definition of competence

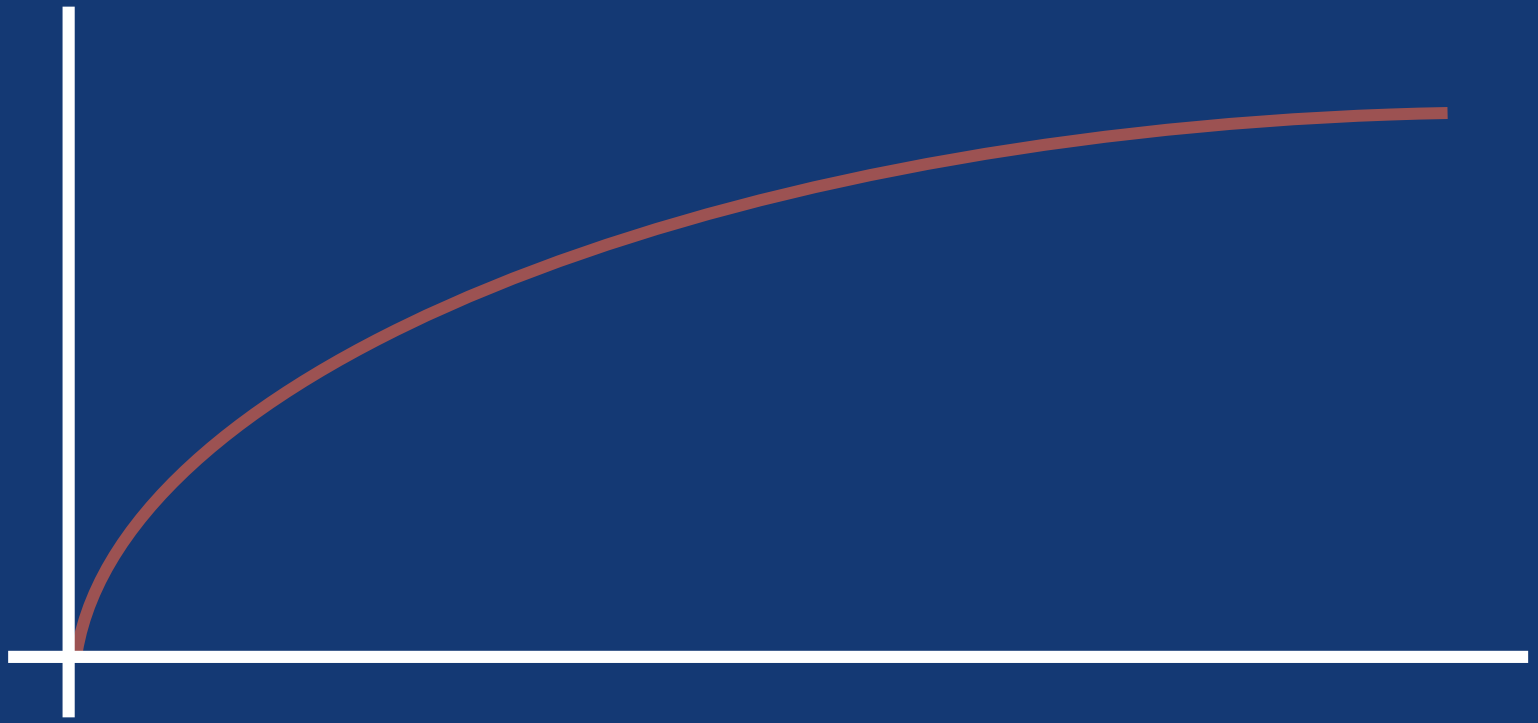
When a professional activity is mastered

- ...on a **threshold** level
- ...that permits **trust**
- ...to act **unsupervised**

Competence is *a stage* in a continuum of development

ten Cate et al 2010

Growth of competence over time



Dreyfus & Dreyfus 1986; ten Cate et al, 2010

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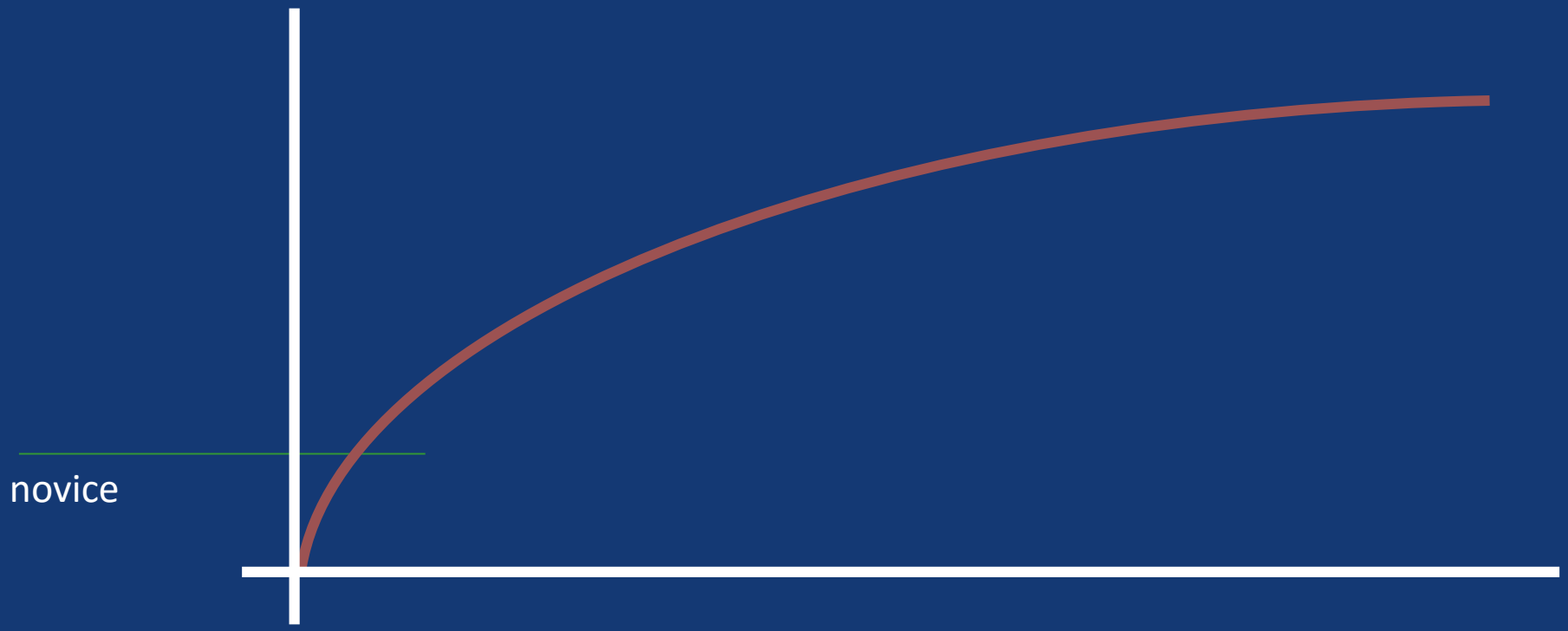

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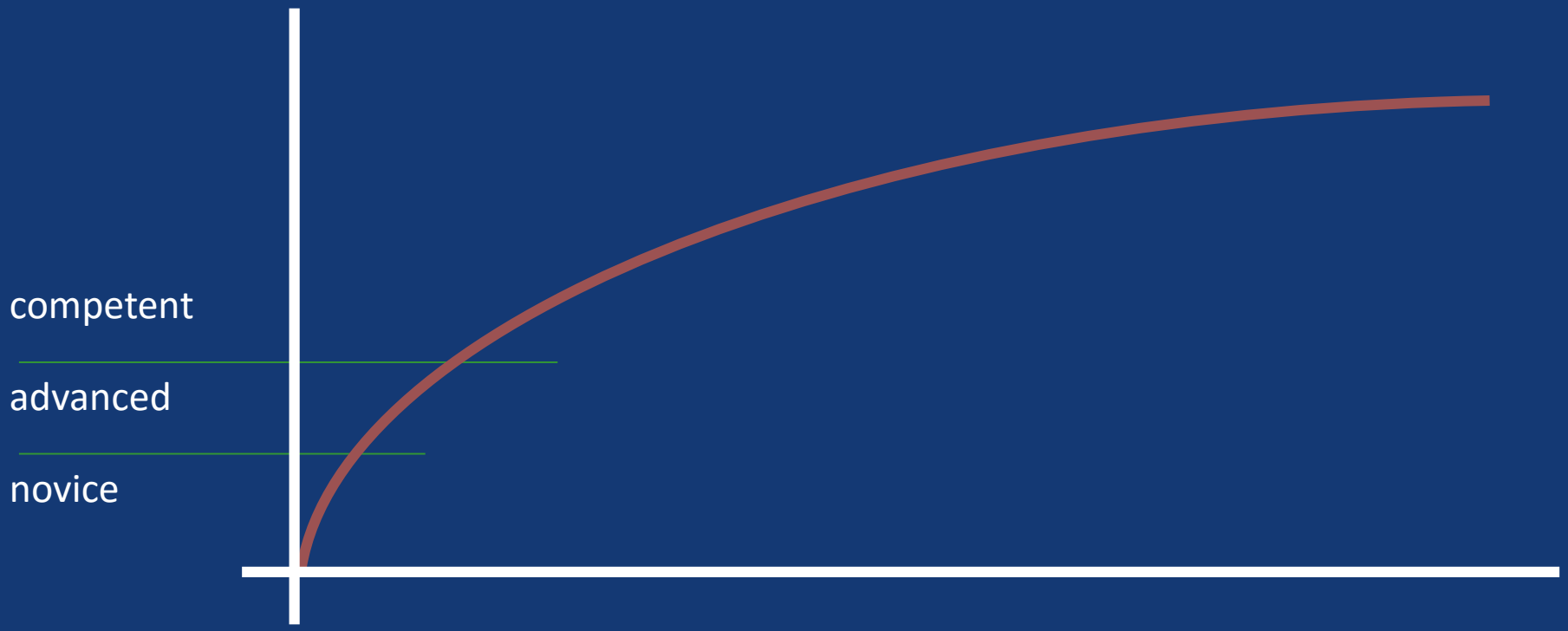

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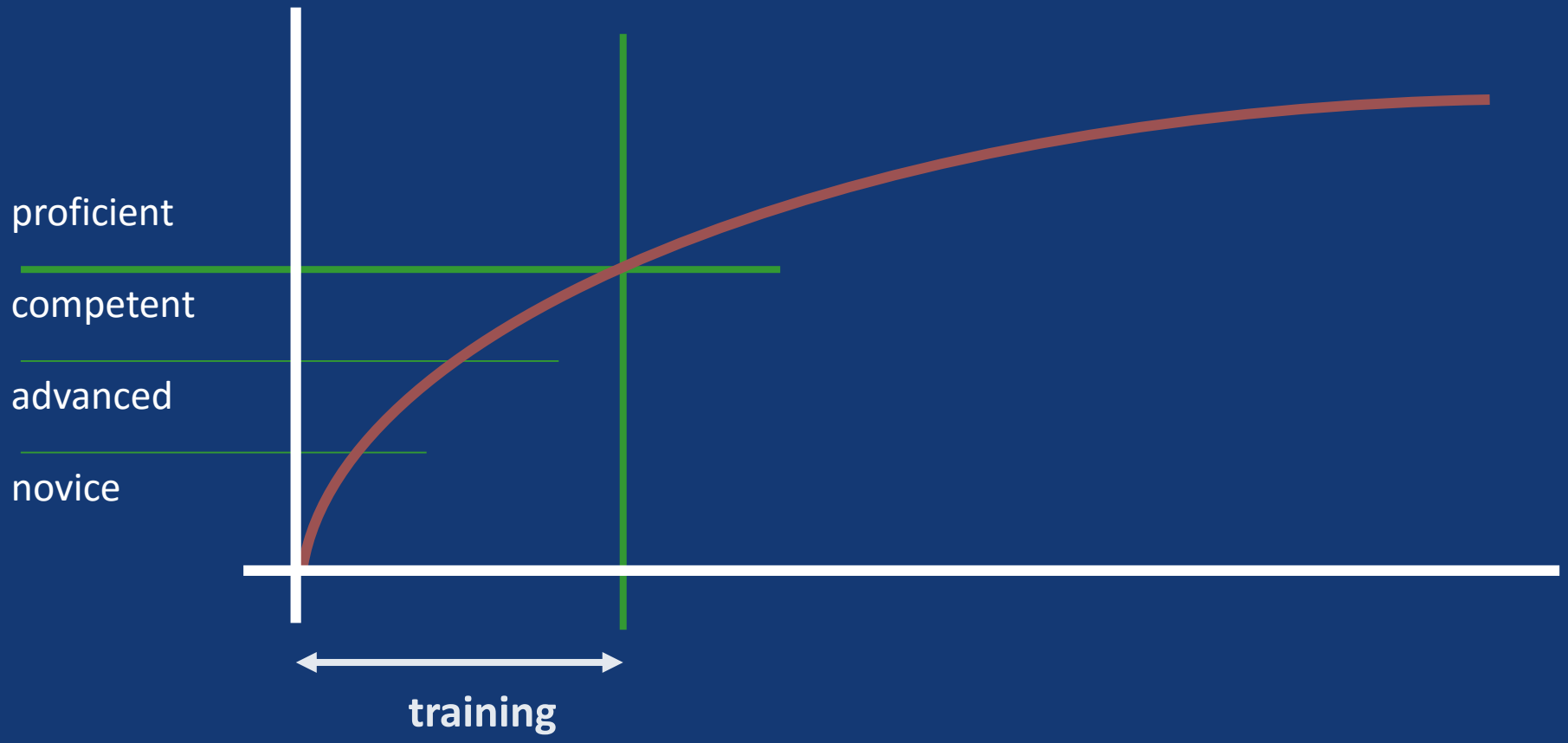

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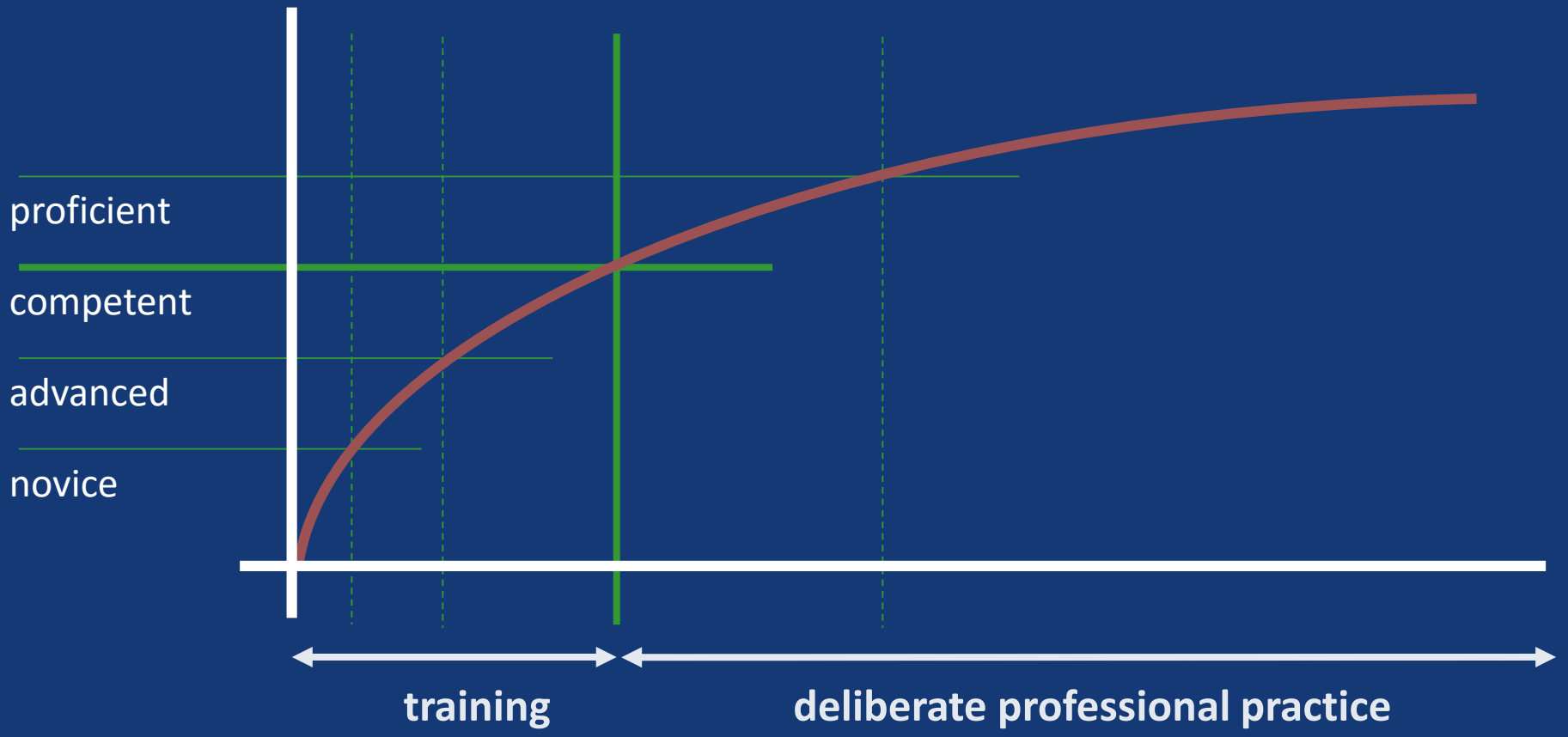

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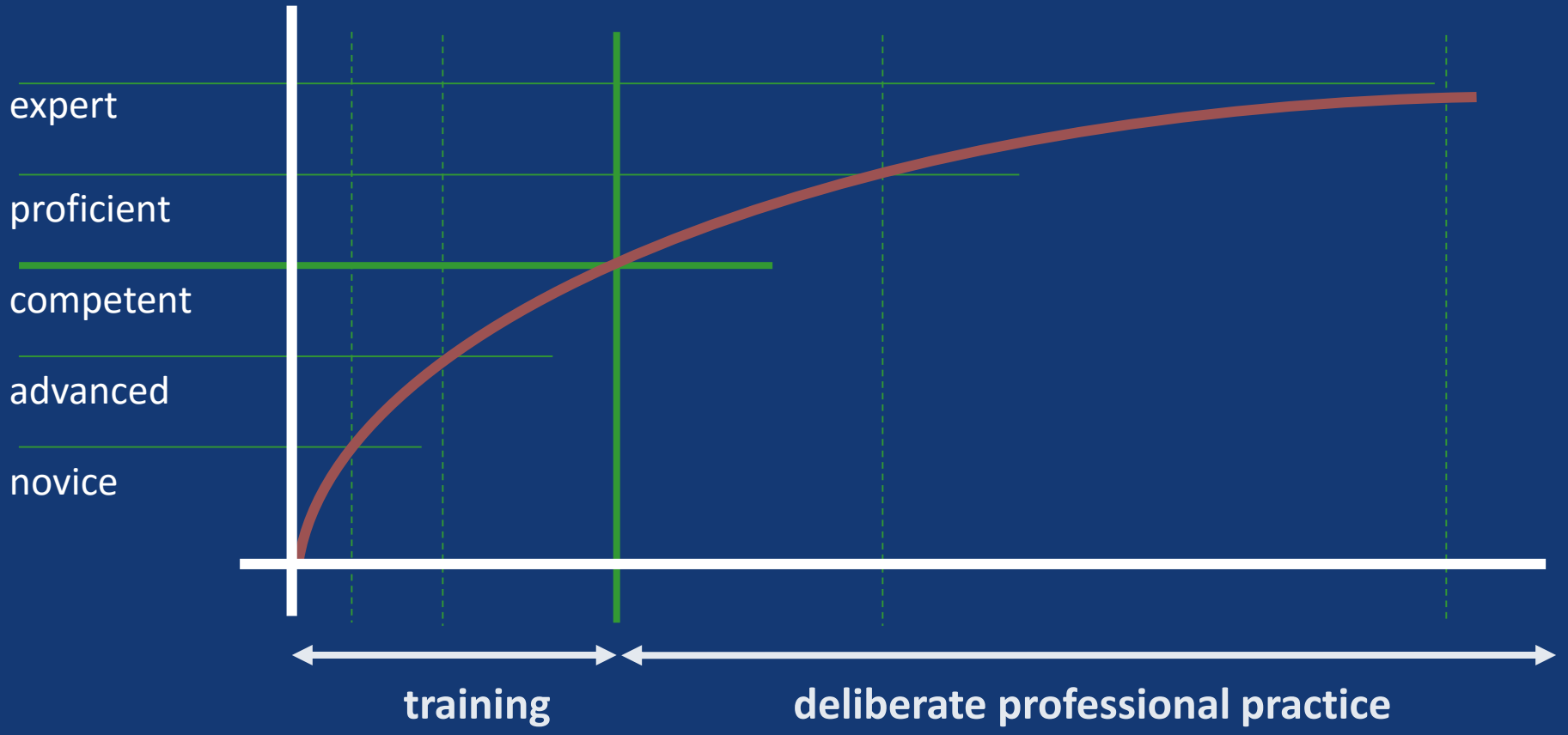

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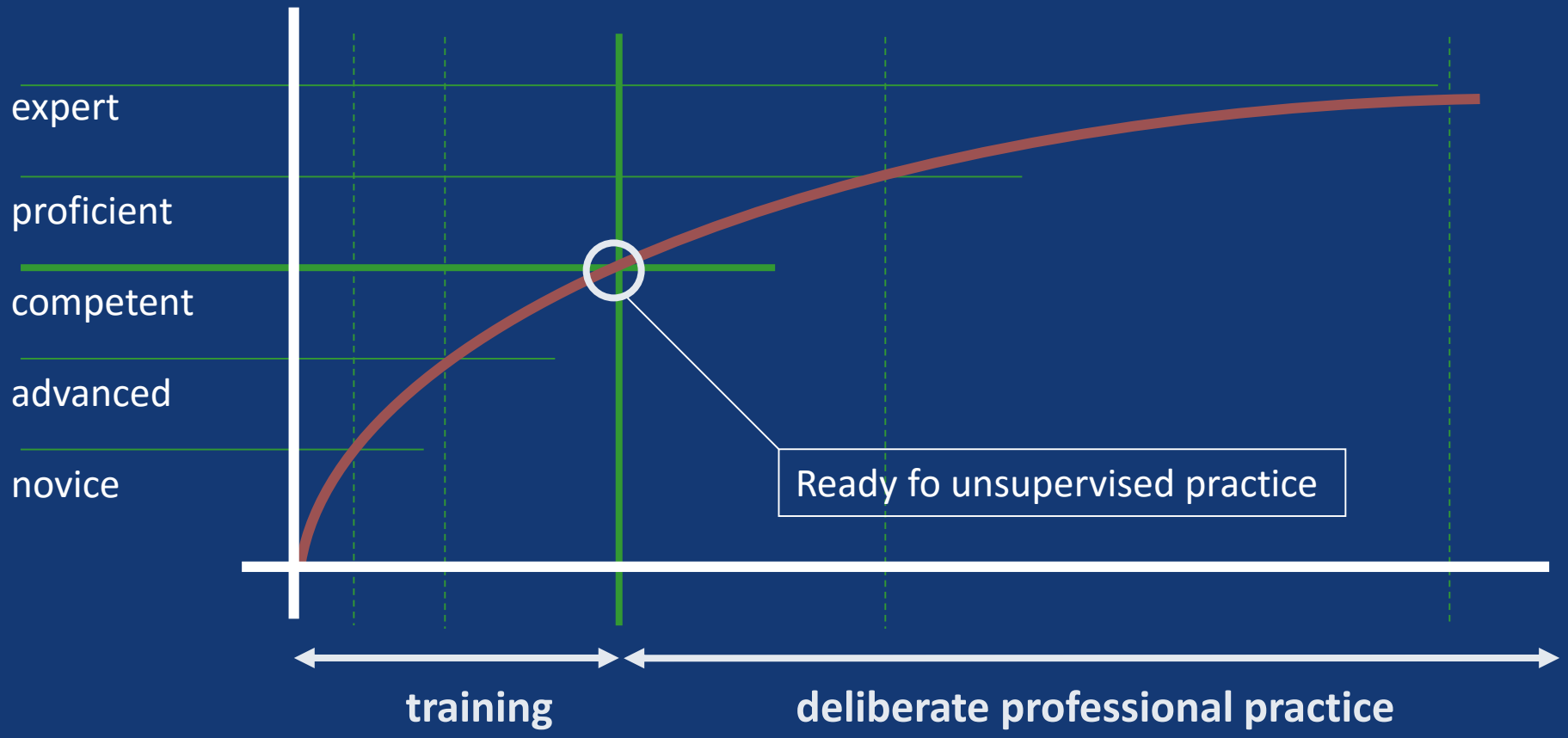

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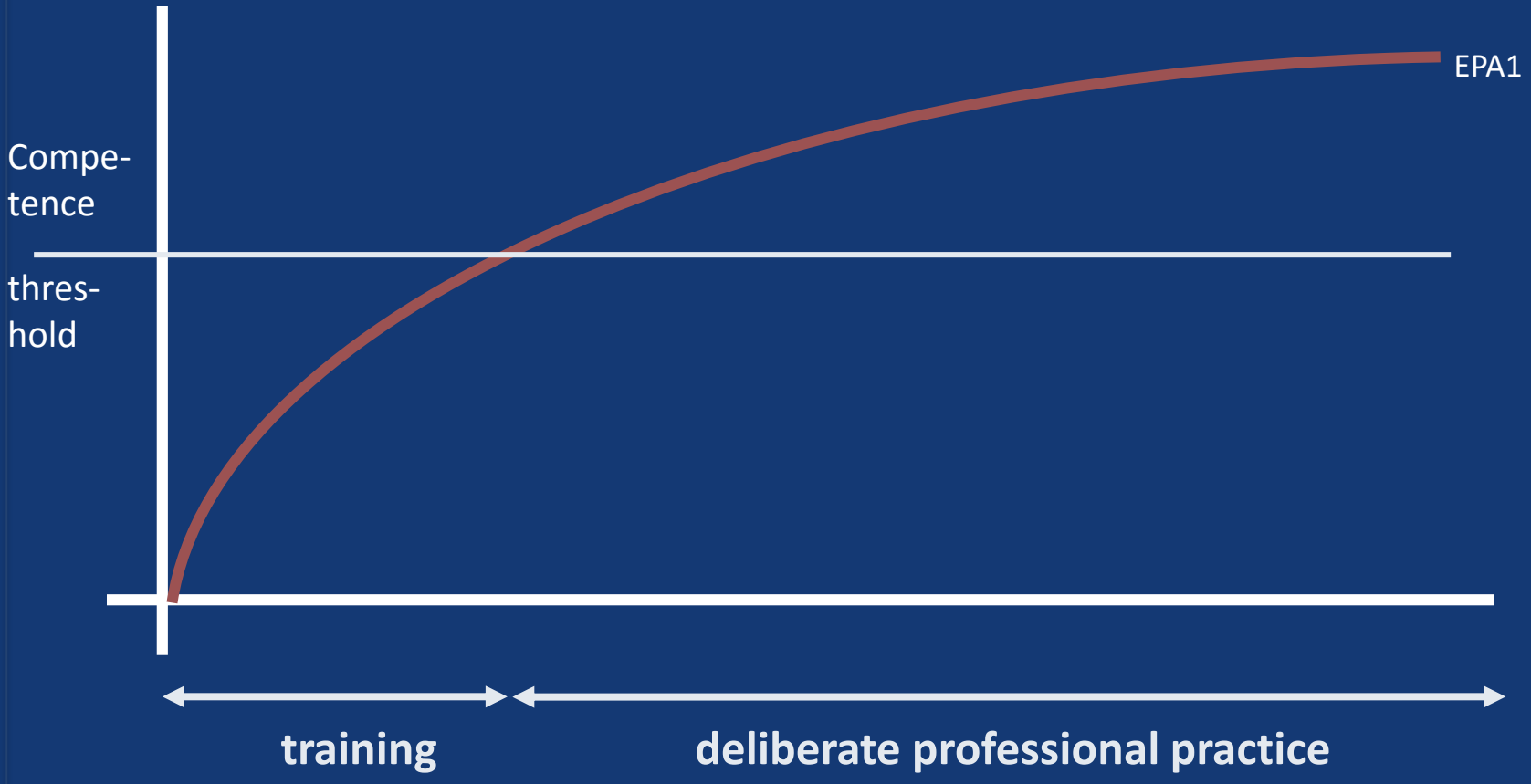
Competency curves of one trainee



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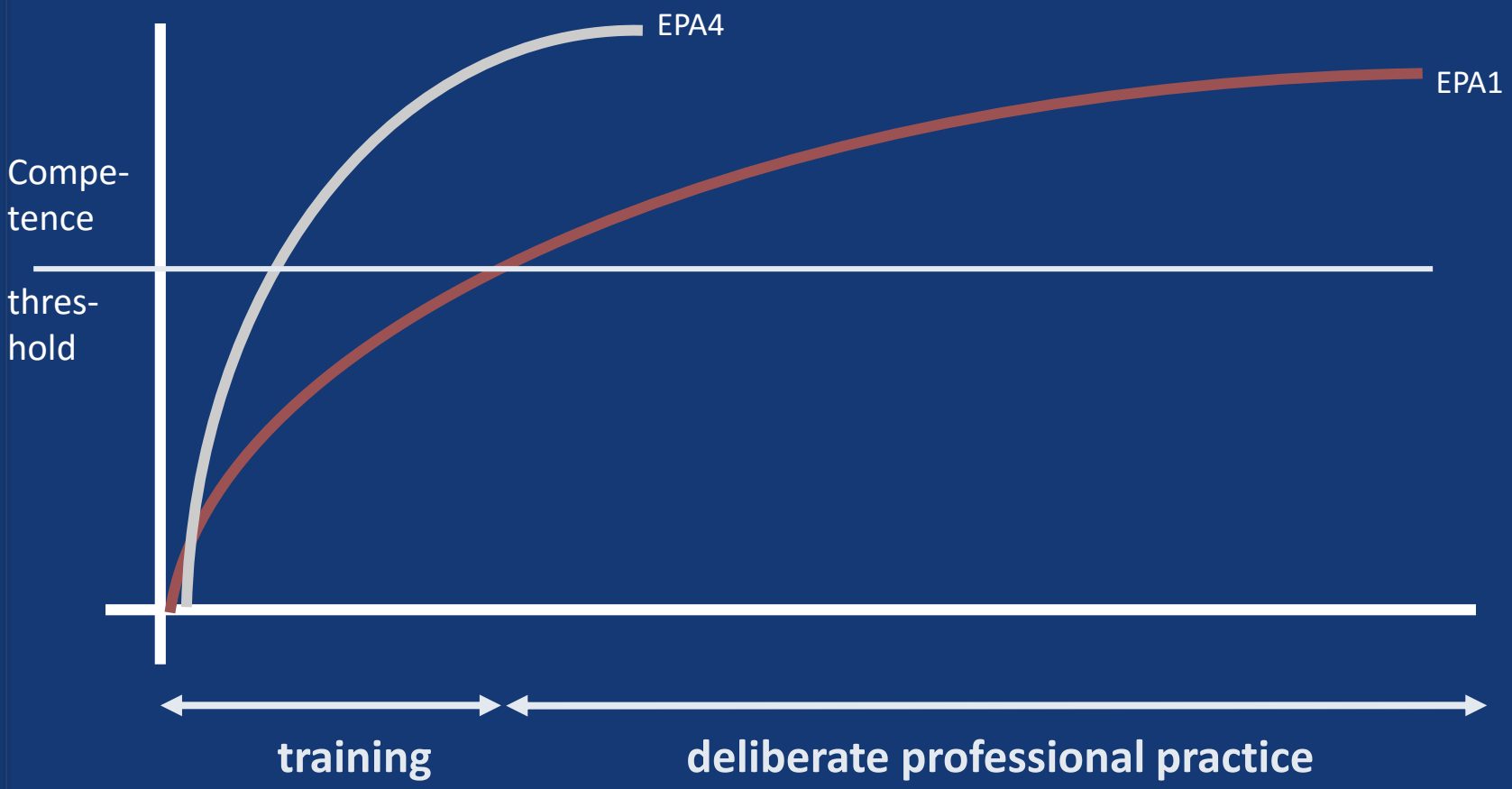

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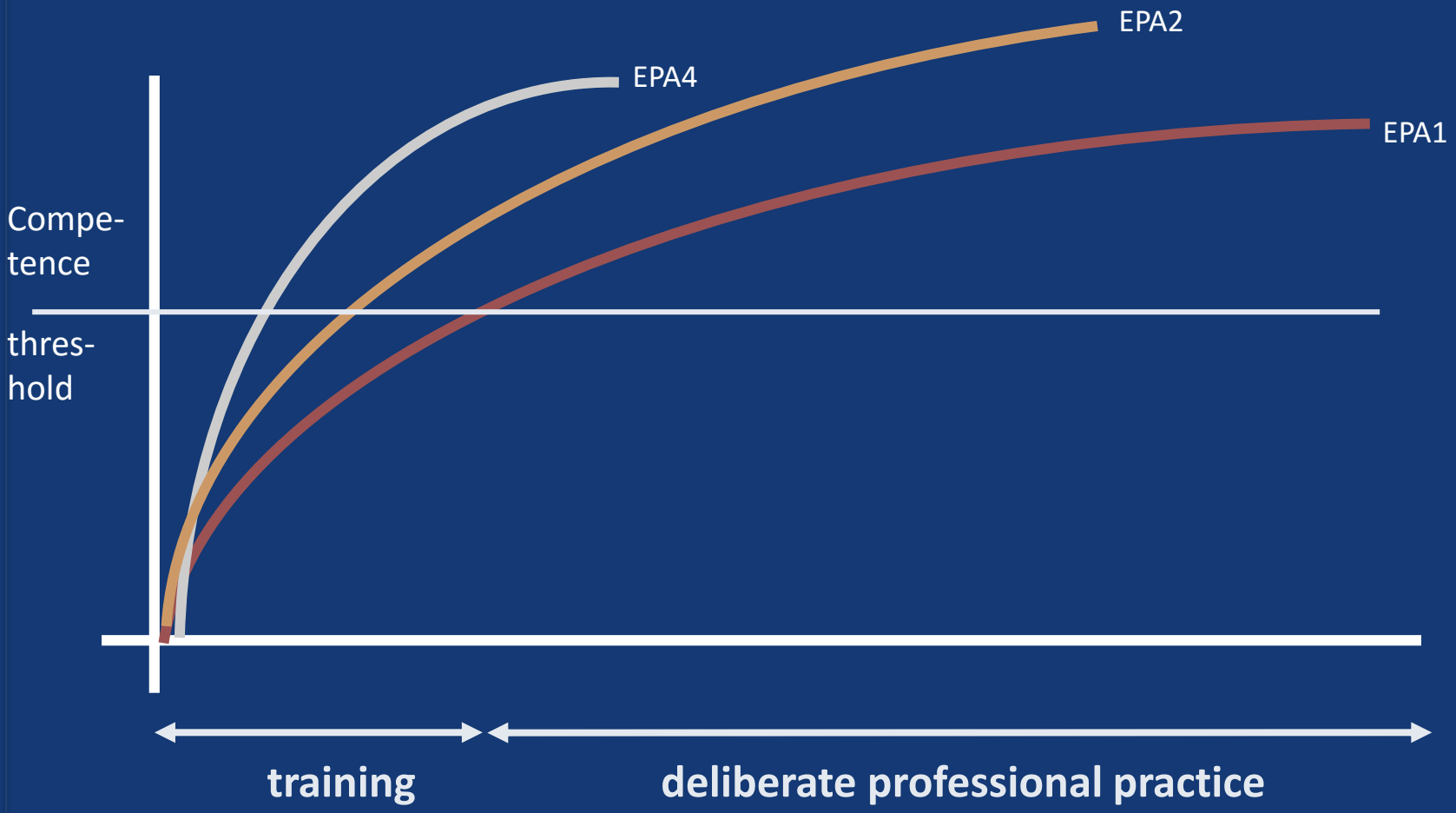

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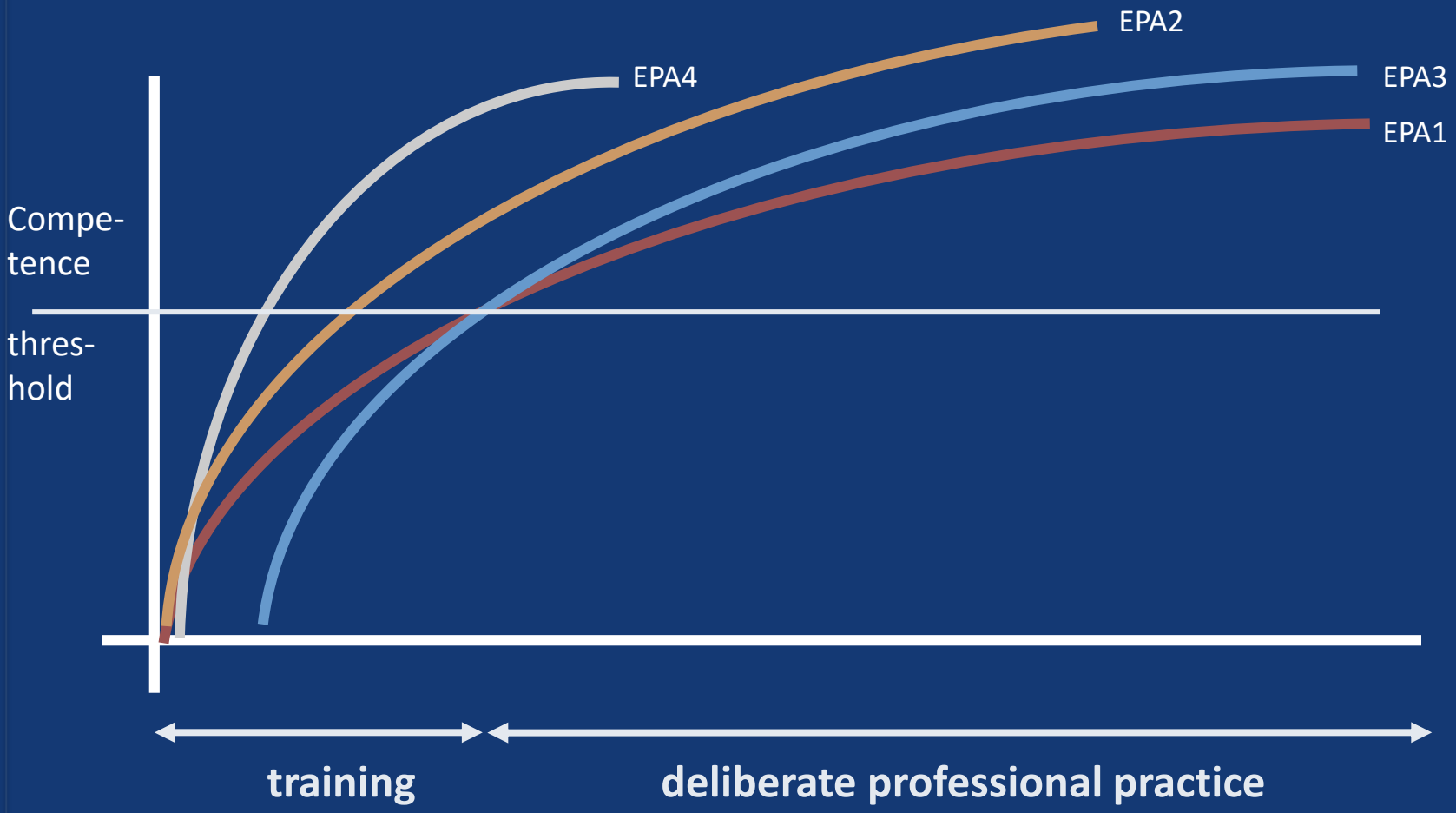

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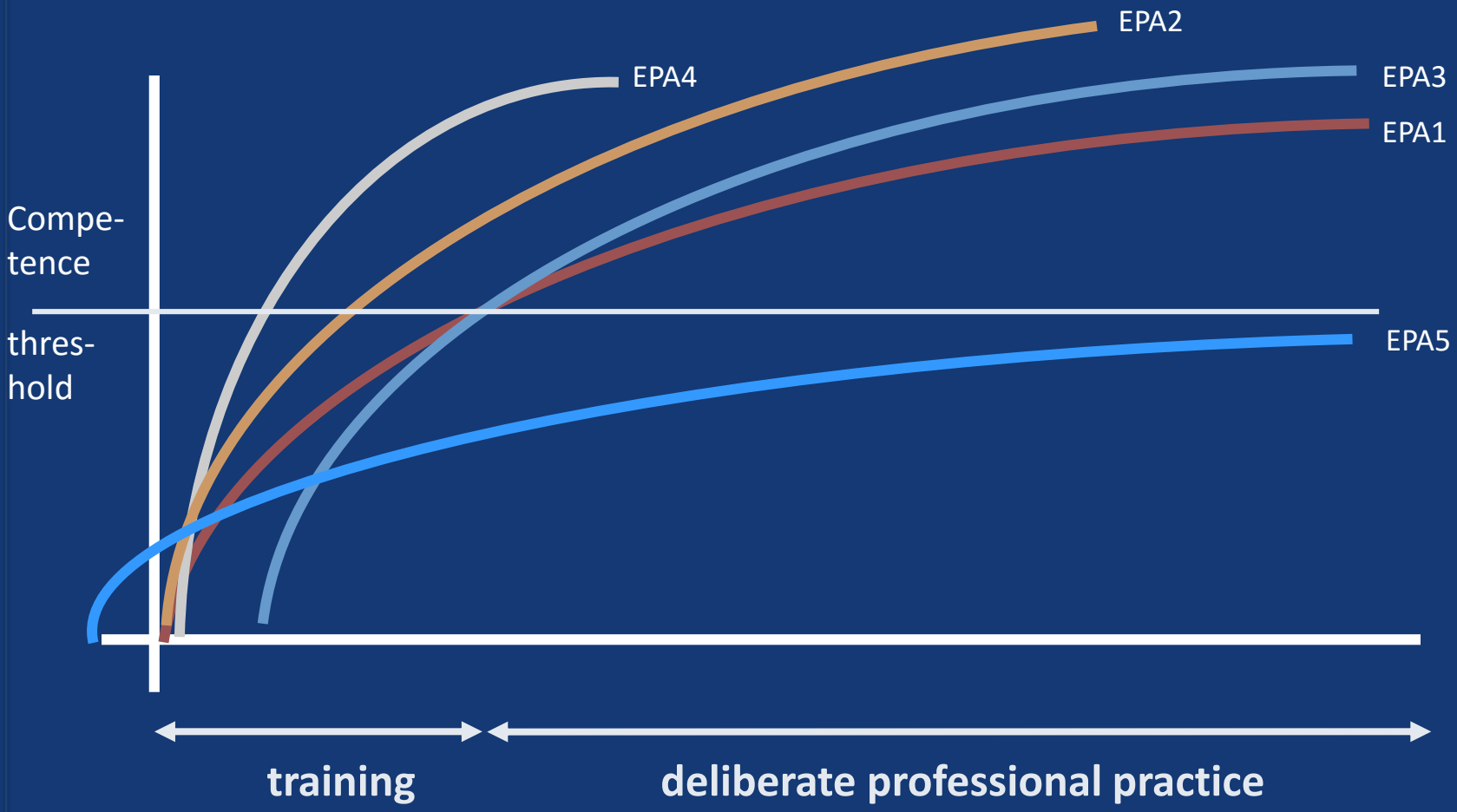

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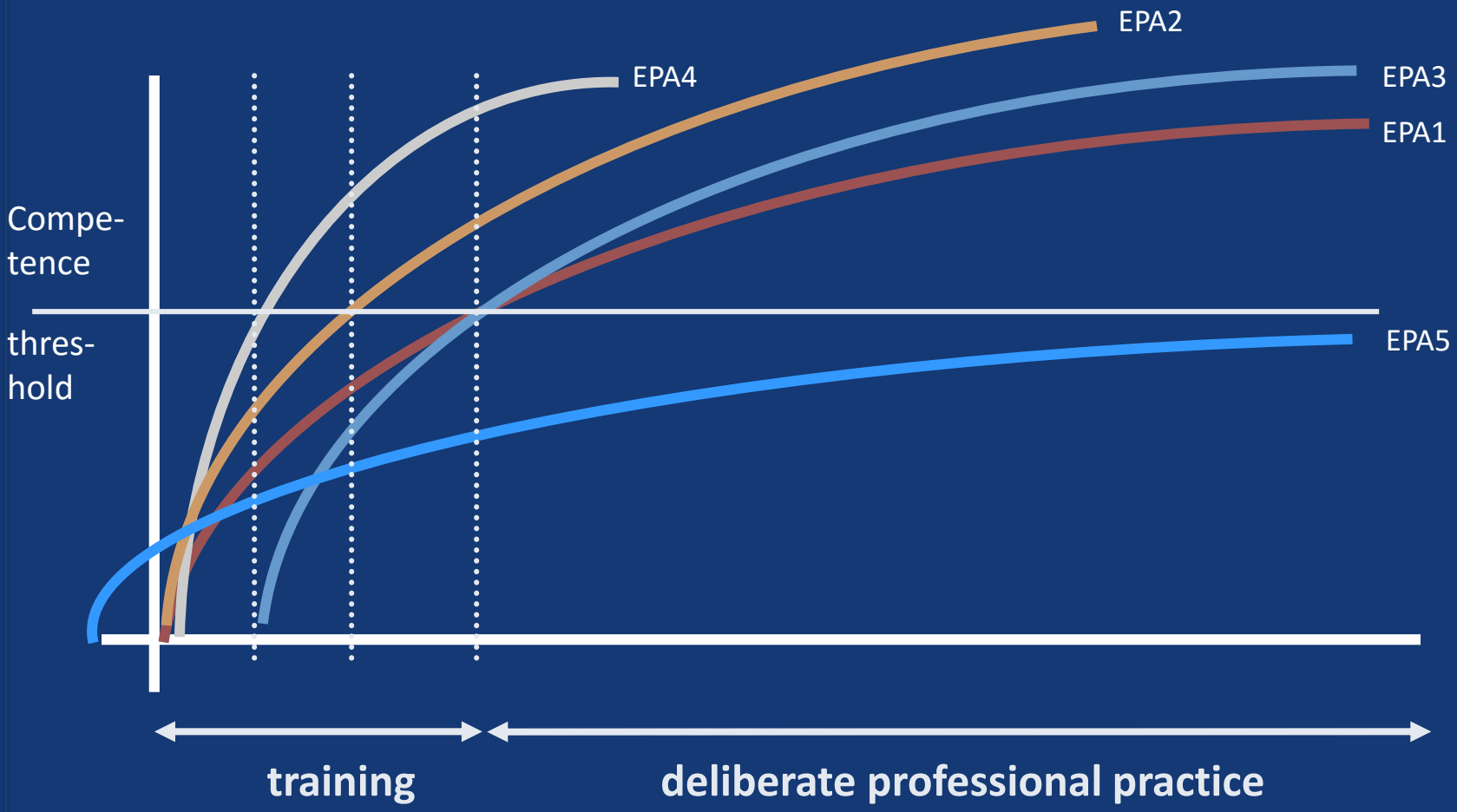

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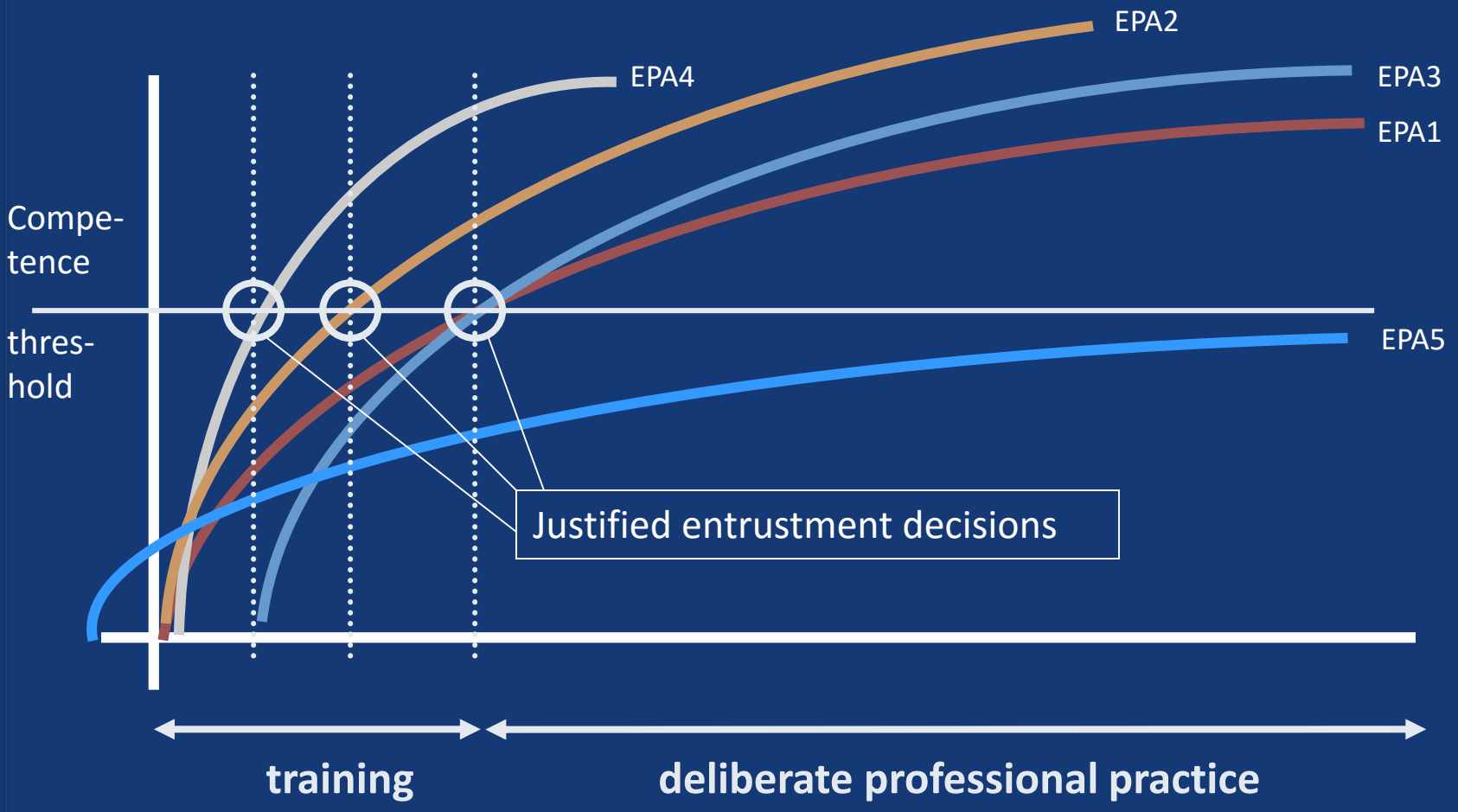

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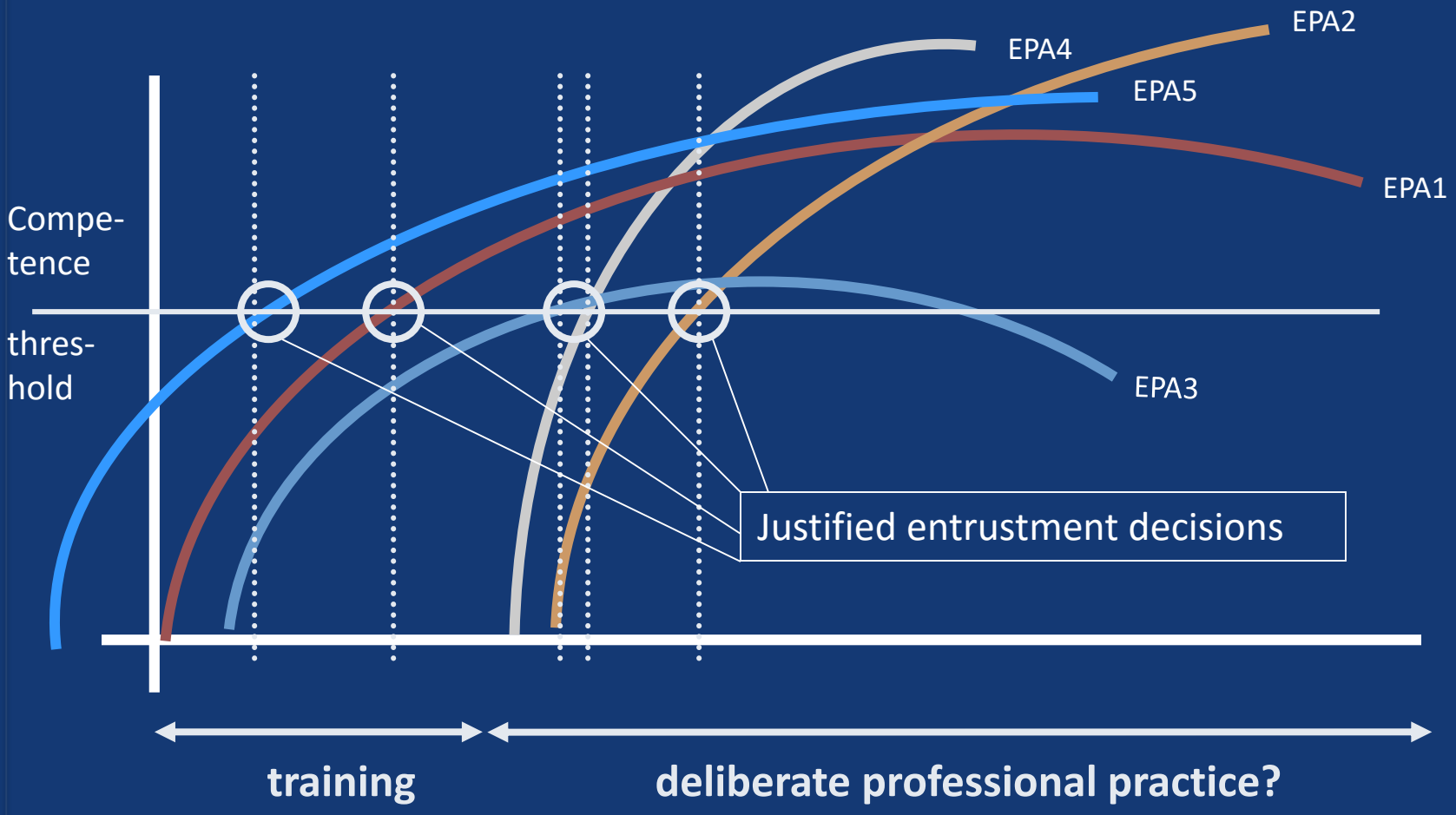
Another trainee



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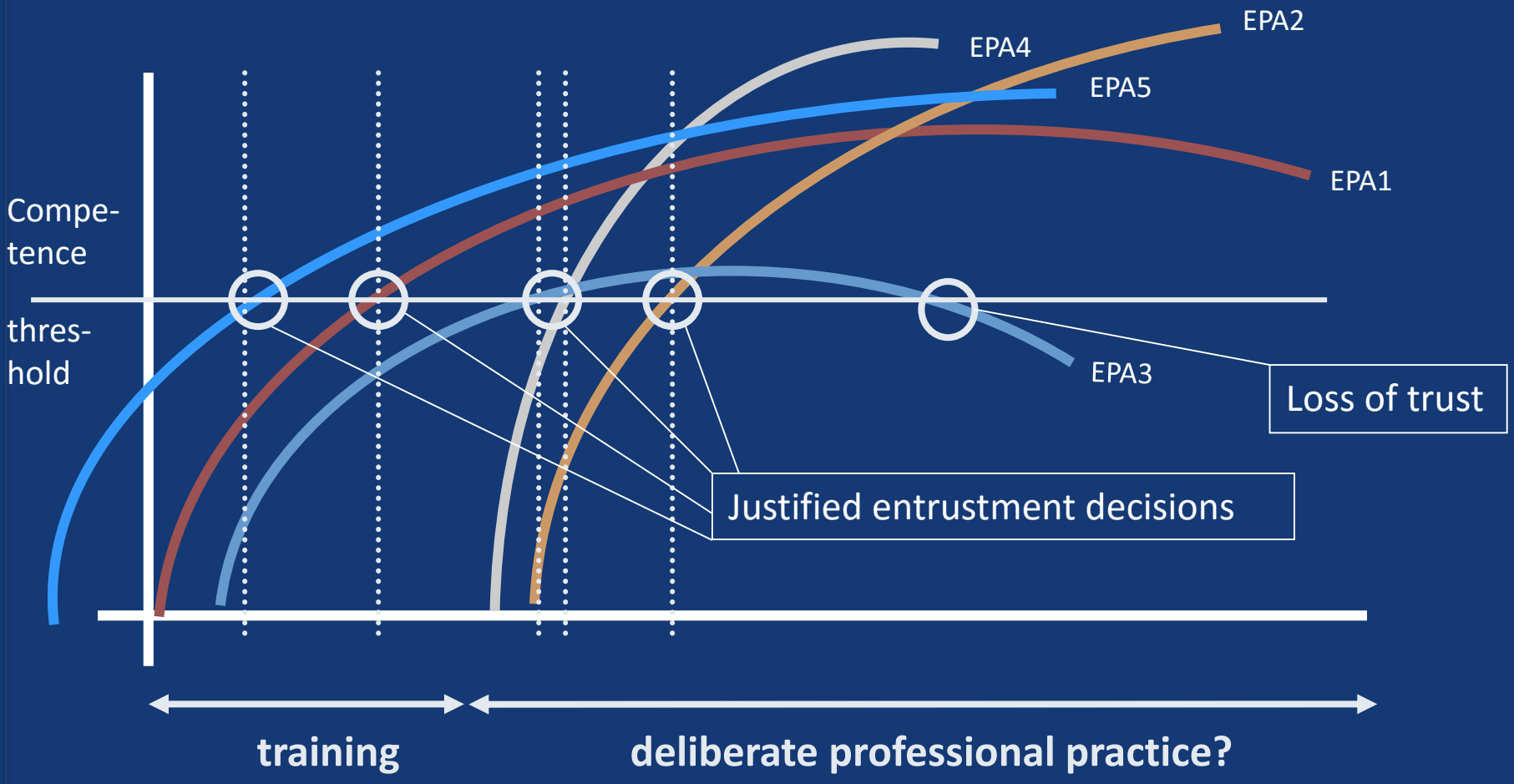

ten Cate et al, 2010

EPA approach serves flexibility

- **Intra-trainee variation**: trainees do not reach competence for everything on last day of training
- **Inter-trainee variation**: different prior knowledge and skills, learning ability, general attitude
- **Context variation**: variable clinical opportunities, local practice (epidemiology, facilities, culture), education-mindedness of staff

One size does not fit all

Entrustment decisions as assessment approach

Recognizing not only the ability, but also the right and the duty to act: transfer of responsibility

ten Cate et al 2016

Issues in workplace-based assessment

Issues in workplace-based assessment

- Generosity error (too high scores – *failure to fail*)
- Halo (generalizing from observing one feature)
- Unreliable (not reproducible)
- Unclear standards (often *no* standards)
- Observer/rater differences
- Ratings unclearly relate to profiency, to personal development, to effort, to reference group performance, et cetera

A reliable test

1. Standardized – equal for all candidates
2. Power to discriminate between individuals
3. Reproducible scores if re-administered

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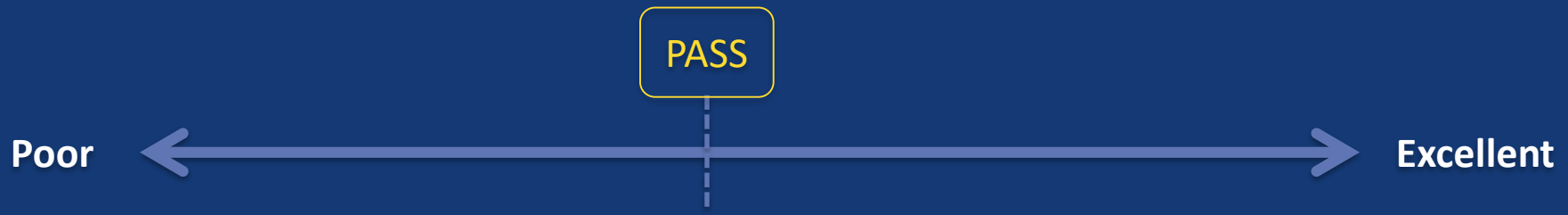

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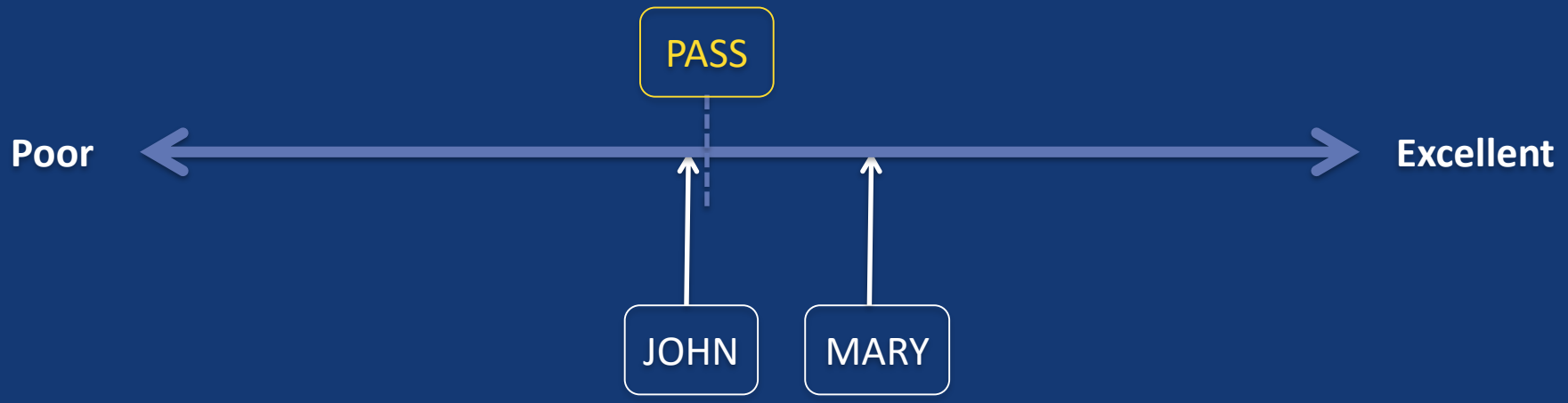

The trouble with assessment in the workplace

DOES

SHOWS HOW

KNOWS HOW

KNOWS

The trouble with assessment in the workplace

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Can be made very reliable

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The trouble with assessment in the workplace

DOES	
SHOWS HOW	May be made reliable with much effort
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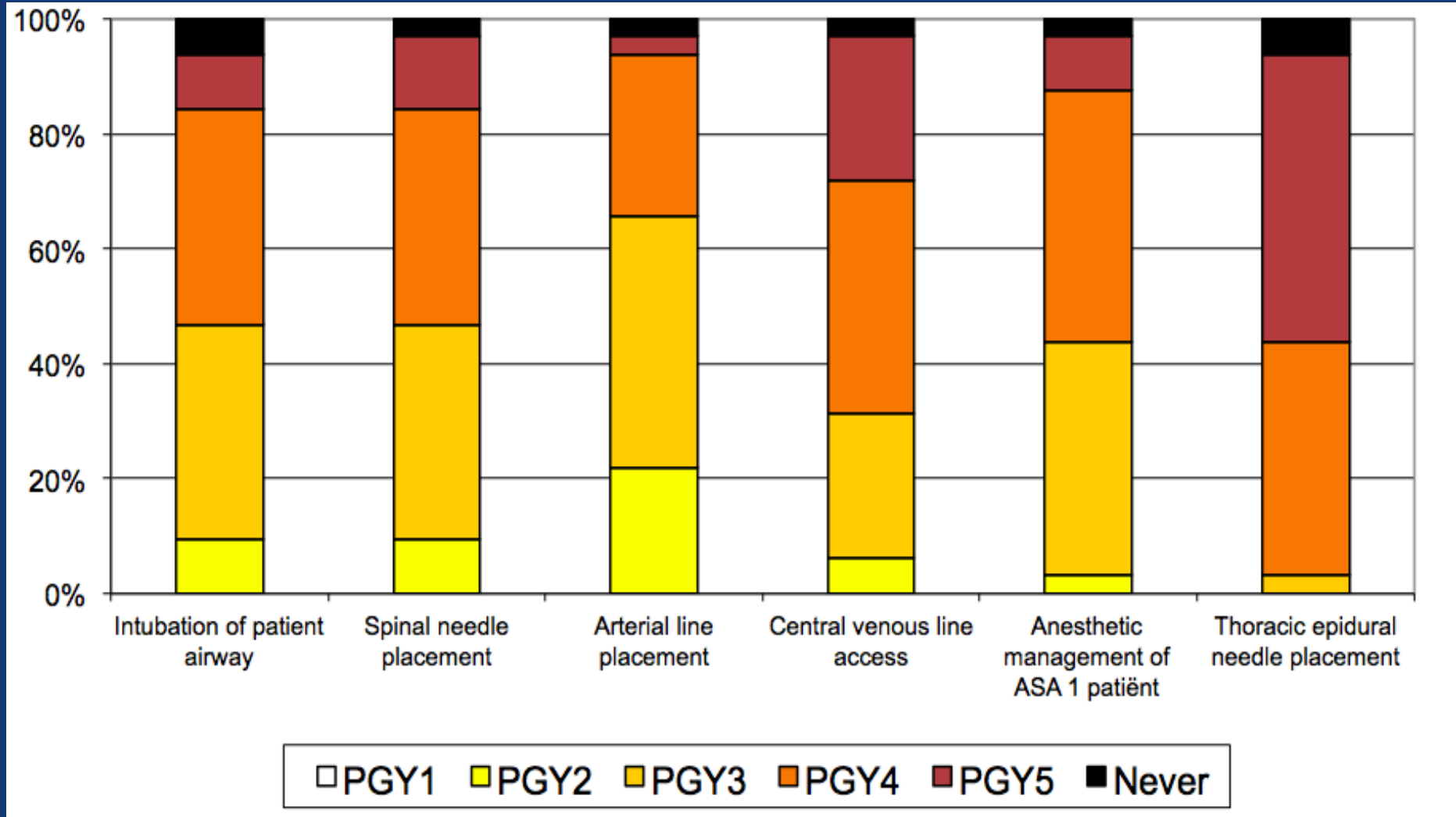
When to trust residents with unsupervised practice? - Large variation among 22 faculty



Sterkenburg et al 2010

Observations cannot always be turned into numbers

- “Not everything that counts can be counted; not everything that can be counted counts”*
- Expert judgment is necessary and cannot always be made fully explicit
- “I know it when I see it”**

*WB Cameron, 1957

**Stewart Potter, US Supreme Court, 1964, judging “obscenity”

Moving from assessment of ability to entrustment decision-making

- Traditional psychometrics do not work well in the workplace
- Variance caused by raters and context is larger than variance caused by trainee qualities
- Worsened by lack of supervision, fragmented care, short patient stays, little observation
- A move from traditional assessment to *entrustment decisions for EPAs* may increase validity

Entrustability/supervision scales

Entrustability Scales: Outlining Their Usefulness for Competency-Based Clinical Assessment

Janelle Rekman, MD, Wade Gofton, MD, MEd, Nancy Dudek, MD, MEd, Tyson Gofton, PhD, and Stanley J. Hamstra, PhD

Rekmans et al 2016

Construct alignment

Good questions, good answers: construct alignment improves the performance of workplace-based assessment scales

Jim Crossley,[1] Gavin Johnson,[2] Joe Booth[3] & Winnie Wade[3]

Construct alignment

BJA Advance Access published March 17, 2014

British Journal of Anaesthesia Page 1 of 9
doi:10.1093/bja/aeu052

BJA

Can I leave the theatre? A key to more reliable workplace-based assessment

J. M. Weller[1,2*], M. Misur[2], S. Nicolson[2], J. Morris[3], S. Ure[4], J. Crossley[5] and B. Jolly[6]

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[2] Department of Anaesthesia, Auckland City Hospital, 2 Park Rd, Grafton, Auckland 1010, New Zealand
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[4] Department of Anaesthesia, Wellington Hospital, Riddiford Street, Newtown, Wellington 6021, New Zealand
[5] Academic Unit of Medical Education, University of Sheffield, 85 Wilkinson Street, Sheffield S10 2GJ, UK
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Anaesthesia Mini-CEX (written version of online form)

Case Details

Case Description _____
Surgical Subspecialty _____
Surgical Complexity _____
Setting _____
ASA _____
Age _____

Surgical Complexity
Minimal – e.g. cystoscopy, I&D
Moderate – e.g. lap appendicectomy, TURP, ORIF, Fem-pop bypass
High – e.g. body cavity surgery, craniotomy, and knee replacement

Progression to Autonomy	Required Supervisor input for safe practice			Generally autonomous, some guidance required			Autonomous practice			NC
Domains	1	2	3	4	5	6	7	8	9	

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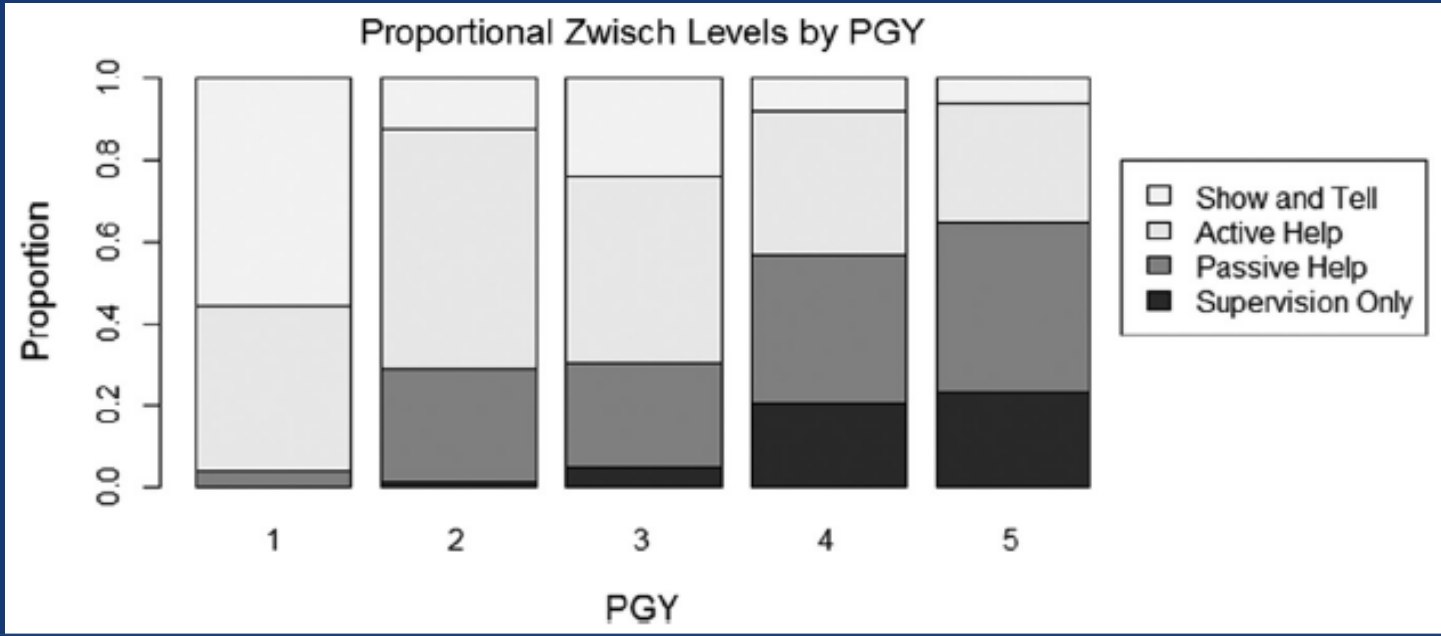
Required Supervisor input for safe practice	Generally autonomous, some guidance required	Autonomous practice

Construct alignment

2014 APDS SPRING MEETING

Reliability, Validity, and Feasibility of the Zwisch Scale for the Assessment of Intraoperative Performance

Brian C. George, MD,[*] Ezra N. Teitelbaum, MD,[†] Shari L. Meyerson, MD,[†] Mary C. Schuller, MSEd,[†] Debra A. DaRosa, PhD,[†] Emil R. Petrusa, PhD,[*] Lucia C. Petito, MA,[‡] and Jonathan P. Fryer, MD[†]



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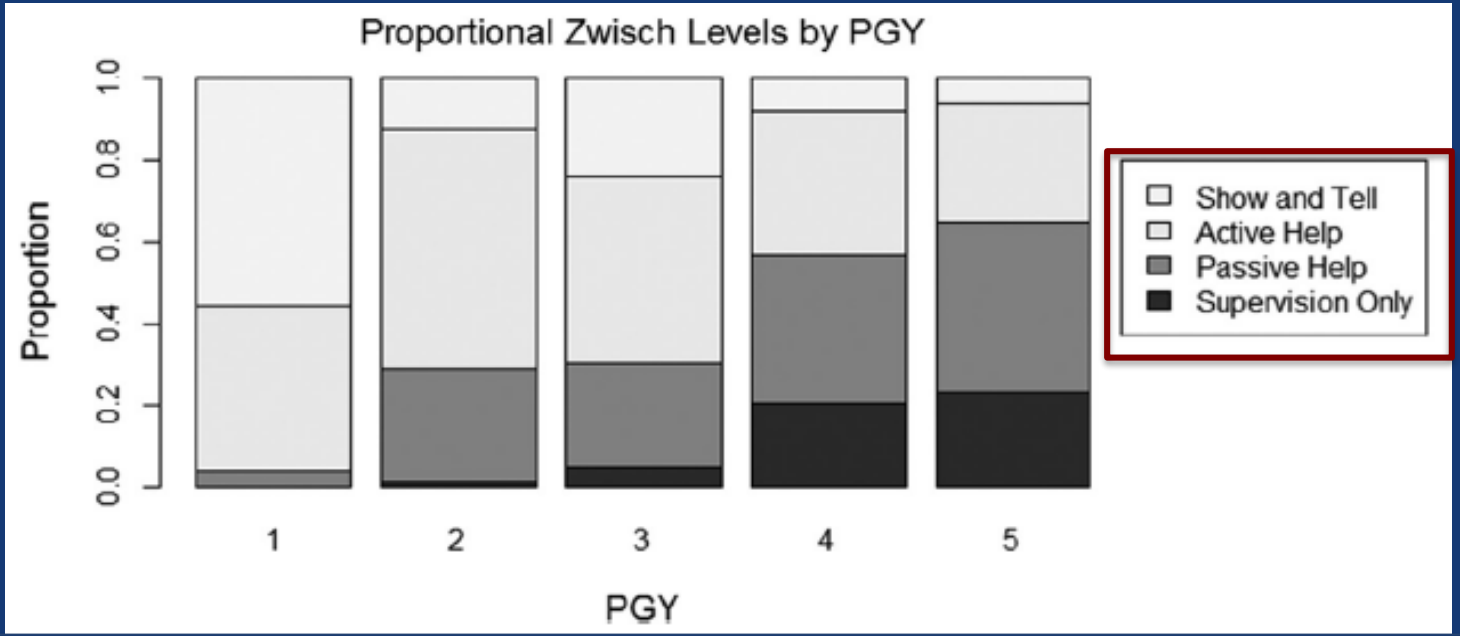


Entrustment: recognizing ability + right + duty to act

Assessment of learners in regular education focuses on *evaluation of ability* with no consequences other than individual progress

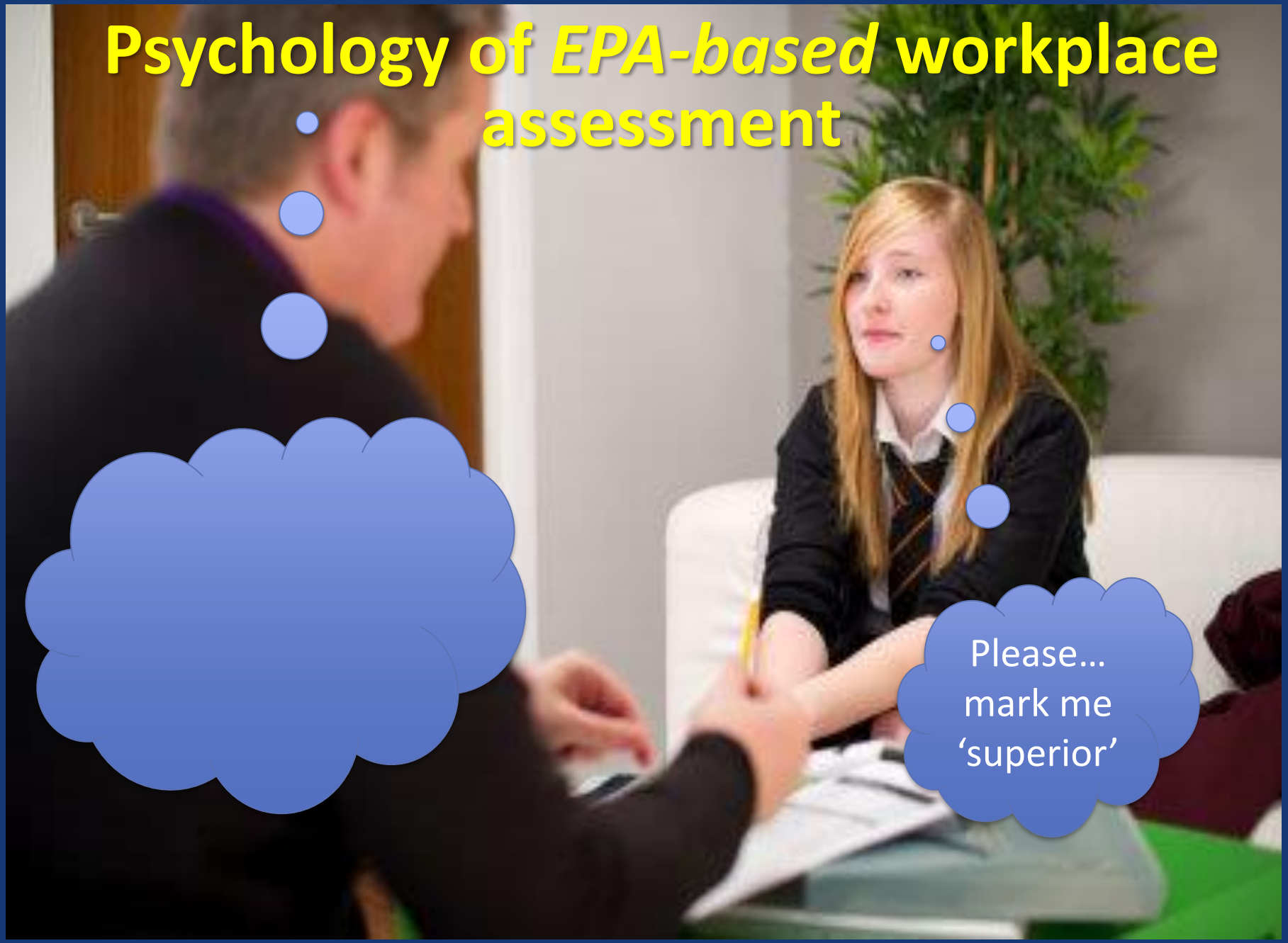
Entrustment of learners combines the evaluation of ability with the *permission to act* and the *readiness to be scheduled for service*

ten Cate 2016

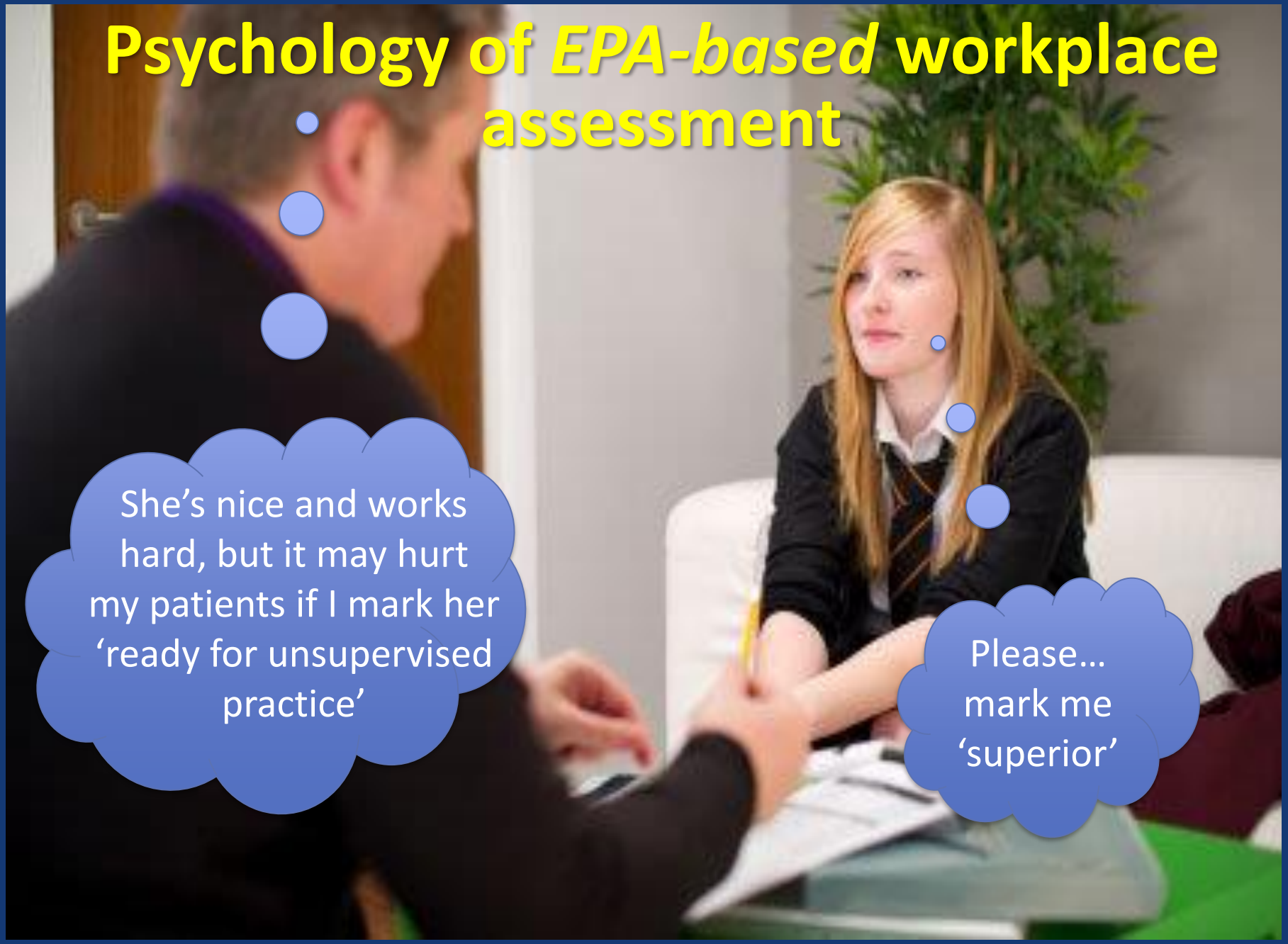
Psychology of traditional workplace assessment

Psychology of traditional workplace assessment

Psychology of *EPA-based* workplace assessment



Psychology of *EPA-based* workplace assessment



The trust concept in EPA-based assessment

- Trusting someone is making yourself **vulnerable**
- Calculated **risk** that adverse events are manageable
- Graduates will be certified to carry out activities that supervisors have **not been able to observe** and leaners may have never encountered
- Entrustment decisions require estimation of **adaptive competence** to cope with unfamiliar situations

What do humans value in others who they must trust?

What do humans value in others who they must trust?

1. ABILITY	Competence
2. INTEGRITY	Honesty/truthfulness, benevolence
3. RELIABILITY	Conscientious and consistent behavior
3. HUMILITY	Discernment of limitations and willingness to ask for help

Mayer et al 1995, Kennedy et al 2008, O'Neill 2013, ten Cate, 2016

What do humans value in others who they must trust?

Five levels of supervision, reflecting increasing trust in trainee autonomy

1. Be present but no permission to enact EPA
2. Practice EPA with direct (pro-active) supervision
3. Practice EPA with indirect (re-active) supervision

----------[threshold]---

4. Unsupervised practice allowed (distant oversight)
5. EPA may be supervised with junior learners

ten Cate & Scheele 2007

Entrustment decisions – two modes

Ad-hoc entrustment decisions

happen every day; situationally determined; based on *presumptive* trust and *initial* trust. Formative nature.

Summative entrustment decisions*

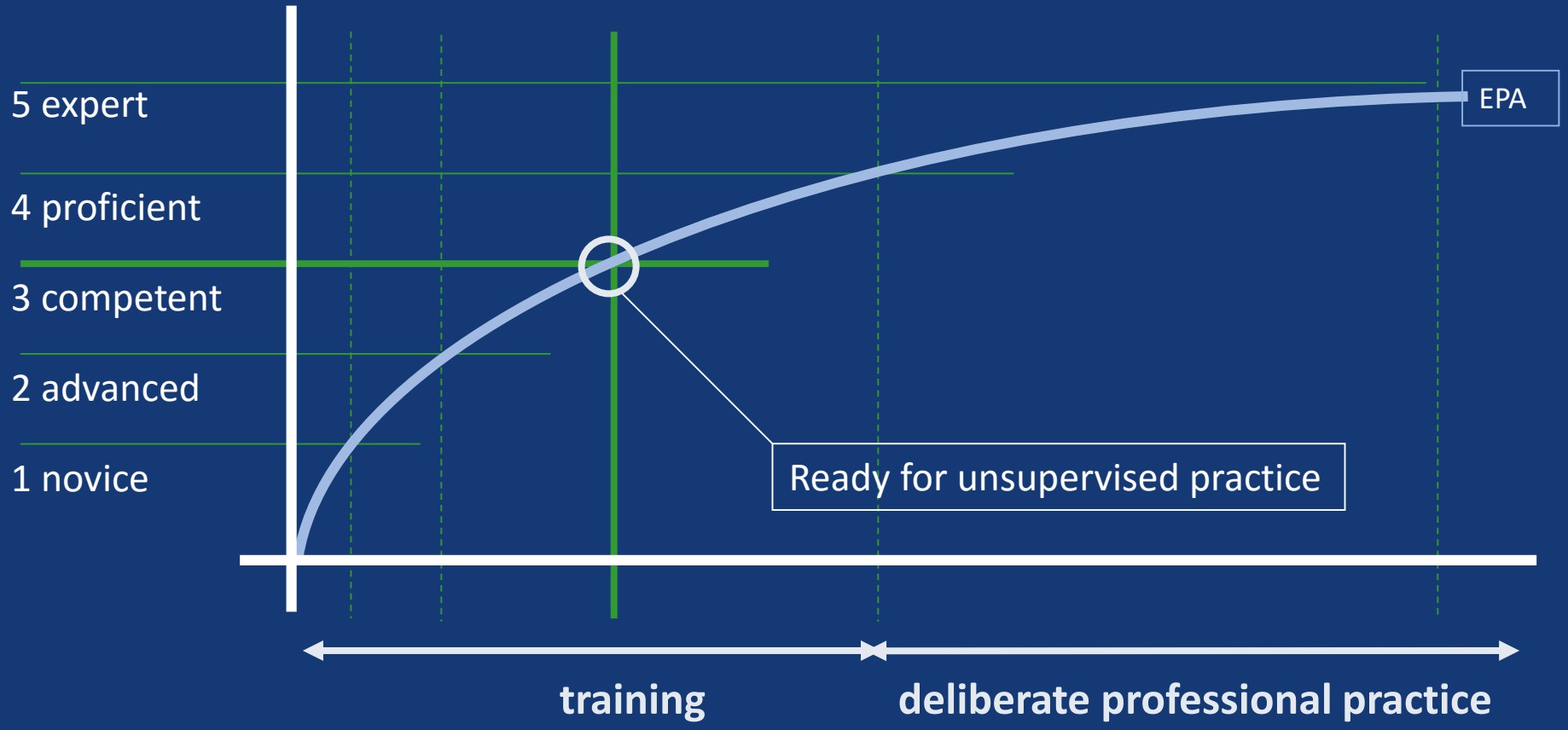
should be based on *grounded trust* (multiple sources of documented information); serves as certification / license to act. Summative nature.

*sometimes called Statement of Awarded Responsibilty (STAR)

ten Cate et al 2016

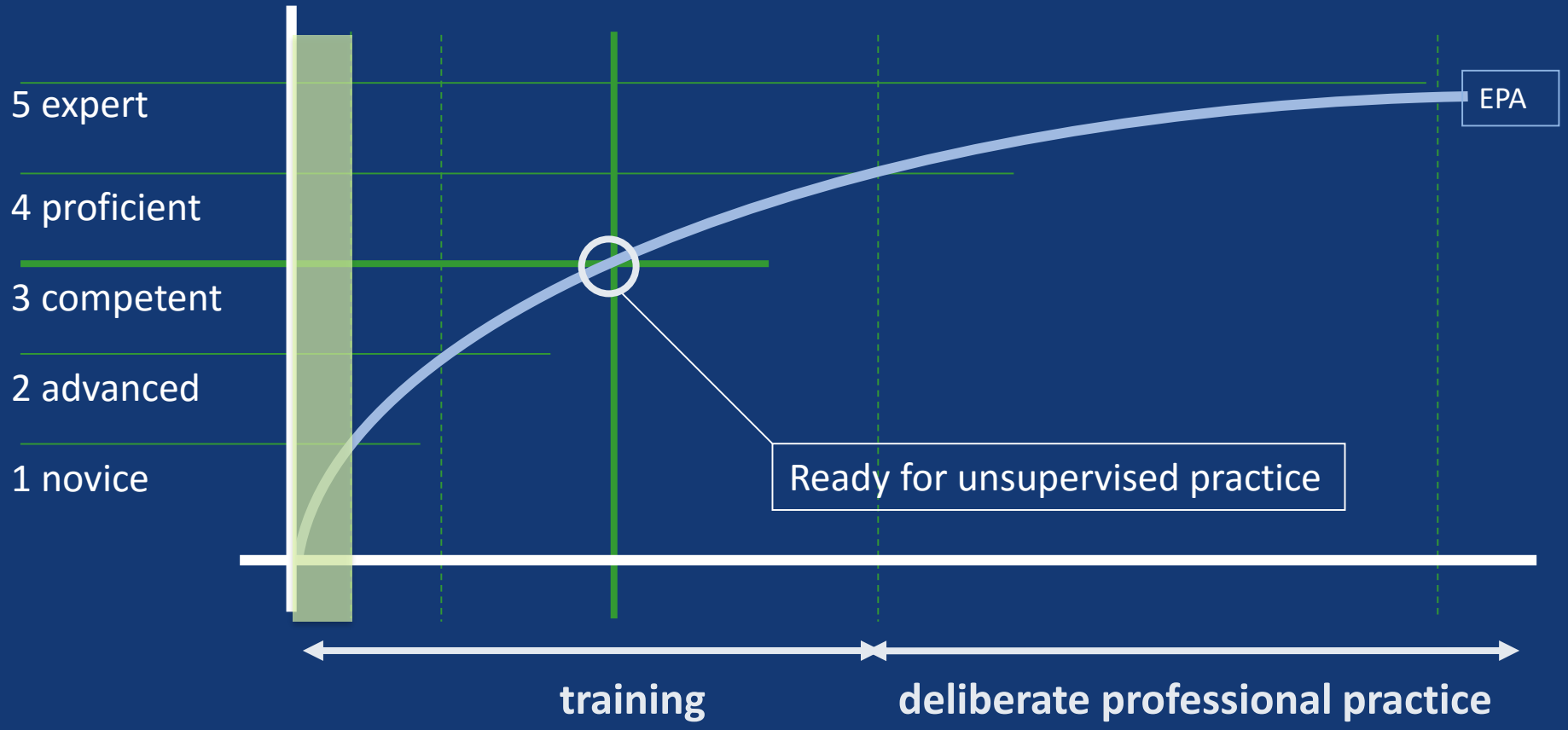
Core principles

Growth of competence over time



Core principles

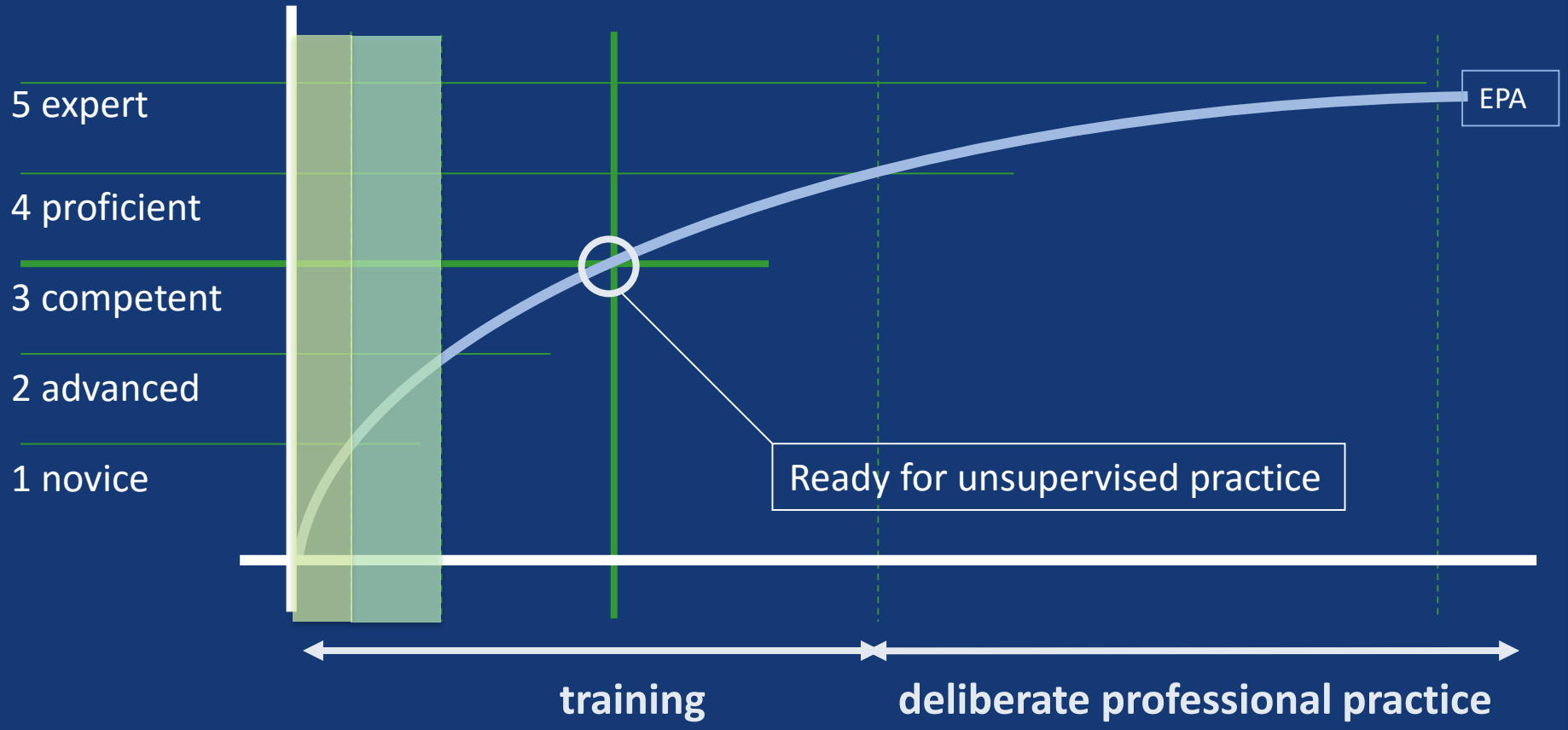
Growth of competence over time



Observe

Core principles

Growth of competence over time

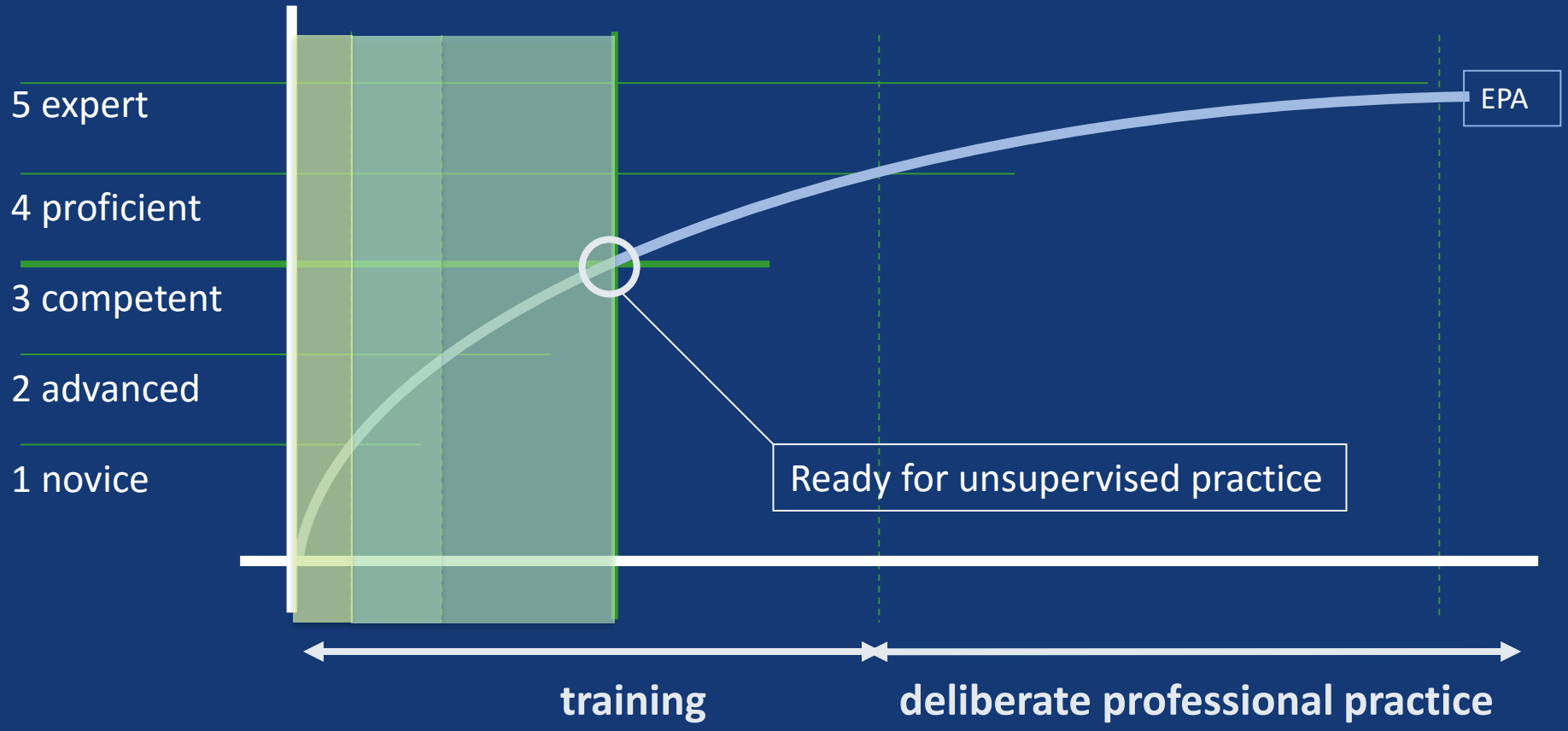


Observe

2 direct

Core principles

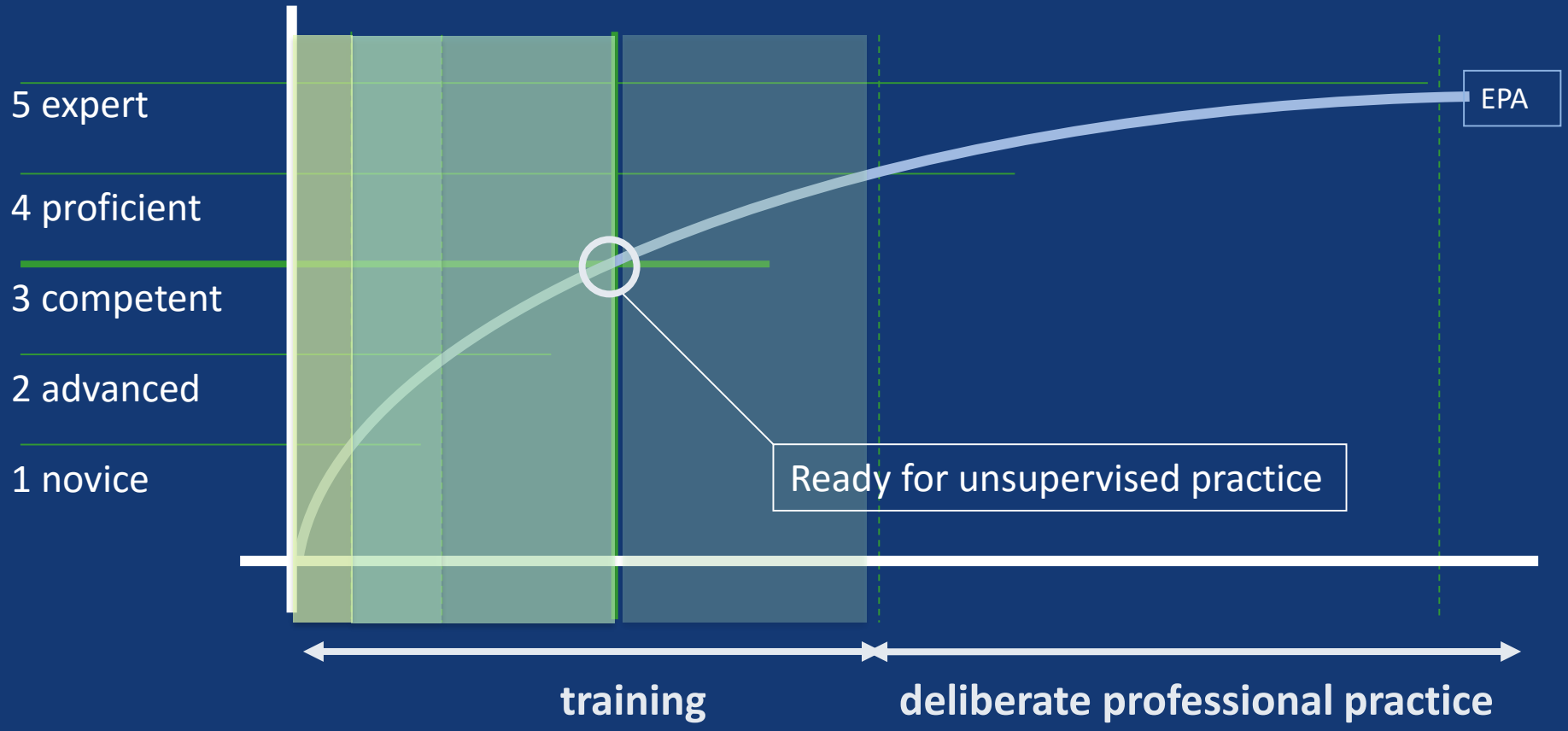
Growth of competence over time



Observe | 2 direct | 3 indirect

Core principles

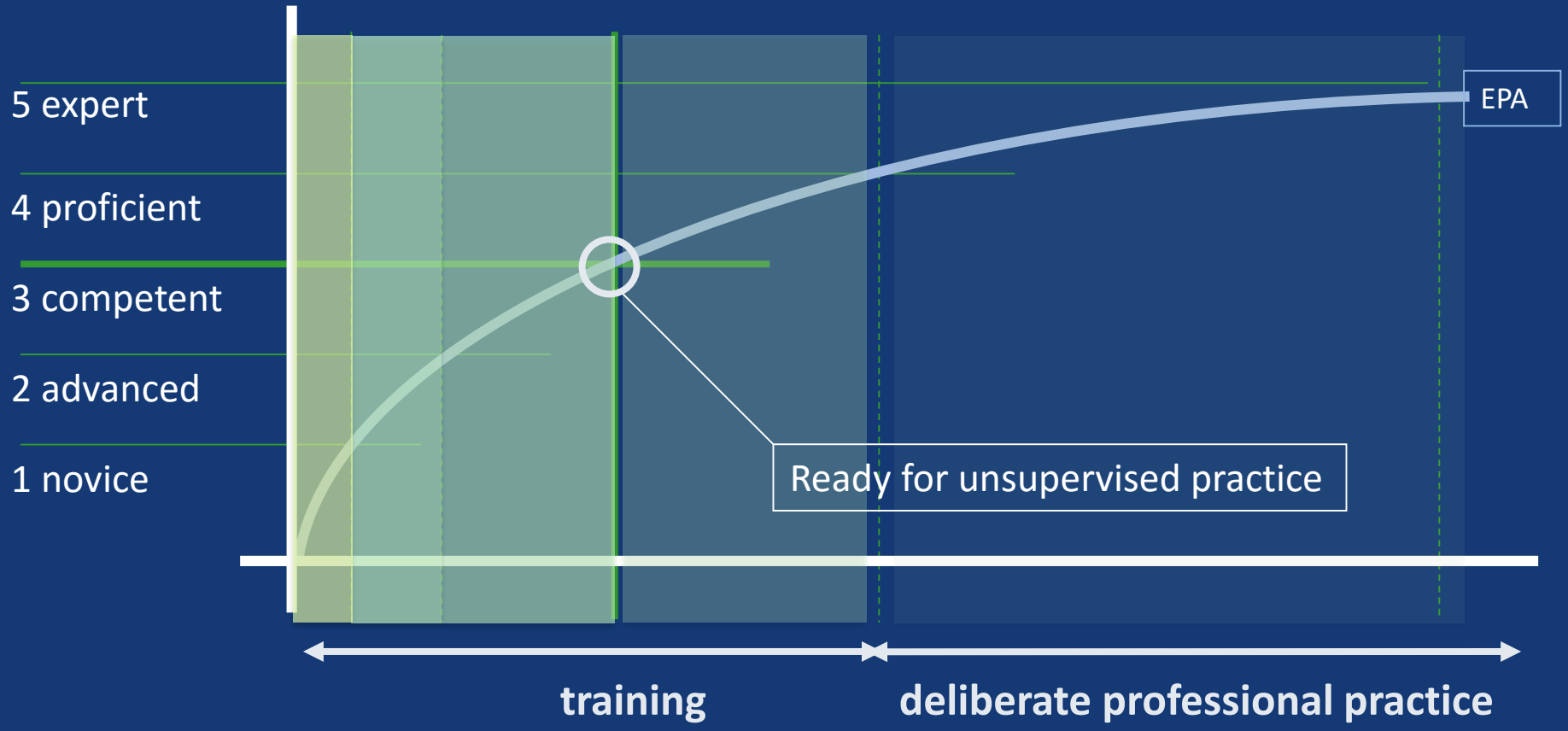
Growth of competence over time



Observe | 2 direct | 3 indirect | 4 distant

Core principles

Growth of competence over time

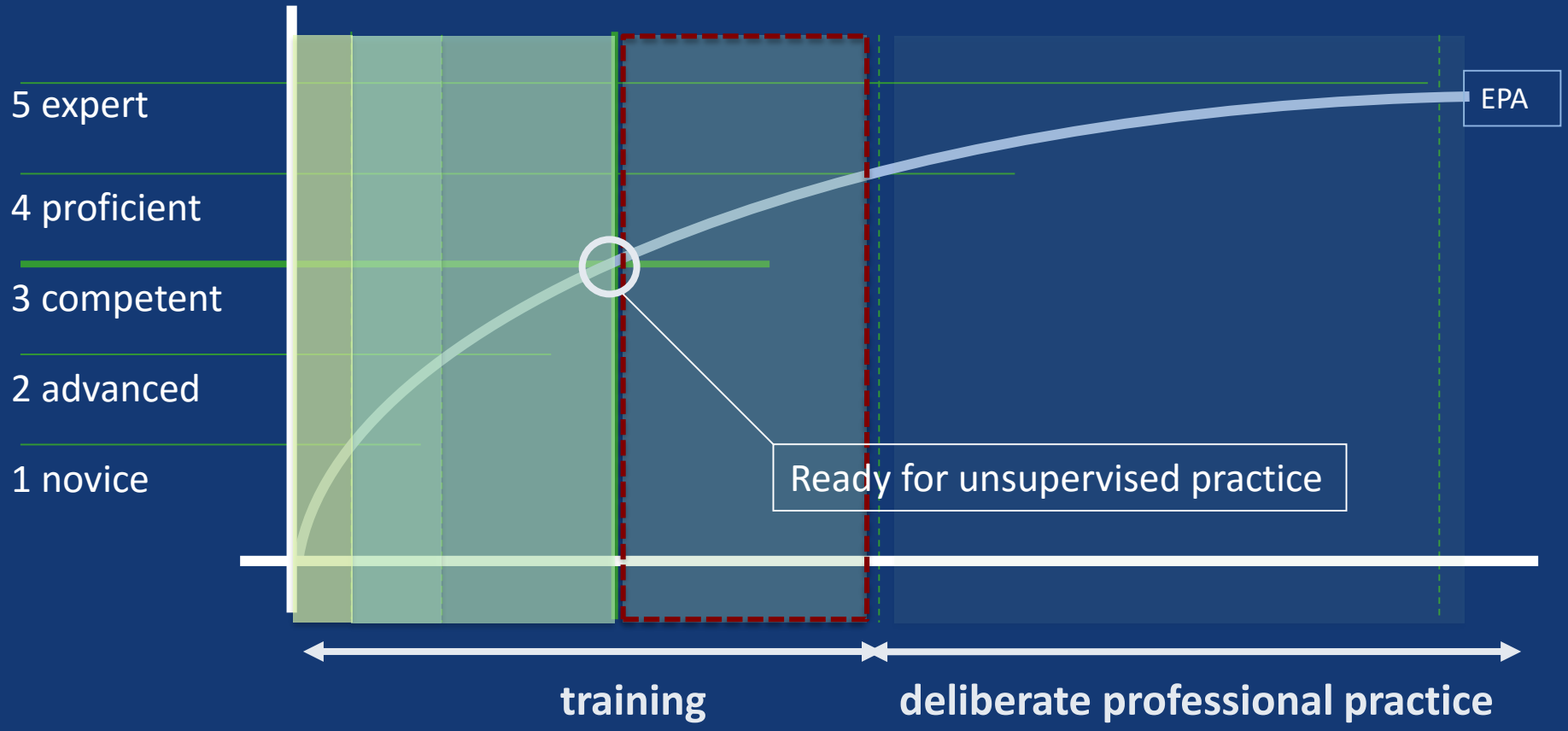


Observe | 2 direct | 3 indirect | 4 distant | no

Shades of decreasing supervision

Core principles

Growth of competence over time



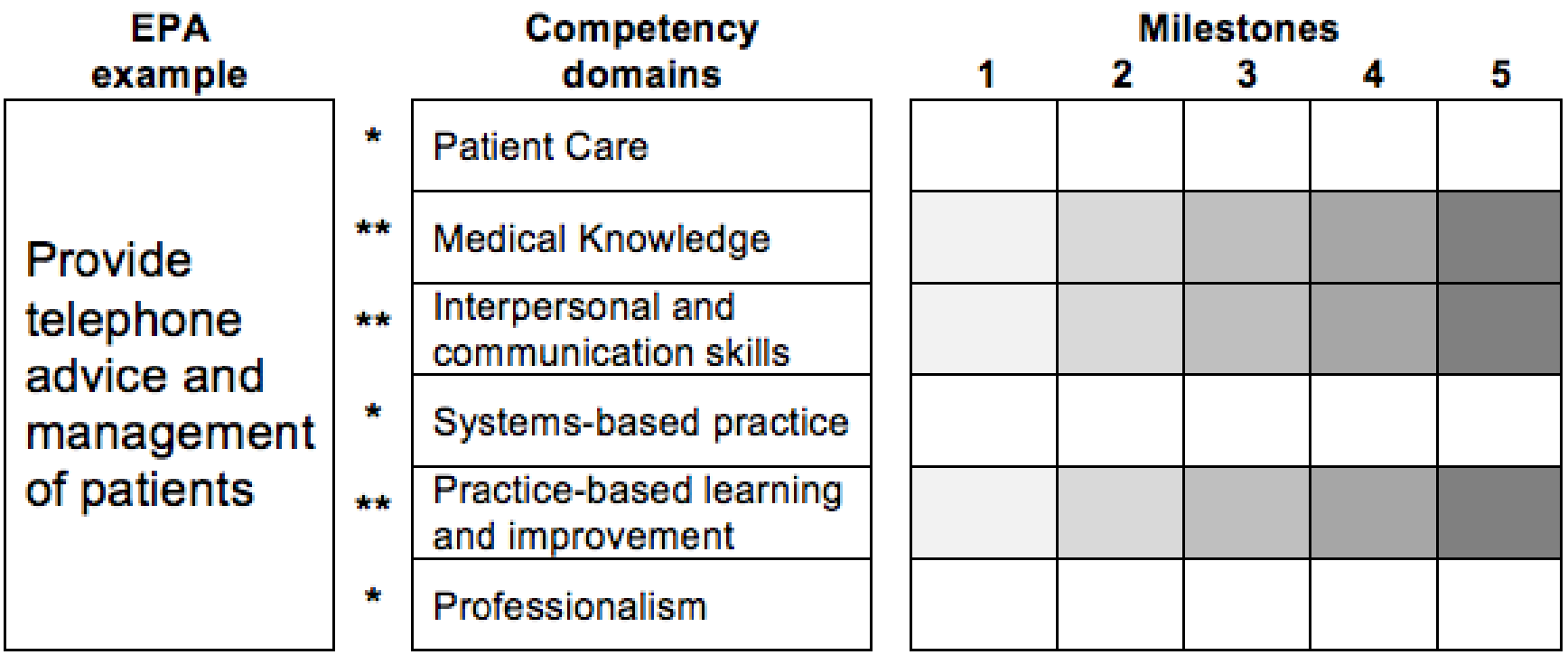
Observe | 2 direct | 3 indirect | 4 distant | no

Shades of decreasing supervision

Individualized 5-EPA Neurology workplace curriculum for a physician assistant

	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7	Block 8	Block 9	Block 10
EPA 1: Carry out initial history and physical examination with ambulatory neurology patients	2	2	2	3	3	4	→	→	→	→
EPA 2: Execute lumbar punctures with adult neurology patients	1	2	3	4	→	→	→	→	→	→
EPA 3: Basic care of stroke patients	1	2	3	3	3	4	→	→	→	→
EPA 4: Basic care of patients with lumbo-sacral radicular complaints			1	2	3	3	4	→	→	→
EPA 5: Basic care of patients with carpal tunnel syndrome						1	2	3	3	4

Connecting Dreyfus stages, EPAs, competencies, milestones, supervision



Dreyfus stages of development (1986):

1= novice

2= advanced beginner

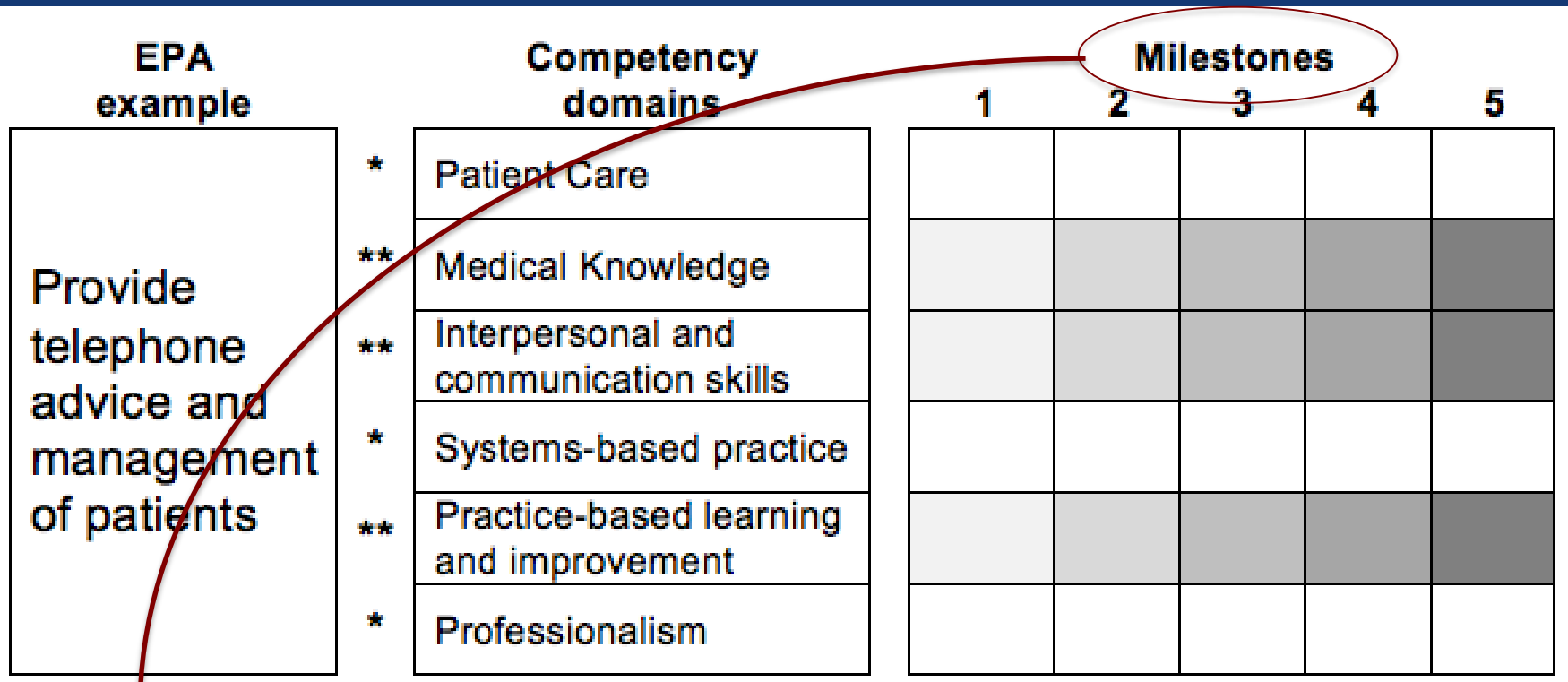
3= competent

4= proficient

5= expert

Touchie & ten Cate 2016

Connecting Dreyfus stages, EPAs, competencies, milestones, supervision



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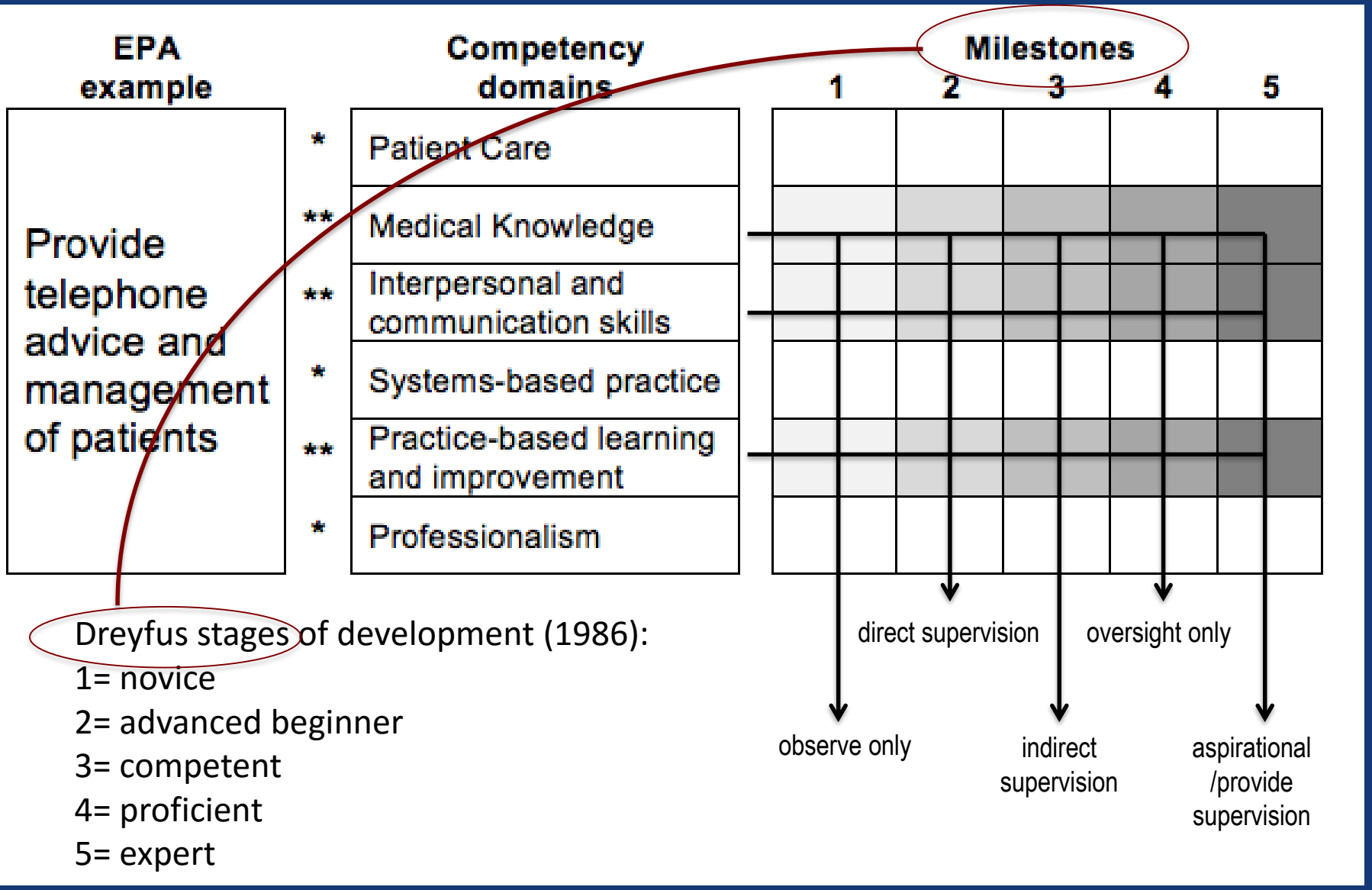

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Touchie & ten Cate 2016

Mobile technology and e-portfolio

Mobile technology and e-portfolio

1 > 2 > 3

OBSERVER: Dr John Smith

TRAINEE:

EPA:

DATE:

Based on my observation(s), I suggest for this EPA the trainee may be ready after the next review to:

2. Act under direct supervision
3. Act under indirect supervision
4. Act with only post-hoc report
5. Supervise juniors

NO Hesitate YES

SPECIFY

OBSERVER: Dr John Smith

TRAINEE:

EPA:

DATE:

Provide feedback on each of the following domains of competence, relevant to this this EPA

* Medical Expert
* Communicator
* Collaborator
* Scholar
* Leader
* Health advocate
* Professional

SPECIFY

OBSERVER: Dr John Smith

TRAINEE:

EPA:

DATE:

COMMUNICATOR
Provide specific feedback. Try to include strengths and aspects that may benefit from improvement.

Or record a feedback message

CONFIRM AND SEND

ten Cate et al 2015

Dr James Jones

Portfolio of Entrustable Professional Activities

Specialty Core EPAs		Renewed	Valid until
EPA 1	xxx	Jan 1, 2016	Dec 31, 2020
EPA 2	xxx	Jan 1, 2016	Dec 31, 2020
EPA 3	xxx	July 1, 2015	Dec 31, 2020
EPA 4			
EPA 5			
EPA 6			

Supplementary EPAs		Renewed	Valid until
EPA a	xxx	July 1, 2015	Dec 31, 2020
EPA b			
EPA c			
EPA d			

Dr James Jones

Portfolio of Entrustable Professional Activities

EPA 1 xxx	
Specification:	- - - -
Limitations:	-
Date renewed:	
Attested in practice by:	1. Dr X 2. Dr Y 3. Dr Z

Wrapping up

- CBME: a great advance, but translating competencies to teaching and assessment is problematic - EPAs may revitalize CBME by connecting competencies to practice
- Workplace-base assessment is fraught with difficulties
- Entrustment decision-making may serve as a route forward
- Learners should be trusted to work by themselves with indirect supervision as soon as justified
- Scales using supervision levels as anchors appear to increase reliability
- Technology may help to collect information in support of entrustment decisions
- Entrustment decisions as assessment: area of ongoing research

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