

Form workplace learning to programmatic assessment for learning: keep going and dancing

POST-AMEE sharing



「有效的臨床教師」所代表的意義——重點並不在於宏大的理論架構，也不在於反覆標示認知偏誤；相反地，它是在診斷的旅程中，與學習者並肩同行：有時只是走著，有時艱難跋涉，有時甚至得匍匐前進，並在他們各自通往卓越的道路上，適時給予溫和而關鍵的推動。～ Andrew P.J. Olson

胡昱勝醫師

Clinician Educator
National Cheng Kung University Hospital
Tainan, Taiwan

老年醫學專科醫師
內科專科醫師
整合醫學專科醫師



臺灣醫院整合醫學醫學會
Taiwan Association of Hospital Medicine



台灣老年學暨老年醫學會
Taiwan Association of Gerontology and Geriatrics



國立成功大學醫學院附設醫院
National Cheng Kung University Hospital





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Subha Ramani, MBBS, MPH, PhD, FAMEE

Adjunct Professor
Term Lecturer
Health Professions Education





AMEE GUIDE

AMEE Guide no. 34: Teaching in the clinical environment

SUBHA RAMANI¹ & SAM LEINSTER²

¹Boston University School of Medicine, USA, ²University of East Anglia, Norwich, UK

Box 1. Skills that make a clinical teacher excellent

Excellent clinical teachers:

- share a passion for teaching;
- are clear, organized, accessible, supportive and compassionate;
- are able to establish rapport; provide direction and feedback; exhibit integrity and respect for others;
- demonstrate clinical competence;
- utilise planning and orienting strategies;
- possess a broad repertoire of teaching methods and scripts;
- engage in self-evaluation and reflection;
- draw upon multiple forms of knowledge, they target their teaching to the learners' level of knowledge.



Excellent teachers in clinical reasoning

- **Passion** for reasoning
- Are clear, organized and **supportive**
- Establish **rapport, feedback** and **respect**
- Demonstrate core competency (**modelling**)
- **Orient trainee** in reasoning
- Possess **broad repertoire of teaching method**
- Self-evaluation and **reflection**
- **know your trainee's level well (assessment)**

【Faculty Development】

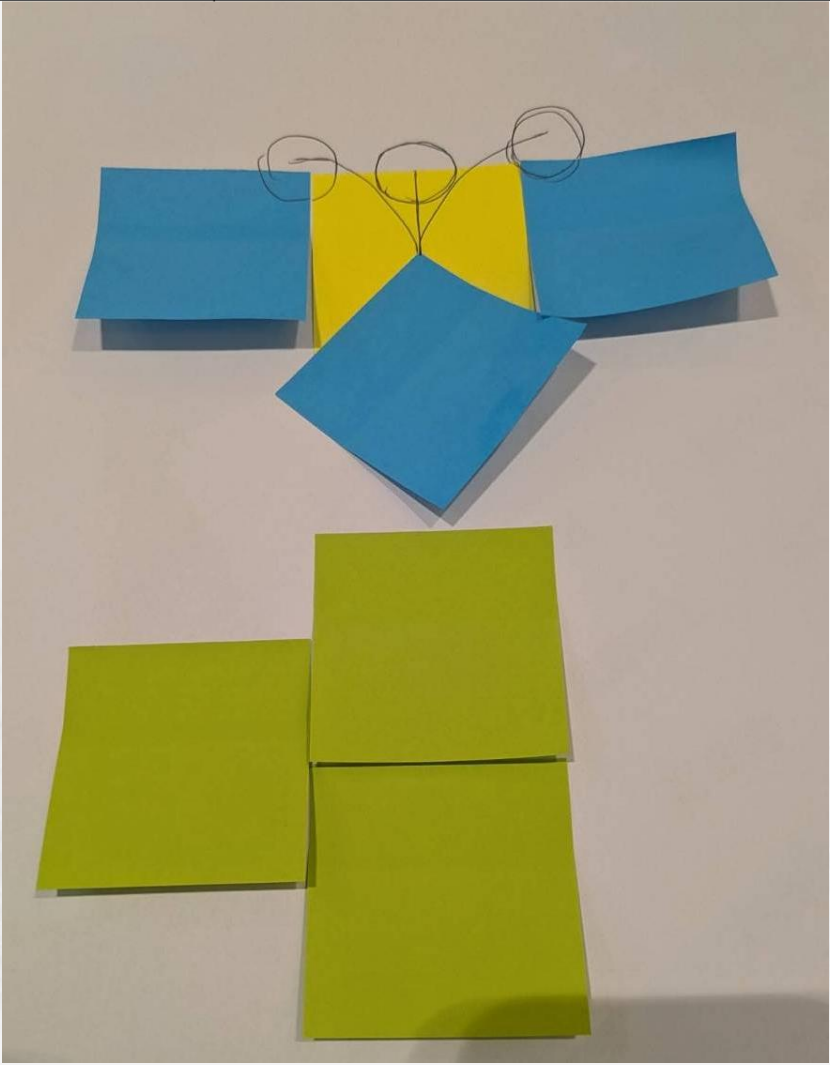
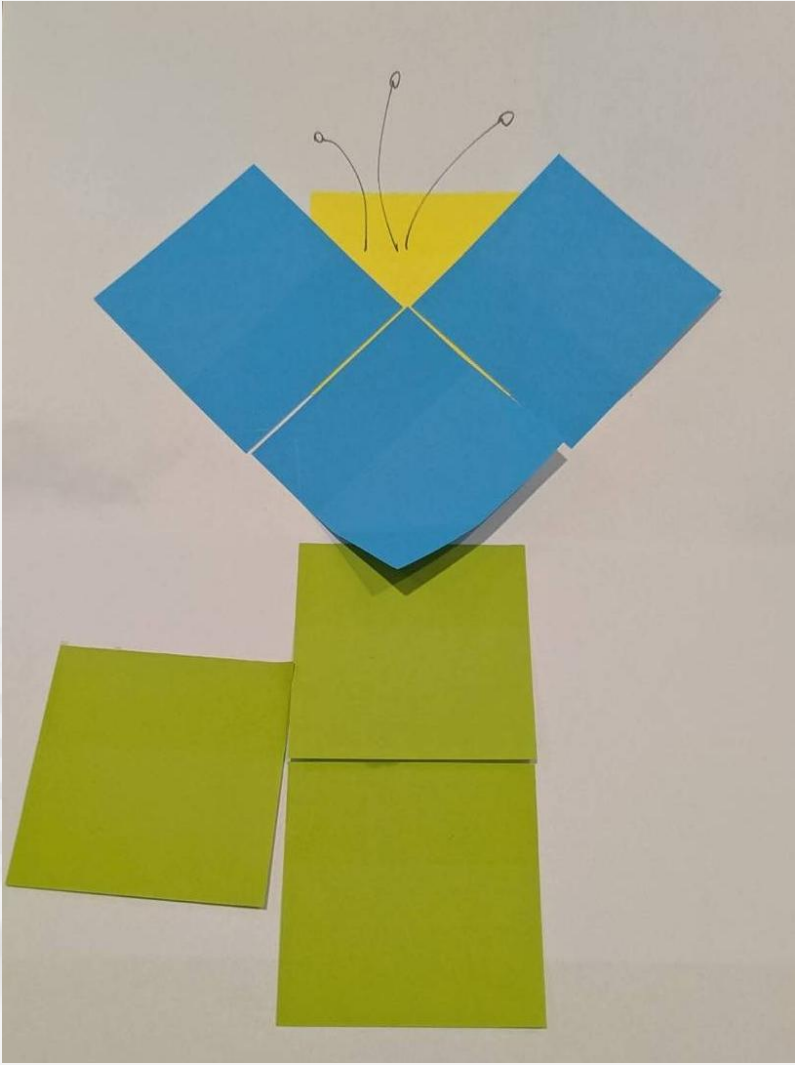
Educating for Compassionate and Holistic Care: A Faculty Development Workshop for Clinical Teachers

全人關懷教學力：臨床教案與模組開發工作坊

Date & Time : Saturday, January 10th, 2026, 13:15–16:50

Venue : 2F Cheng Sin Hall (2 樓澄心廳), National Taiwan University College of Medicine

13:40-14:00	From Compassion to Curriculum: Translating Clinical Experience into Teachable Learning Design	Sheila Krishnan Mody, M.D., M.P.H Director, Tan Family Compassion in Medicine Academic Concentration Clinical Professor, Department of Obstetrics, Gynecology & Reproductive Sciences University of California San Diego
14:00-14:40	Activity 1 From Teachable Content to Actionable Design: Building a Compassion Teaching Module & Syllabus	





A FILM BY CHRISTOPHER NOLAN

INCEPTION

FROM THE DIRECTOR OF THE DARK KNIGHT

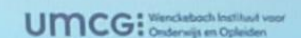
WARNER BROS. PICTURES PRESENTS

IN ASSOCIATION WITH LEGENDARY PICTURES A SYNCOPY PRODUCTION A FILM BY CHRISTOPHER NOLAN LEONARDO DICAPRIO "INCEPTION" KEN WATANABE JOSEPH GORDON-LEVITT
MARION COTILLARD ELLEN PAGE TOM HARDY CILLIAN MURPHY TOM BERENGER AND MICHAEL CAINE MUSIC BY HANS ZIMMER EDITED BY LEE SMITH, A.C.E.
PRODUCTION DESIGNER GUY HENDRIX DYAS DIRECTOR OF PHOTOGRAPHY WALLY PFISTER, A.S.C. EXECUTIVE PRODUCERS CHRIS BRIGHAM THOMAS TULL PRODUCED BY EMMA THOMAS CHRISTOPHER NOLAN
WRITTEN AND DIRECTED BY CHRISTOPHER NOLAN inceptionmovie.com WARNER BROS. PICTURES

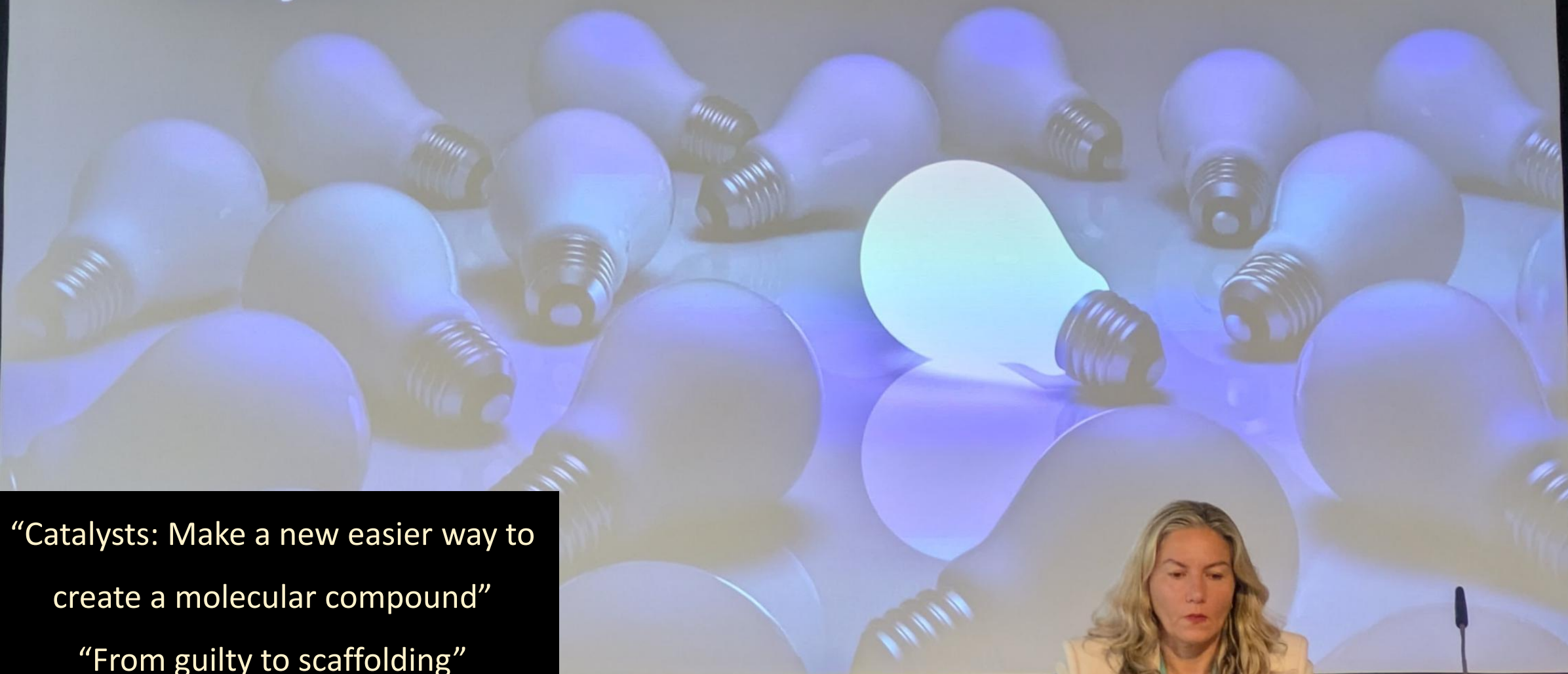
Educators as catalysts: Strengthening workplace learning for an uncertain future



Francisco M Olmos-Vega, Christy
Noble, Mark Goldszmidt, Annita
Van Wijlen & Rola Ajjawi



Illuminating practice reveals the available catalysts



“Catalysts: Make a new easier way to
create a molecular compound”

“From guilty to scaffolding”

Take away

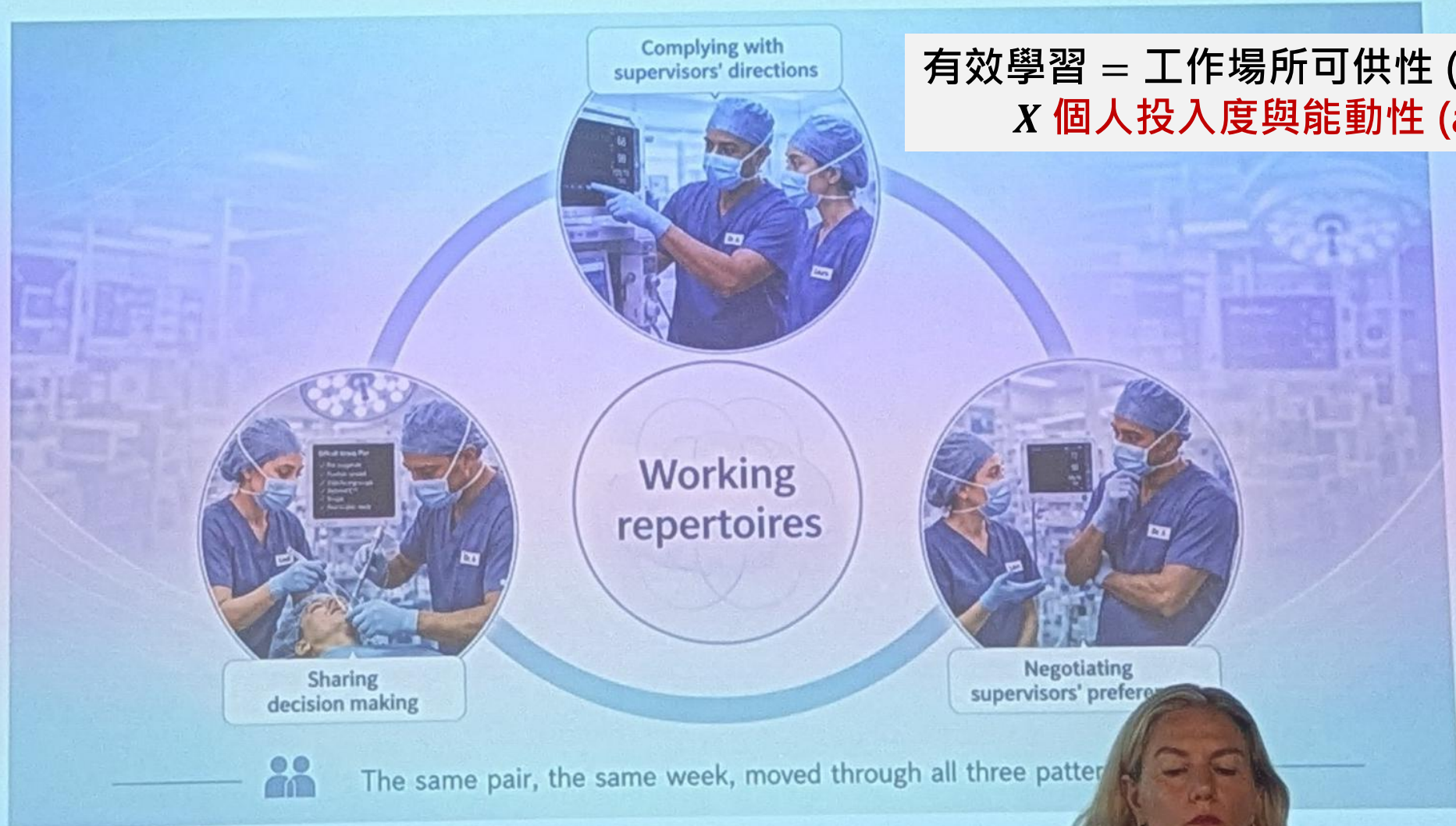
The problem is not a lack of teaching — it is a lack of visibility of learning opportunities

Exnovation asks not what needs to be added, but what needs to be seen and catalysed

Seeing your practice is the first act of catalysis



Working repertoires — how supervisory dyads build a shared way of working



有效學習 = 工作場所可供性 (affordance)
X 個人投入度與能動性 (agency)

Take away

Every pair is already building a working repertoire, shape them deliberately

Not a ladder to climb, but patterns to move between as the case and relationship demand

The shift toward shared decision-making is opened by small moves on either side, not by formal teaching moments 如同跳舞一樣

Agency needs to be shared

Catalysing learning

Making practices visible, discuss-able, malleable and share-able

Respecting the practice and developing shared repertoires

Expanding repertoires and ditching those that do not serve us

Valuing naturalistic research – observation, participation and exnovation

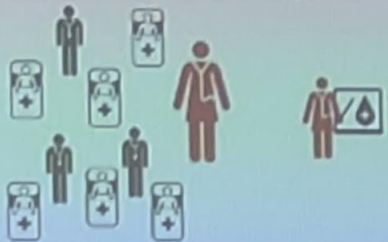
Direct Care Driven



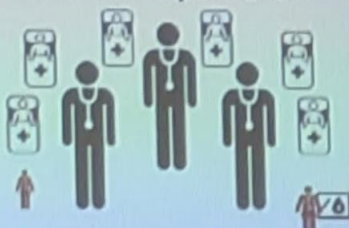
Empowerment Driven



Mixed Practice



Minimal Supervision



Summary — workplace learning

- "The Educator as catalyst"
- Exnovation – priming, scaffold, debrief, think aloud, feedback
- Making practices discussable allow to choose deliberately
- "Relationship shapes our alliance" → "You care about them"
- Not to see the toes only , that will stop your dance

"Diagnose your learner as your patient"

“Diagnose your learner as your patient”

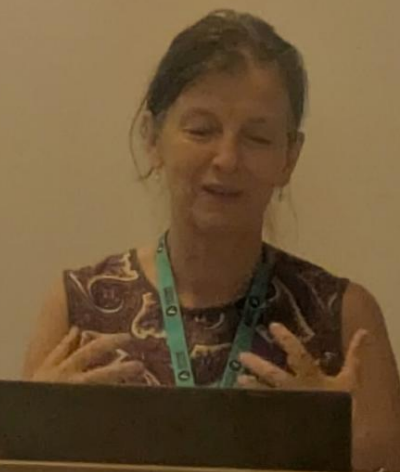
= Assessment

Assessment generates
information.
Learning occurs when
learners actively use that
information.

Therefore, learner agency, co-
production, and coaching are
all essential in PAL.



**Lyuba
Konopasek**



PRE-CONFERENCE WORKSHOP- AMEE-OTTAWA 2026

Programmatic Assessment for Learning (PAL) of Clinical
Reasoning: Translating Principles into Practice Across
Complex Systems and Contexts

Dario Torre, Sylvia Heeneman, Eric Holmboe, Lyuba Konopasek

評估的演進：從測量到重視系統整合

評估的目的從「測量不合格」→「判斷表現」→「重視能力」

階段一



評估作為測量 (1960s–1980s)

以區分合格與不合格為目的的測量問題

核心信念

- 客觀、可再現的分數是評估品質的核心
- 信度 (reliability) 與建構效度 (construct validity) 是必要且充分條件
- 最小化人為判斷的影響

關鍵特徵



標準化情境
與工具



量化分數
與排名



強調信度與
建構效度研究

典型方法與發展

- 多選擇題、結構式測驗 (如 OSCE 的早期發展)
- 古典測驗理論 (CTT) 與項目分析
- 目標：可比性、區分度、效率

階段二



評估作為判斷 (1990s–2000s)

將評估帶回真實工作場所，重視人類判斷

核心信念

- 真實情境中的表現更能反映能力
- 人類專業判斷不可避免且具價值
- 在良好支持與專業發展下，判斷可被信賴

關鍵特徵



回到臨床現場
工作情境



多元評估方法
與回饋



評估者培訓與
判斷支持工具

典型方法與發展

- 工作場所評估 (WBA)：mini-CEX、CbD、DOPS、360° 回饋等
- 表現評量與評量向度 (Rubrics)
- 信度研究延伸至評分者、情境與方法層面

階段三



評估作為系統 (2010s–至今)

以整體系統整合證據，重視評估能力

核心信念

- 能力是多面向且情境脈絡化的結果
- 以整合多元證據做出高品質判斷
- 關注公平性、可信度與可解釋性

關鍵特徵



多元證據整合
(三角檢證)



系統化設計與
資料使用



公平、可靠與
可解釋性

典型方法與發展

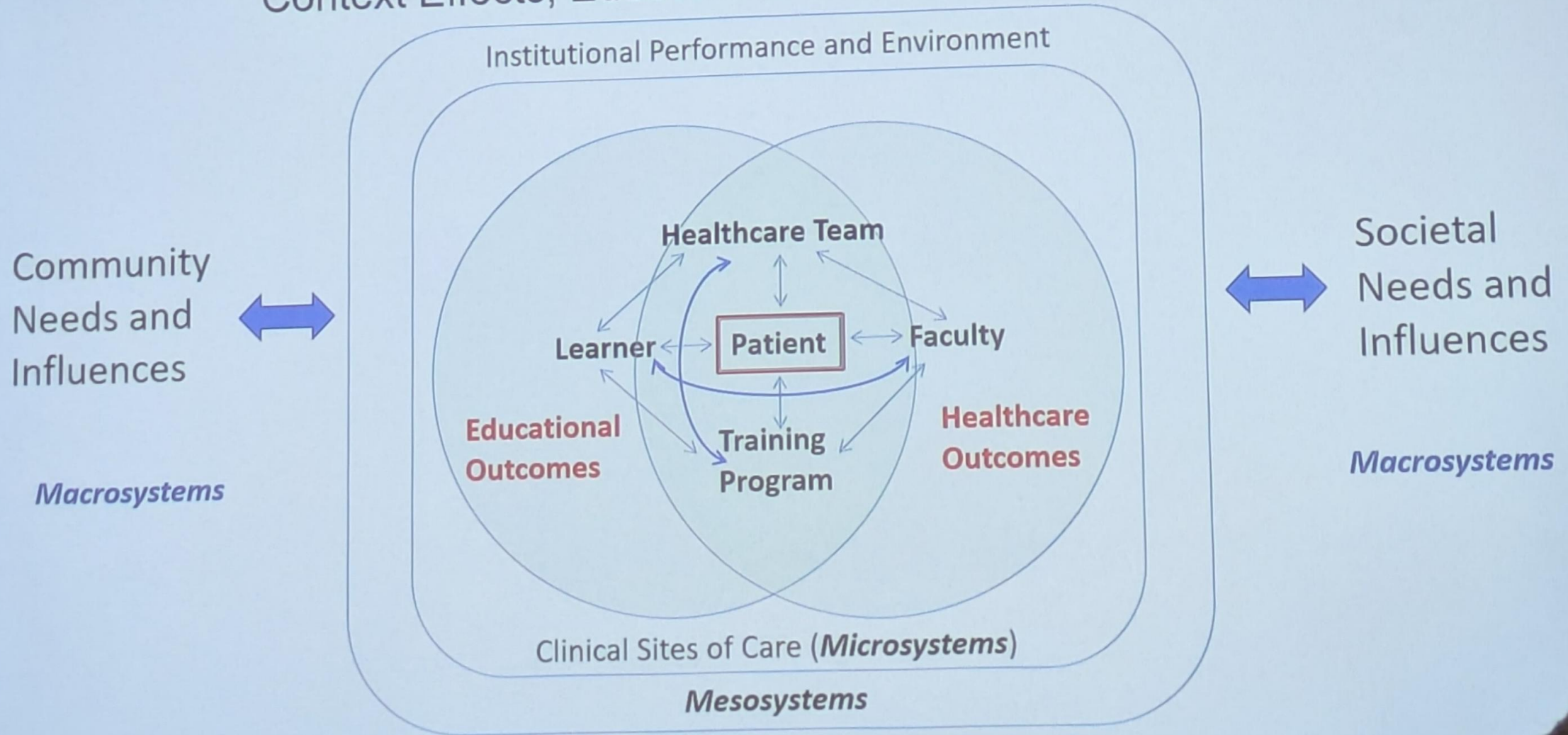
- 課程式評估 (Programmatic Assessment)
- 里程碑 (Milestones) 與能力架構整合
- 數據整合與決策支持系統
- 關注學習促進、支持性評估與持續改進



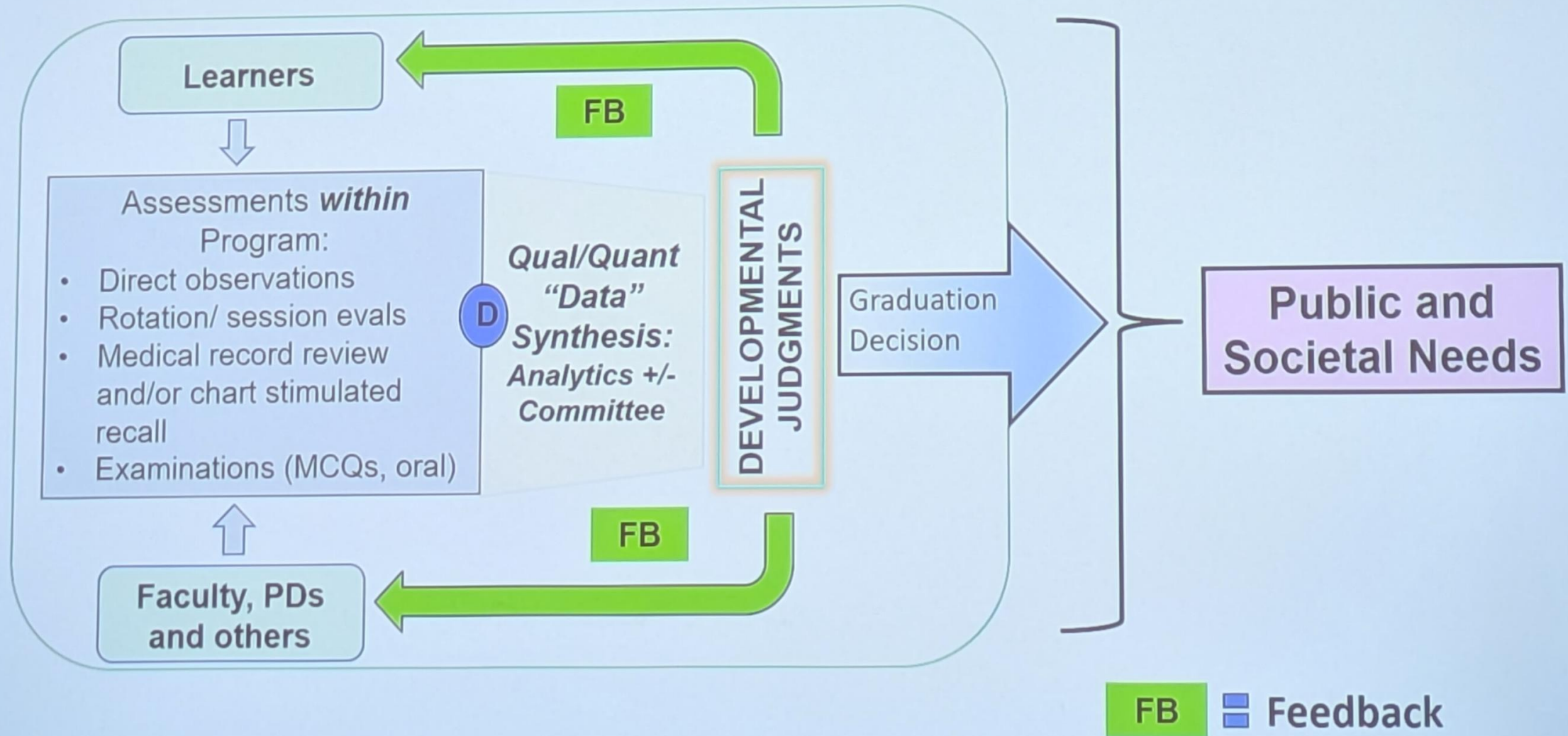
總結

評估的焦點從「測量錯誤」→「判斷表現」→「重視能力的系統整合」，目標始終是支持學習、促進專業發展與提升照護品質。

Changing Perspective: Context Effects, Educational and Healthcare Outcomes



Programmatic Assessment: Key Components ("Structure and Process")



三種評量的目的與應用

理解差異 • 善用評量 • 促進學習

Assessment of Learning (對學習的評量)

目的：評定學習成果與成績
在學習結束後進行，用於總結與判定



例子

- 期末考試（筆試、OSCE）
- 課程結束後的總結性測驗
- 標準化測驗（如：USMLE, 牙醫國考）
- 給予等第或證照認證



重點：評量學習結果，回答「學得如何？」

Assessment for Learning (為學習的評量)

目的：提供回饋以改進學習
在學習過程中進行，用於調整教學與學習策略



例子

- 小測驗與即時回饋（如：Kahoot, Quizizz）
- 教師於臨床教學中的即時口頭回饋
- 學習單、作業的形成性評量與修正建議
- 里程碑評估（Milestone）與學習進度追蹤



重點：促進學習改進，回答「如何做得更好？」

Assessment as Learning (做為學習的評量)

目的：培養自我監控與反思能力
學習者主動參與評量，建構自我覺察與調整



例子

- 學習日誌或反思記錄（Learning journal）
- 自我評量表（Self-assessment）
- 同儕互評（Peer assessment）
- 將學習目標與證據連結（e-Portfolio）



重點：培養學習者主體性，回答「我如何掌握學習？」



參考文獻：Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, 31(2), 199–218.

Assessment of CR by context

Categories



Non-workplace-based assessments



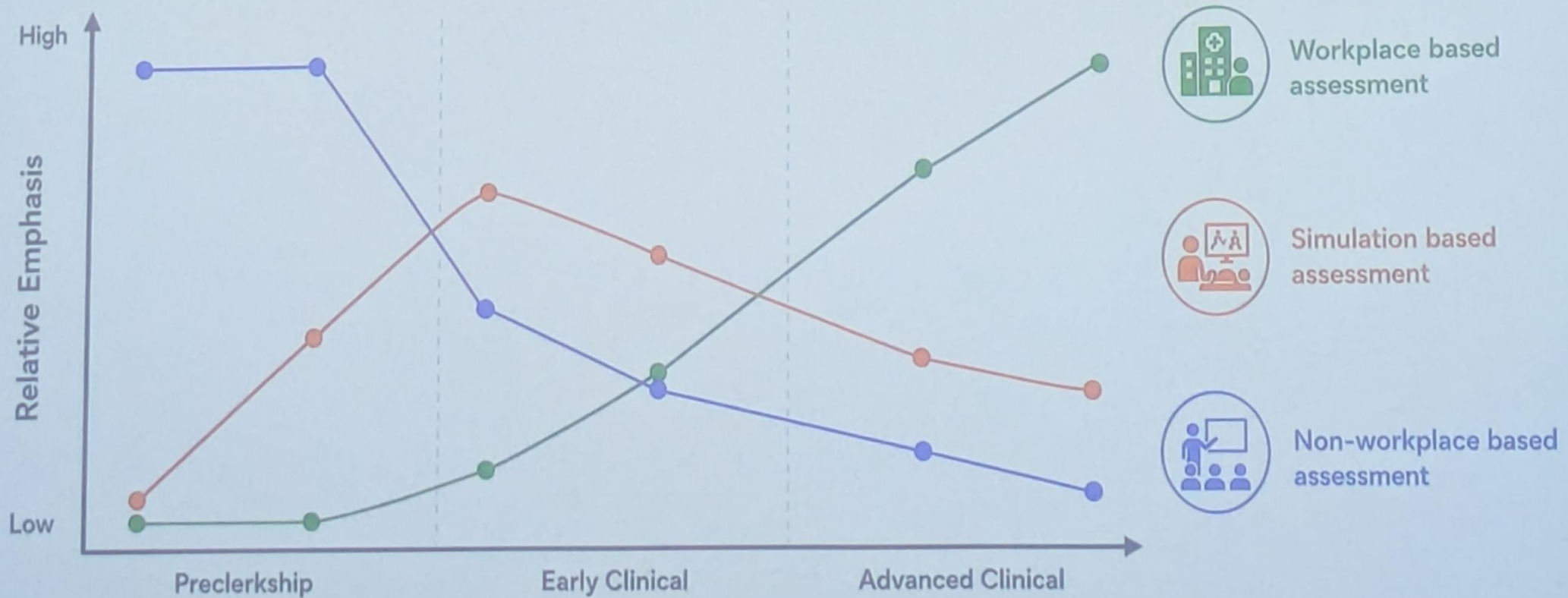
Assessments in simulated clinical environments



Workplace-based assessments

Development of Clinical Reasoning over medical school curriculum

Educational experiences shift from **non-workplace based** learning to **simulation**, and increasingly to **workplace-based** learning over time.



Key takeaway: Clinical reasoning develops progressively through a deliberate shift in learning environments—from foundational knowledge to authentic practice.

Why One Assessment Cannot Measure Clinical Reasoning Competence

*No single assessment method provides **sufficient evidence** to support a defensible judgment of clinical reasoning competence.*

Assessment Method	Major Limitation	Kane Validity Challenge
 Multiple-choice questions	Measures performance on written problems rather than performance in authentic clinical practice; cannot capture contextual decision making or patient interaction.	 Extrapolation: High performance on MCQs does not justify inferences about clinical performance.
 Simulation	Standardized performance in an artificial environment may differ from authentic workplace practice.	 Extrapolation: Performance in simulation may not generalize to real clinical settings.
 Direct workplace observation	Observations represent only a small sample of patients, contexts, and assessors; performance is highly context-specific.	 Generalization: Limited sampling reduces confidence that observed performance represents overall competence.

Three basic
principles

Programmatic
assessment

Longitudinality

Proportionality

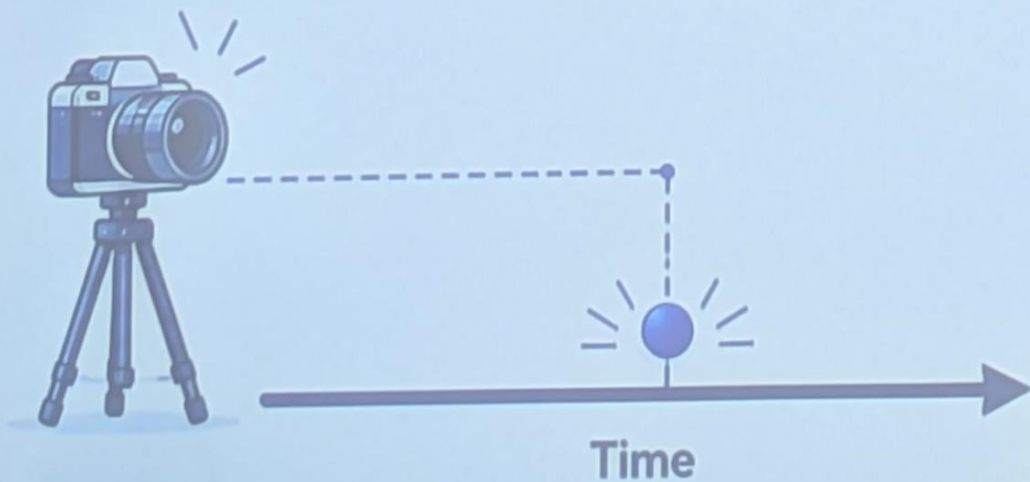
Triangulation

Longitudinality

Understanding **change over time** requires repeated measurements, not just a single snapshot.

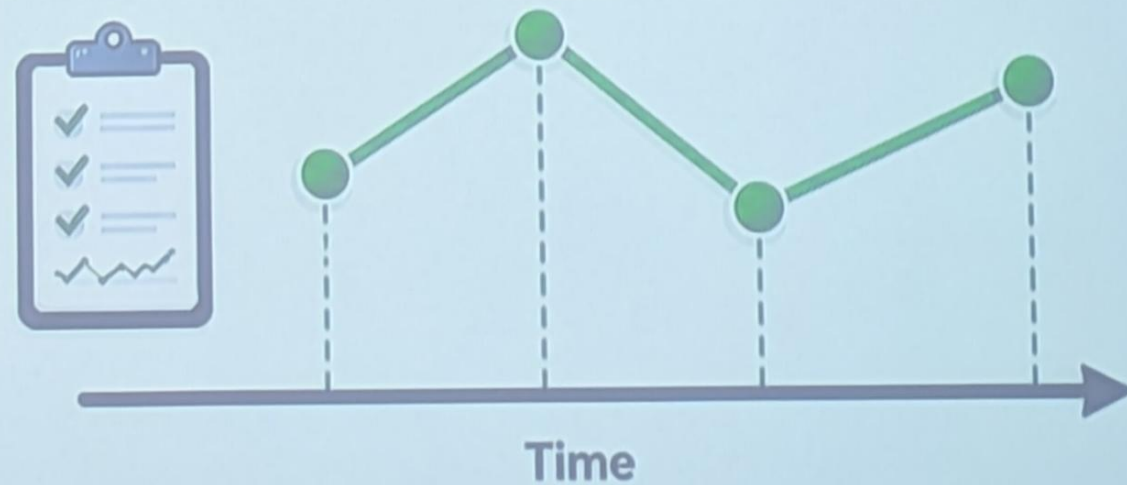
ONE POINT IN TIME

A single measurement provides a **snapshot**.



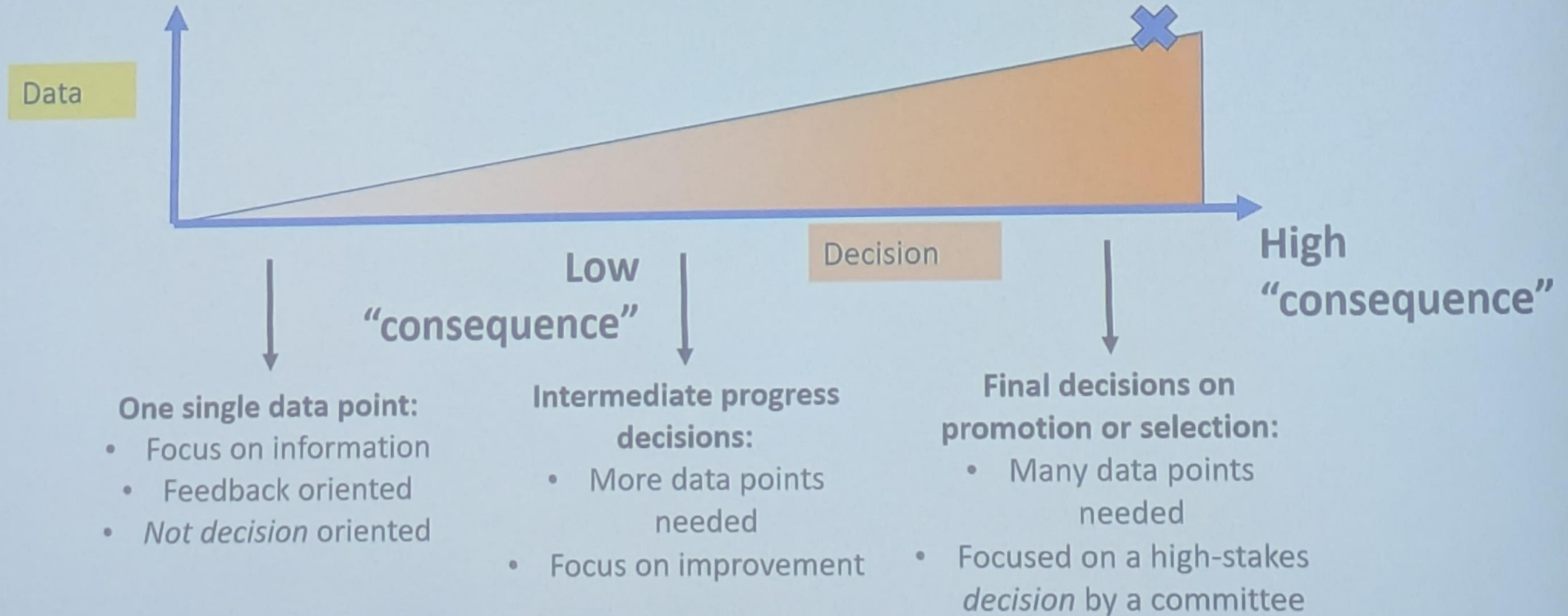
MULTIPLE POINTS IN TIME

Repeated measurements reveal **patterns** and **change**.

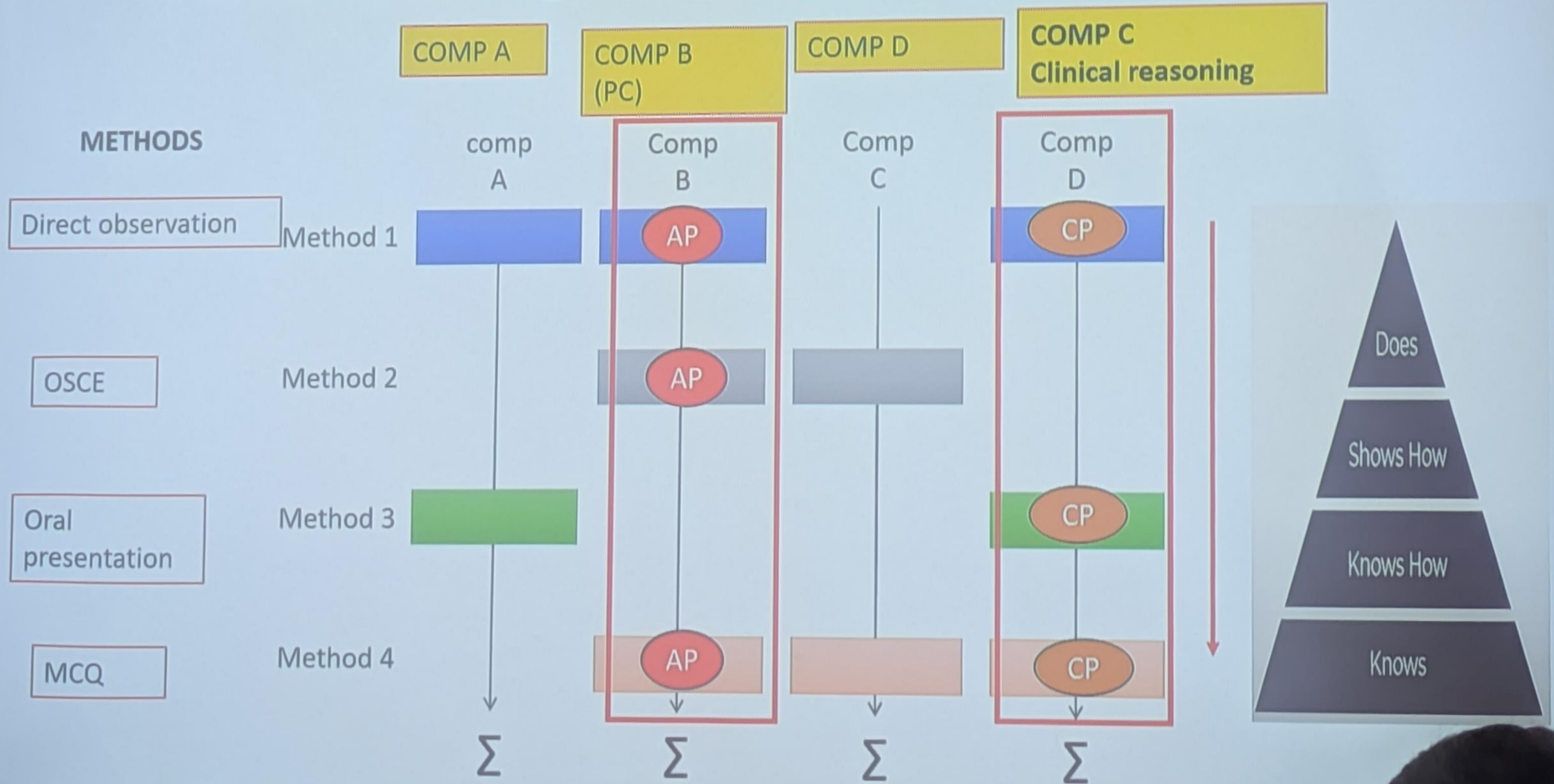


Key takeaway: Longitudinality gives us a richer, more accurate understanding of performance over time.

Combining the learning and decision functions of assessment & Proportionality



More meaningful aggregation: Triangulation



Step in design a of PA system

DEFINE **OUTCOMES**

CONSTRUCTIVE
ALIGNMENT

SELECT MIX
ASSESSMENT
METHODS

ESTABLISH SEQUENCE,
CONTINUITY, USE
PROGRAM-RELATED
ASSESSMENTS

DEVELOP PROCESSES
FOR **DATA**
AGGREGATION AND
FEEDBACK

IDENTIFY **DECISION**
POINTS AND ROLE OF
CCC

DEVELOP **COACHING**
AND LEARNERS'
AGENCY

Why Good Designs Fail

One-size-fits-all thinking

Lack of investment faculty expertise

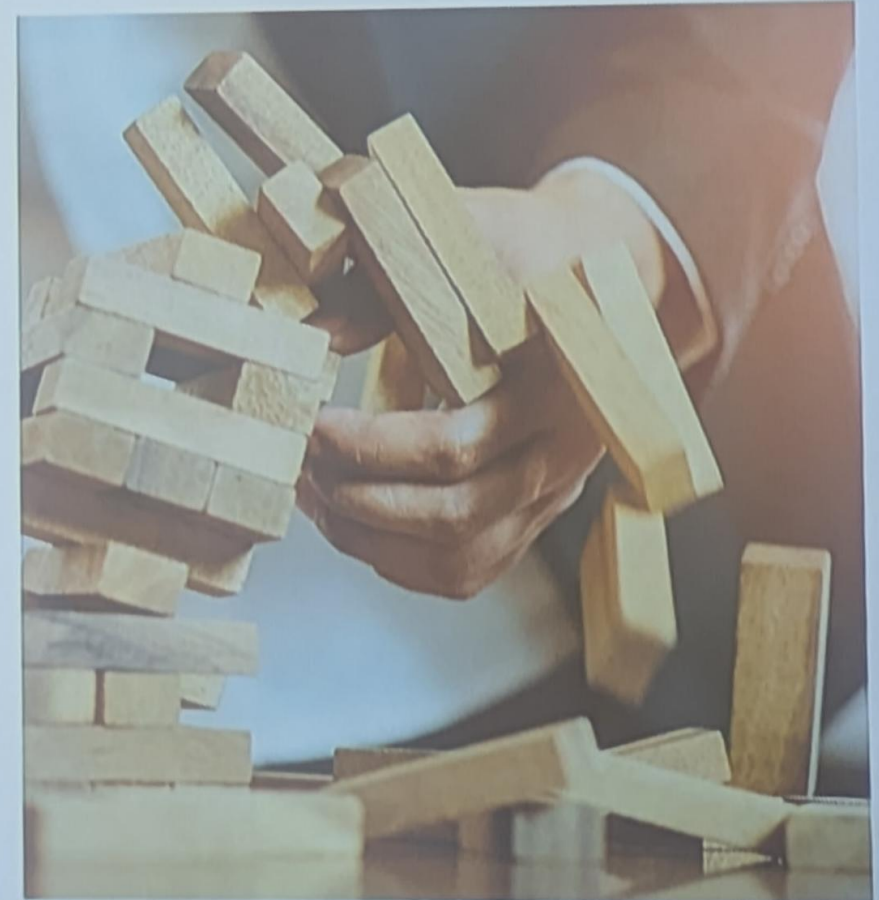
Rebrand without change

Insufficient resources

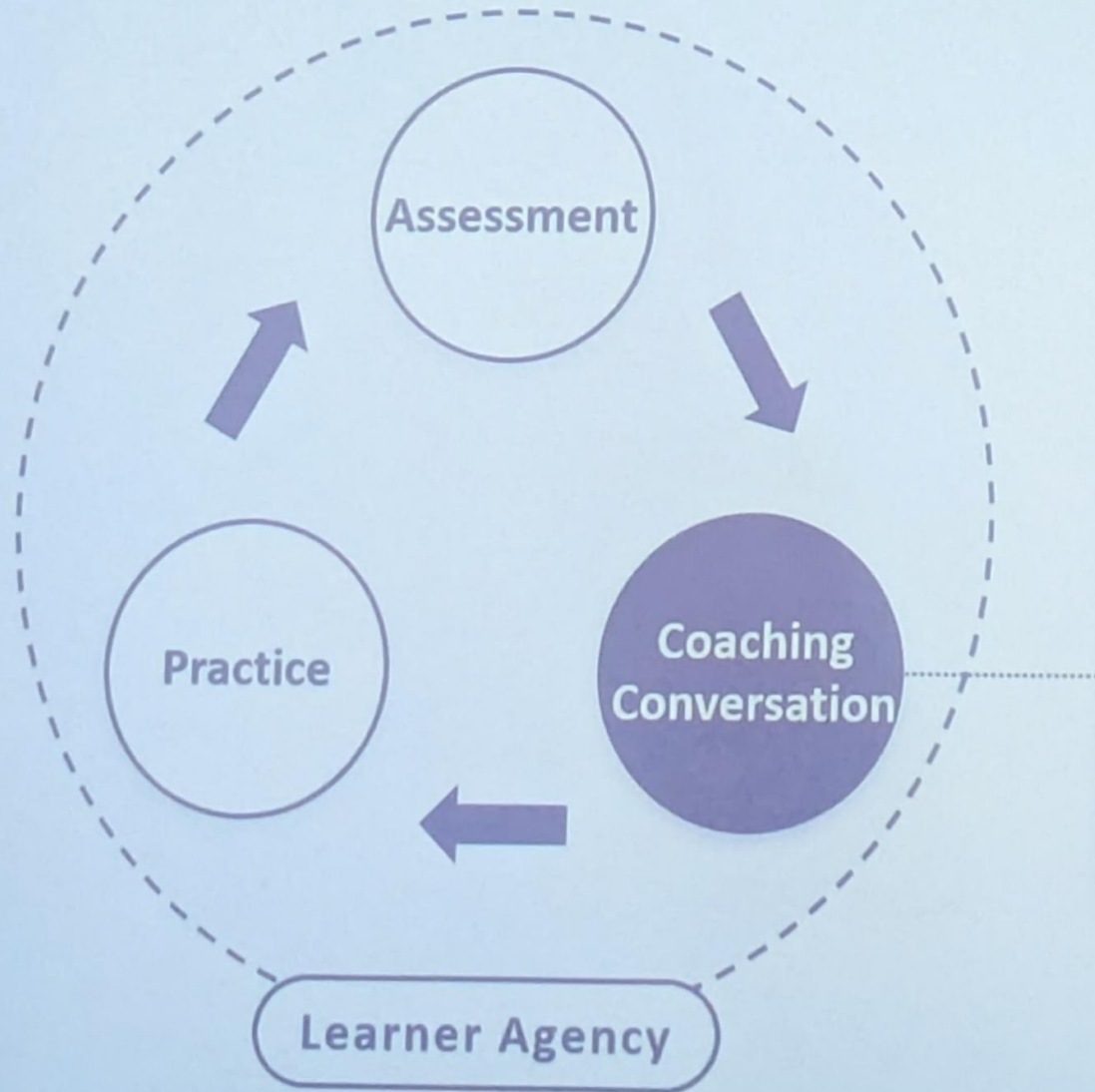
Ignoring Culture & Context

Superficial leadership

Underestimating time



Coaching Is the Engine Which Drives Learning in Programmatic Assessment



Inside the Coaching Conversation



Feedback



Reflection (self-assessment)



Co-production of the learning and assessment plan

“回顧他們的教學方式，我們發現，他們每天只給我們一個新的「小重點」或「珍珠（clinical pearl）」，卻是憑藉著持續不懈的累積，幫助我們一步步進步。

這正是「有效的臨床教師」所代表的意義——重點並不在於宏大的理論架構，也不在於反覆標示認知偏誤；相反地，它是在診斷的旅程中，與學習者並肩同行：有時只是走著，有時艱難跋涉，有時甚至得匍匐前進，並在他們各自通往卓越的道路，適時給予溫和而關鍵的推動。”



— Andrew P. J. Olson

Becoming a teacher of clinical reasoning

Diagnosis. 2018;5(1):11–14. doi: 10.1515/dx-2018-0004.



胡昱勝醫師

Department of Geriatrics and
Gerontology,
National Cheng Kung
University Hospital, Tainan,

wither0522@gmail.com

Medical competence, conceptualized in layers, each leading to a different lens

醫學能力是多層次的建構，每一層帶來不同的視角與應用

一個階層式、多層次的建構

1



典範能力 (Canonical competence)

基於醫學科學與最佳證據的核心知識與技能，是所有臨床實踐的基礎。

2



情境能力 (Contextual competence)

將核心能力調整並應用於特定臨床情境，考量病人背景、環境與資源等脈絡因素。

3



個人化能力 (Personalized competence)

整合個人價值觀、經驗與專業判斷，為個別病人提供量身訂做的照護與決策。



從「標準的知識與技能」出發，結合「情境脈絡」，最終達成「以病人為中心」的個人化照護。
層層遞進，形成更全面、更具彈性的醫學專業能力。

參考文獻

1. ten Cate O, Khursigara-Slattey N, Cruess RL, et al. Medical competence as a multilayered construct. Med Educ. 2024;58(5):485-496. doi:10.1111/medu.15176.

本研究提出醫學能力為三層次架構：典範能力、情境能力、個人化能力，可作為醫學教育、臨床訓練與評估的理論基礎。

PAL for CLINICAL REASONING

Bachelor Medicine – Maastricht University - the Netherlands

System Context

- *Curriculum re-design*
- *Institute and national policies support(ive)*

Clinical Reasoning Integration

- *Constructive alignment*
- *Teaching and learning integrated throughout curriculum year 1-2-3*
- *Authentic tasks*
- *Coaching*
- *Feedback dialogue*

Longitudinality & Triangulation

- *Multiple assessment formats, iterative*
- *Triangulation for learning and decision-making*
- *At the competency level*
- *Human judgement*