Education - How to Become an Effective Educator

Phillip S. Adams, DO, FASA

What we'll cover

- Didactic teaching
- Clinical teaching
- Feedback/evaluation
- Education research
- Opportunities

UPMC Anesthesiology and Perioperative Medicine Residency Program

Recruitment

- **Training, opportunity, mentorship**
- Bring in the "best" medical students from across the country
- Self-motivated
- Driven
- Team player
- Hard worker
- Curious
- Growth mindset
- Active in school
- No red flags (failures, repeats)
- Diversity

Clinical

- Assign to highest yield cases
- Early achievement of case/rotation requirements
- 1.2x national case counts with ≤ 55hr work week
- Minimizing scut
- Perioperative medicine
- POCUS
- Tailored to interests

Didactic

- 100% Basic and Advanced board passing
- Mock oral exams
- OSCE prep
- Structured didactics
- Evidence-driven
- Subject diversity
- Study/reading schedules
- ITE/AKT trending and safety net

Academic

- Identify interests early
- Link to faculty mentors
- Engage in national societies
- Hospital/society committees
- Conference presentations
- Presentation to publication pipeline

Well-Being

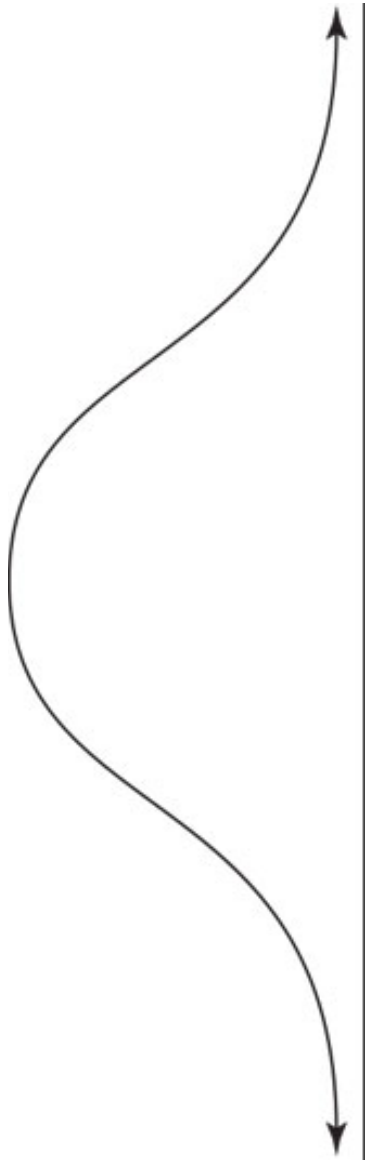
- Psychological Safety
- Career mentorship
- Financial
- Leave assistance
- Social events
- Physical health
- Spiritual appreciation
- Mental/emotional support

Case/Procedure/Patient Type	Minimum
Cardiac (w/ CPB)	20 (10)
Cesarean Section	20
Epidural	40
Spinal	40
Vaginal Delivery	40
Intracerebral (Intracerebral open)	20 (11)
Thoracic (non-cardiac)	20
Pain Evaluation (acute/cancer/chronic)	20
Peripheral Nerve Block	40
Vascular (major vessels)	20
Life-Threatening Pathology	20
Pediatric (<3mos, <3 yrs, <12 yrs)	125 (5, 20, 100)

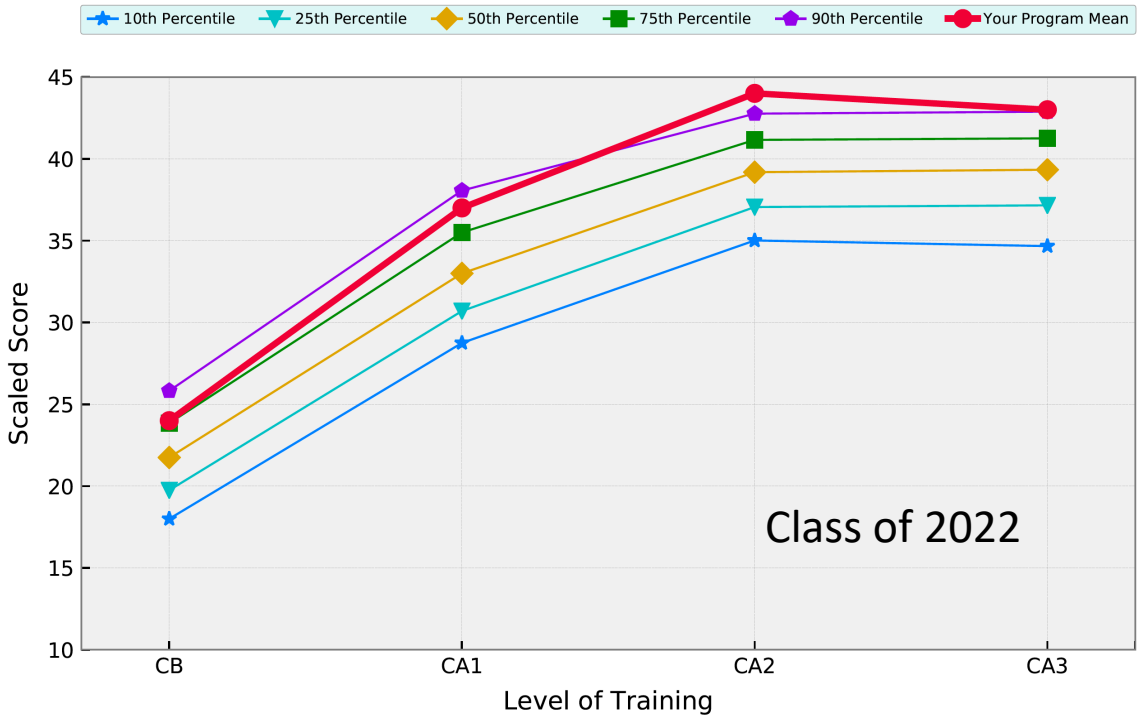
Required Rotations		
Cardiothoracic (2)	Obstetric (2)	Neuro (2)
Pediatrics (2)	CCM (4)	Chronic Pain (1)
Regional (1)	Acute Pain (1)	Preop (1)
PACU (0.5)	Offsite/NORA (0.5)	

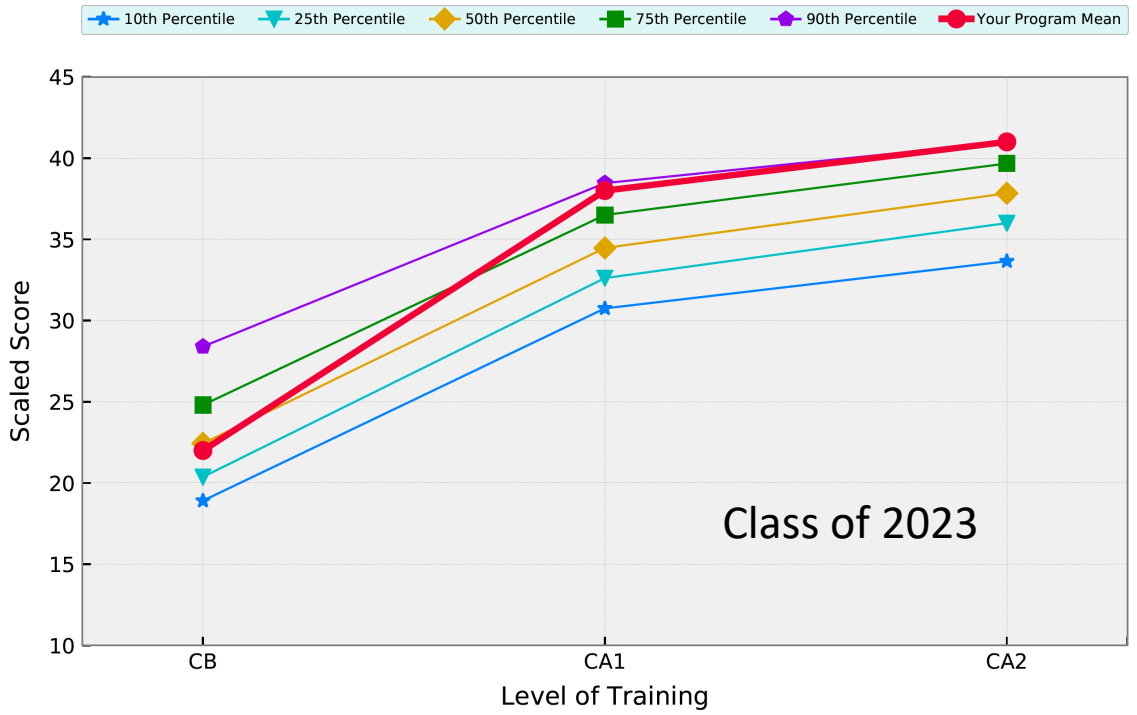
Task	Timing
Basic ABA Board	June CA1 Year
Advance ABA Board	July Immediately Post-Grad
Applied ABA Board	≥ March Post-Grad

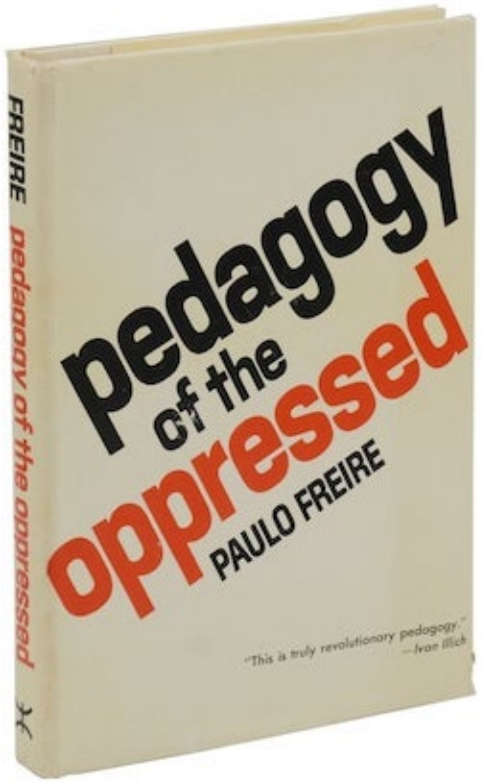
Scholarly Project
Manuscript, State/National Presentation, Book Chapter, Grant

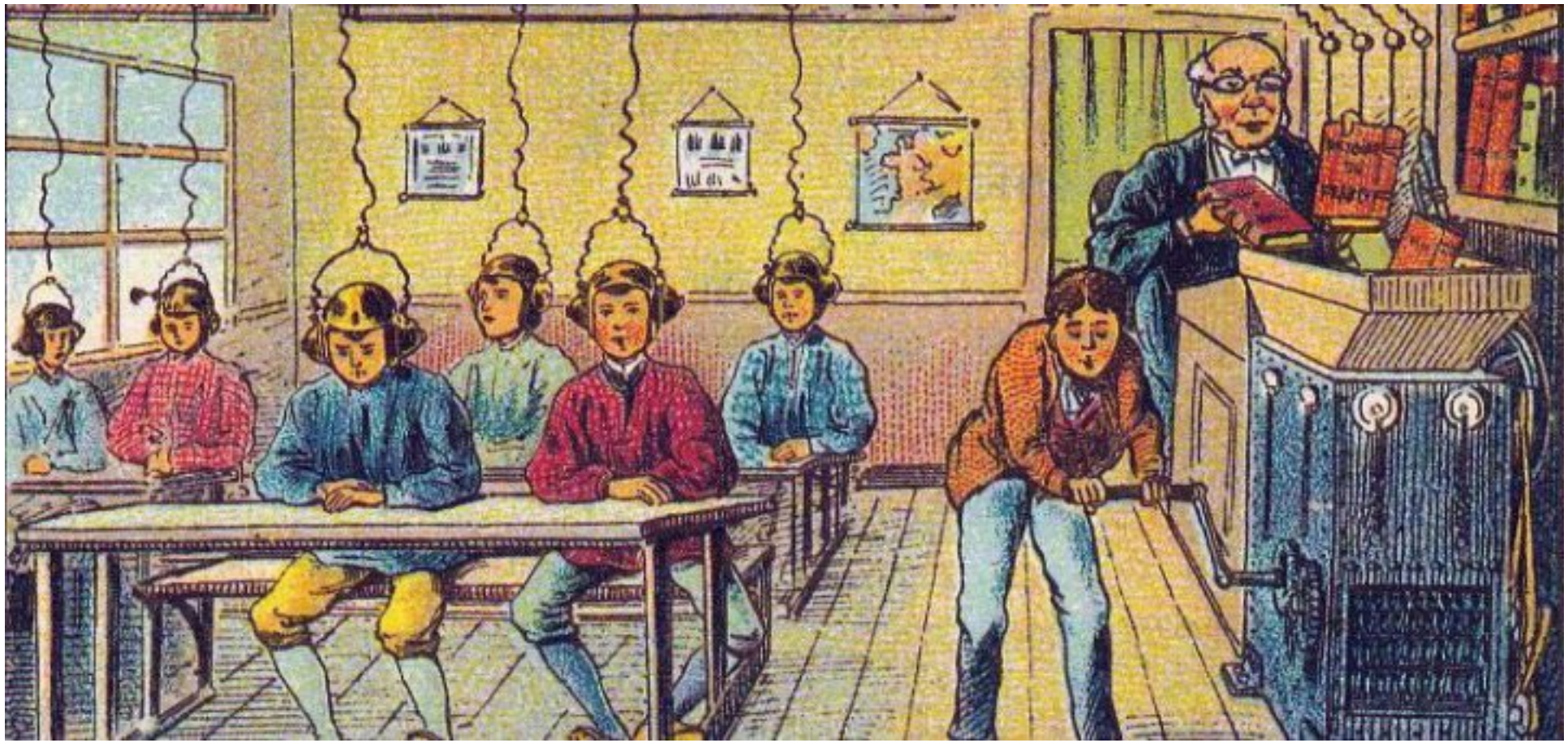


- Didactic teaching
- Clinical teaching
- Feedback/evaluation
- Education research
- Opportunities


10th Percentile
25th Percentile
50th Percentile
75th Percentile
90th Percentile
Your Program Mean
Scaled Score
45
40
35
30
25
20
15
10
CB
CA1
CA2
CA3
Level of Training
Class of 2022


10th Percentile
25th Percentile
50th Percentile
75th Percentile
90th Percentile
Your Program Mean
Scaled Score
45
40
35
30
25
20
15
10
CB
CA1
CA2
Level of Training
Class of 2023


FREIRE
pedagogy of the oppressed
pedagogy
of the
oppressed
PAULO FREIRE
"This is truly revolutionary pedagogy."
—Ivan Illich



Journal of Anesthesia & Clinical Research

Ahmad and Tariq, J Anesth Clin Res 2017, 8:6
DOI: 10.4172/2155-6148.1000734

Research Article Open Access

History and Evolution of Anesthesia Education in United States

Mian Ahmad* and Rayhan Tariq

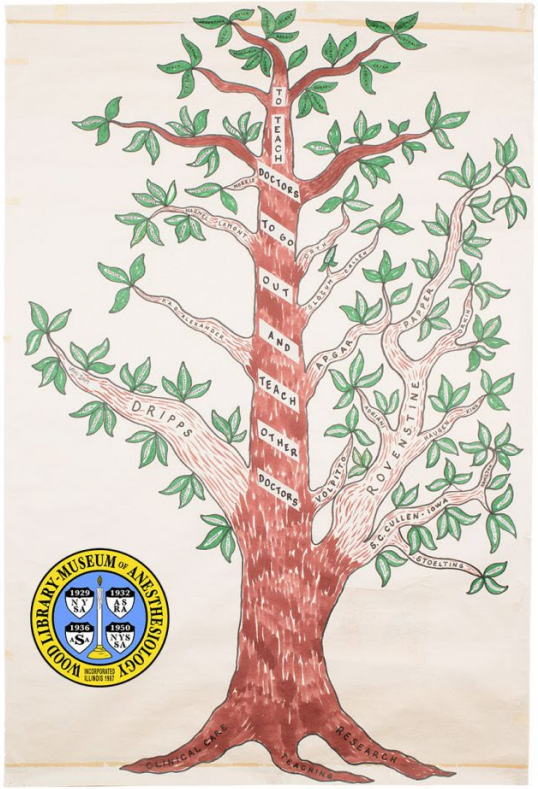
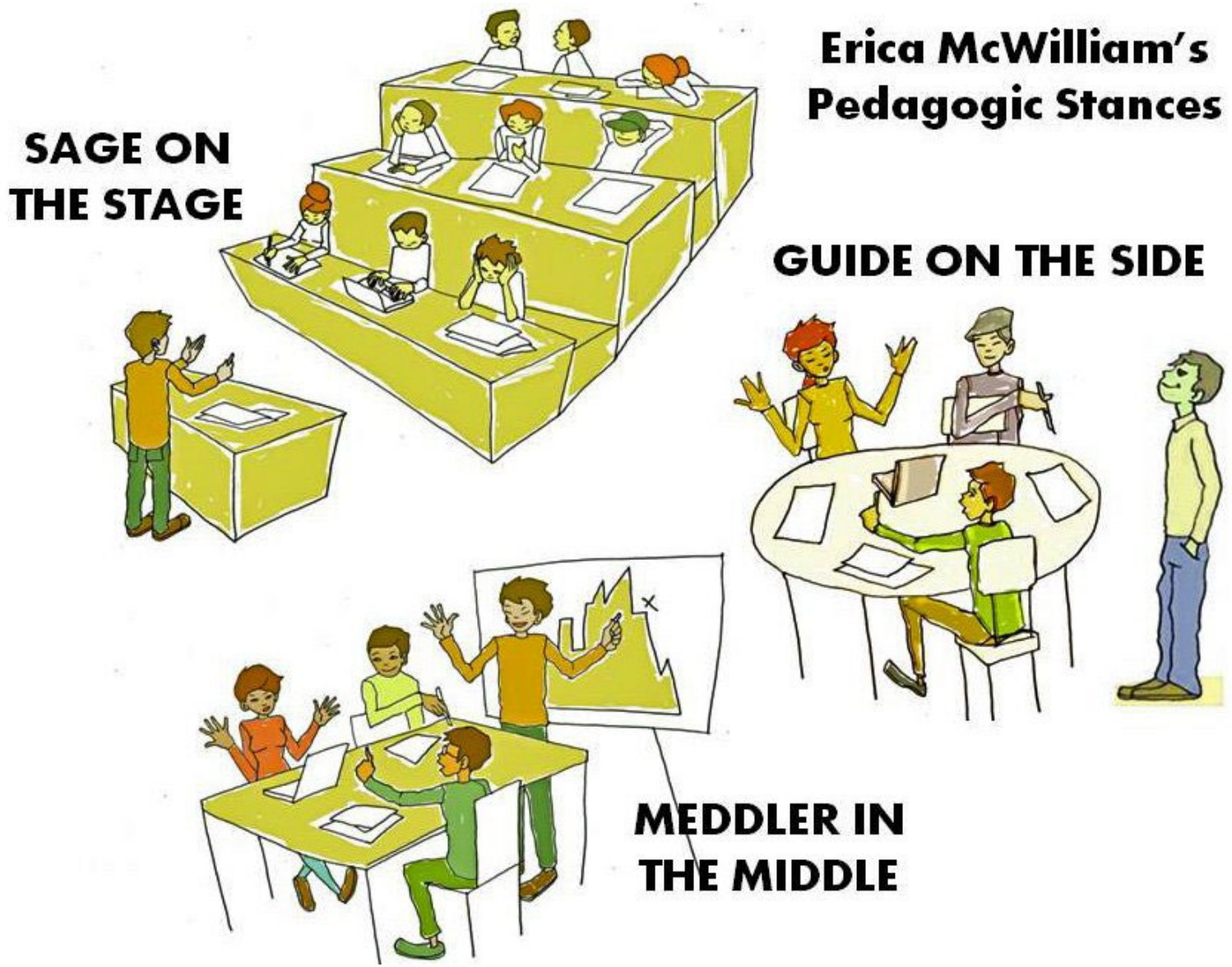


Figure 3: Dr. Volpitto teaching the Anesthesiology Residents©, modified with Permission from Department of Anesthesiology and Perioperative Medicine, Medical College of Georgia, Georgia Regents University.

Erica McWilliam's Pedagogic Stances



McWilliam, Erica L. (2009) ***Teaching for creativity : from sage to guide to meddler.*** Asia Pacific Journal of Education, 29(3). pp. 281-293.

McWilliam E. Unlearning how to teach. Innovations in education and teaching international. 2008 Aug 1;45(3):263-9.

Meddler-in-the-middle challenges more long-term notions of ‘good’ teaching in a number of ways. Specifically, it means:

(1) less time giving instructions and more time spent being a usefully ignorant co-worker in the thick of the action;

(2) less time spent being a custodial risk minimizer and more time spent being an experimenter and risk-taker;

(3) less time spent being a forensic classroom auditor and more time spent being a designer, editor and assembler;

(4) less time spent being a counsellor and ‘best buddy’ and more time spent being a collaborative critic and authentic evaluator.

“Do you get wetter in a rainstorm by standing or walking?”

NOT ANOTHER BORING LECTURE: ENGAGING LEARNERS WITH ACTIVE LEARNING TECHNIQUES

Margaret Wolff, MD,*† Mary Jo Wagner, MD,‡ Stacey Poznanski, DO,§ Jocelyn Schiller, MD,*† and Sally Santen, MD, PHD*‖

The Journal of Emergency Medicine, Vol. 48, No. 1, pp. 85–93, 2015

Table 1. Matrix of Active Learning Techniques

Technique	Definition	Resources Needed	Faculty Requirement	Preparation	Didactic or Cooperative
Pause procedures	A brief pause in a learning session to allow learners to clarify and assimilate information.	None	One per any sized group	Minimal	Didactic
One-Minute Paper	A type of pause procedure. Pose a question to the group related to the information that was just presented and ask them to write down their response.	None	One per any sized group	Minimal	Didactic
The Muddiest Point	A type of pause procedure where learners reflect on and share areas of confusion.	None	One per any sized group	Minimal	Didactic
Think-Pair-Share	Pose a question to the group and have learners consider their response individually. Next, instruct learners to pair with a neighbor to compare responses and reach consensus. End by randomly calling on pairs to share with the group.	None	One per any sized group	Minimal	Didactic
Case-based learning	A technique that use vignettes of real or hypothetical patients to facilitate a discussion.	None	One per any sized group	Moderate	Didactic
Concept maps	A technique that involves visualizing relationships between concepts by creating a diagram. Can be done individually or in groups.	If being used as a note-taking aid, a partially completed concept map will need to be provided.	One per any sized group	Moderate	Didactic or cooperative
Role-play	Learners act out a part or a particular viewpoint to better understand the concepts and theories being discussed.	None	One per any sized group	Moderate	Didactic/can be cooperative
Commitment activities	Exercises that force learners to make a decision. Can be done individually, in pairs or groups.	Audience response system – flash cards, clickers or online audience response program IF-AT® cards	One per any sized group	Moderate	Didactic
Jigsaw	A topic is divided into several smaller, interrelated pieces. Each member of the team is assigned to read and become an expert on a part of the topic. After each person has become an expert, they teach their team members about their piece. After each person in the group is finished teaching their portion, the puzzle is assembled.	Prereading	This can be done with one faculty member, but additional faculty members can be helpful facilitating small groups	Extensive	Cooperative
Team-based learning	Small-group learning that involves preclass preparation so that learners are ready to learn. This is followed by a classroom portion where learners are tested on the preclass material and then challenged to apply core content to scenarios as a team.	Prereading Test materials Cases	One faculty member facilitating multiple small groups	Extensive	Cooperative
Problem-based learning	Case-based learning in small groups.	Cases	One faculty member for each small group	Extensive	Cooperative
Thinking Hats	During this exercise, learners wear different metaphorical hats that represent a different way of approaching a problem or topic.		One faculty member for small–medium-sized group	Extensive	Cooperative

Didactic teaching

Clinical teaching

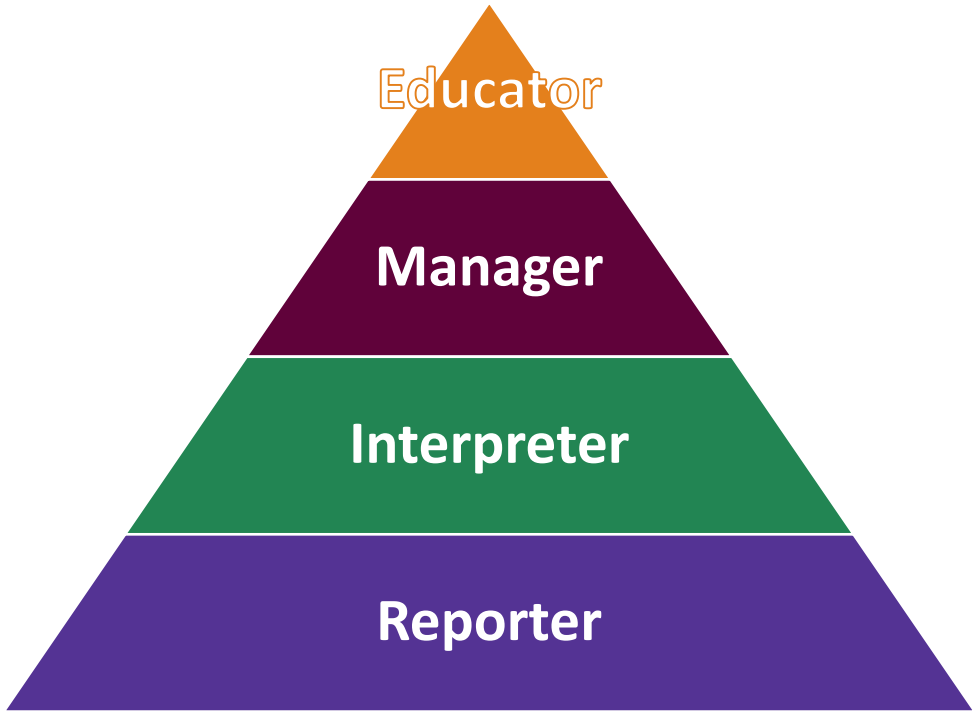
Feedback/evaluation

Education research

Opportunities

Hi Dr. Attending… it’s Dr. Resident

We are working in OR 12 tomorrow…



Core EPAs for a Reporter	
1.	Gather a history and perform a physical examination.
5.	Document a clinical encounter in the patient record.
6.	Provide an oral presentation of a clinical encounter.
Core EPAs for an Interpreter	
2.	Prioritize a differential diagnosis following a clinical encounter.
3a.	Interpret common diagnostic and screening tests.
10a.	Recognize a patient requiring urgent or emergent care.
Core EPAs for a Manager	
3b.	Recommend common diagnostic and screening tests.
4.	Enter and discuss orders and prescriptions.
8.	Give or receive a patient handover to transition care responsibility.
10b.	Initiate urgent or emergent care.
11.	Obtain informed consent for tests and/or procedures.
12.	Perform general procedures of a physician.
Core EPAs for an Educator	
9.	Collaborate as a member of an interprofessional team.
7.	Form clinical questions and retrieve evidence to advance patient care.
13.	Identify system failures and contribute to a culture of safety and improvement.

Meyer EG, Kelly WF, Hemmer PA, Pangaro LN. The RIME model provides a context for entrust able professional activities across undergraduate medical education. Acad Med. 2018;93:954

ORIGINAL CLINICAL RESEARCH REPORT

Development and Pilot Testing of Entrustable Professional Activities for US Anesthesiology Residency Training

Glenn E. Woodworth, MD,* Adrian P. Marty, MD,† Pedro P. Tanaka, MD,‡ Aditee P. Ambardekar, MD, MSEd,§ Fei Chen, PhD, MEd,‖ Michael J. Duncan, MD,¶ Ilana R. Fromer, MD,# Matthew R. Hallman, MD,** Lisa L. Klesius, MD,†† Beth L. Ladlie, MD, MPH,‡‡ Sally Ann Mitchell, EdD, MMSc,§§ Amy K. Miller Juve, EdD, MEd,‖‖ Brian J. McGrath, MD,¶¶ John A. Shepler, MD,†† Charles Sims III, MD,‡‡ Christina M. Spofford, MD, PhD,## Wil Van Cleve, MD, MPH,** and Robert B. Maniker, MD, MS***

Anesth Analg. 2021;132(6):1579-1591.

Table 1. Final Entrustment Scale

Entrustment level	Explanation
1: I did it	Supervisor did the activity, trainee observed or assisted
2: Direct supervision	Supervisor talked trainee through activity (constant or near-constant supervision, requires physical presence of the supervisor)
3: Reactive supervision	Supervisor directed trainee from time to time (supervisor does not need to be constantly observing, trainee often requires consultation)
4: Available if needed	Supervisor was available just in case (trainee requires infrequent consultation)
5: Independent practice	Trainee ready for independent practice

Table 2. Final List of Entrustable Professional Activities for US Anesthesiology Residency Training

Category	EPA title
Foundational	Preoperative Assessment and Optimization
	Perioperative Care of a General Operating Room Case
	Airway Management
	PACU Management
	Transfer of Care
Obstetric	Labor Analgesia
	Perioperative Care for Cesarean Section
	Perioperative Care of a Pregnant Patient Undergoing Non-Obstetric Surgery
Pediatric	Perioperative Care of a Pediatric Patient Presenting for Anesthesia
	Perioperative Care of Neonatal Patient Presenting for Anesthesia
Cardiothoracic	Perioperative Care for Cardiac Surgery
	Perioperative Care for Thoracic Surgery
Critical care	Critical Care of Non-OR Patients (ICU Management)
Regional/acute pain	Management of Acute Pain Out of the OR
	Perioperative Care of a Patient Managed with Regional Anesthesia
Chronic pain	Management of a Non-OR Patient with Chronic Pain
Other special cases	Perioperative Care for Intracranial Procedures
	Perioperative Care for Major Trauma
	Perioperative Care for Abdominal Aortic Surgery
	Perioperative Care of an Out-of-OR Case

Anesthesiology Milestones

The Accreditation Council for Graduate Medical Education

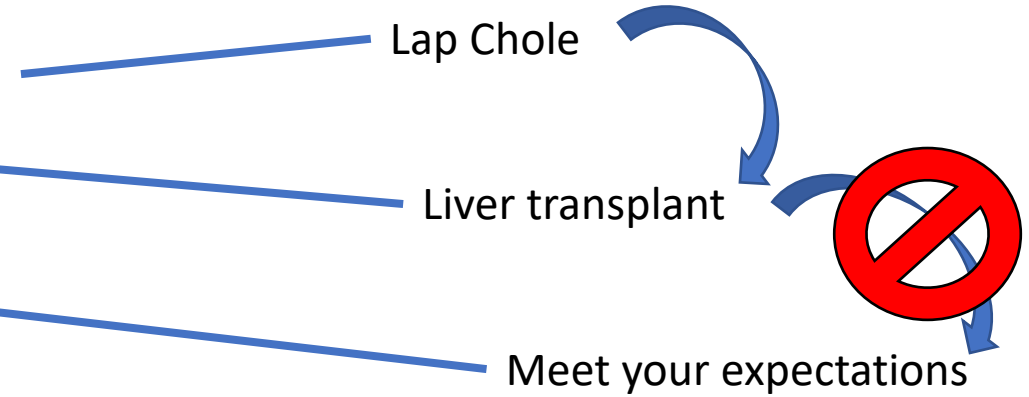
ACGME

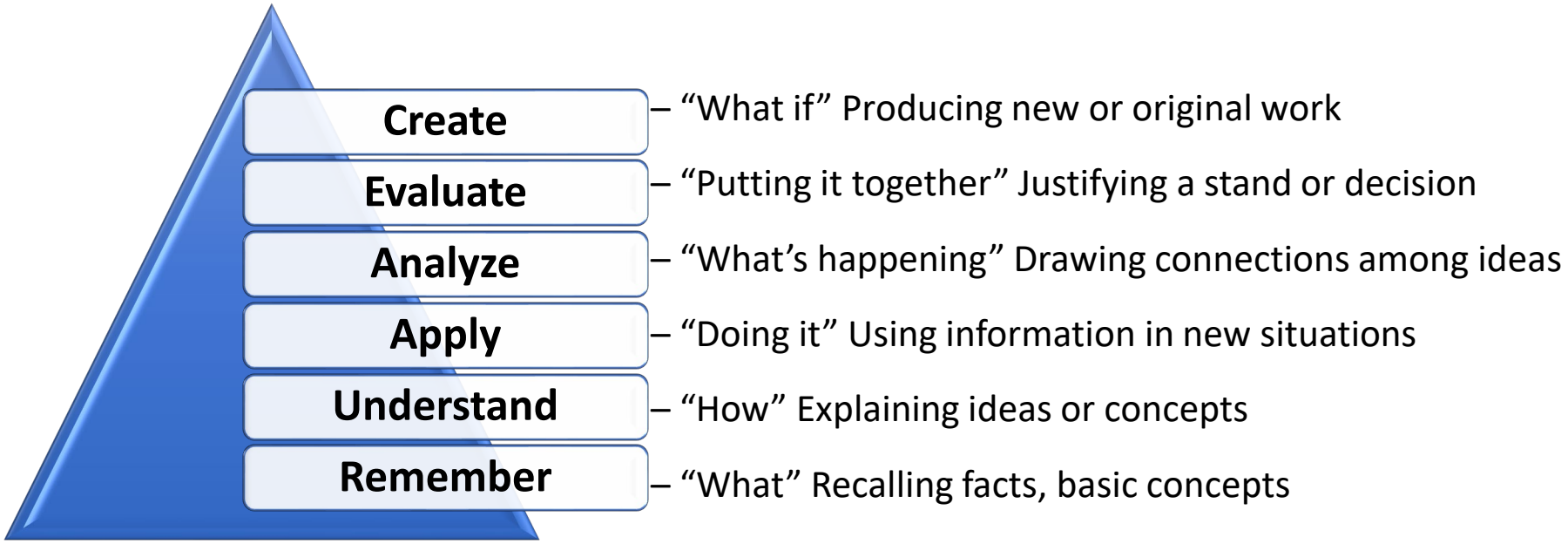
Second Revision: November 2020
First Revision: December 2013

1. Patient Care 1: Pre-Anesthetic Evaluation
2. Patient Care 2: Peri-Operative Care and Management
3. Patient Care 3: Application and Interpretation of Monitors
4. Patient Care 4: Intra-Operative Care
5. Patient Care 5: Airway Management
6. Patient Care 6: Point-of-Care Ultrasound
7. Patient Care 7: Situational Awareness and Crisis Management
8. Patient Care 8: Post-Operative Care
9. Patient Care 9: Critical Care
10. Patient Care 10: Regional (Peripheral and Neuraxial) Anesthesia
11. Medical Knowledge 1: Foundational Knowledge
12. Medical Knowledge 2: Clinical Reasoning
13. Systems-Based Practice 1: Patient Safety and Quality Improvement
14. Systems-Based Practice 2: System Navigation for Patient-Centered Care
15. Systems-Based Practice 3: Physician Role in Health Care Systems
16. Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice
17. Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth
18. Professionalism 1: Professional Behavior and Ethical Principles
19. Professionalism 2: Accountability/Conscientiousness
20. Professionalism 3: Well-Being
21. Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication
22. Interpersonal and Communication Skills 2: Interprofessional and Team Communication
23. Interpersonal and Communication Skills 3: Communication within Health Care Systems

Bloom's Taxonomy - Cognitive

- At what level are your learner's learning?
- At what level are you teaching?
- You cannot expect a trainee to synthesize if they haven't yet achieved comprehension.





– "What if" Producing new or original work

– "Putting it together" Justifying a stand or decision

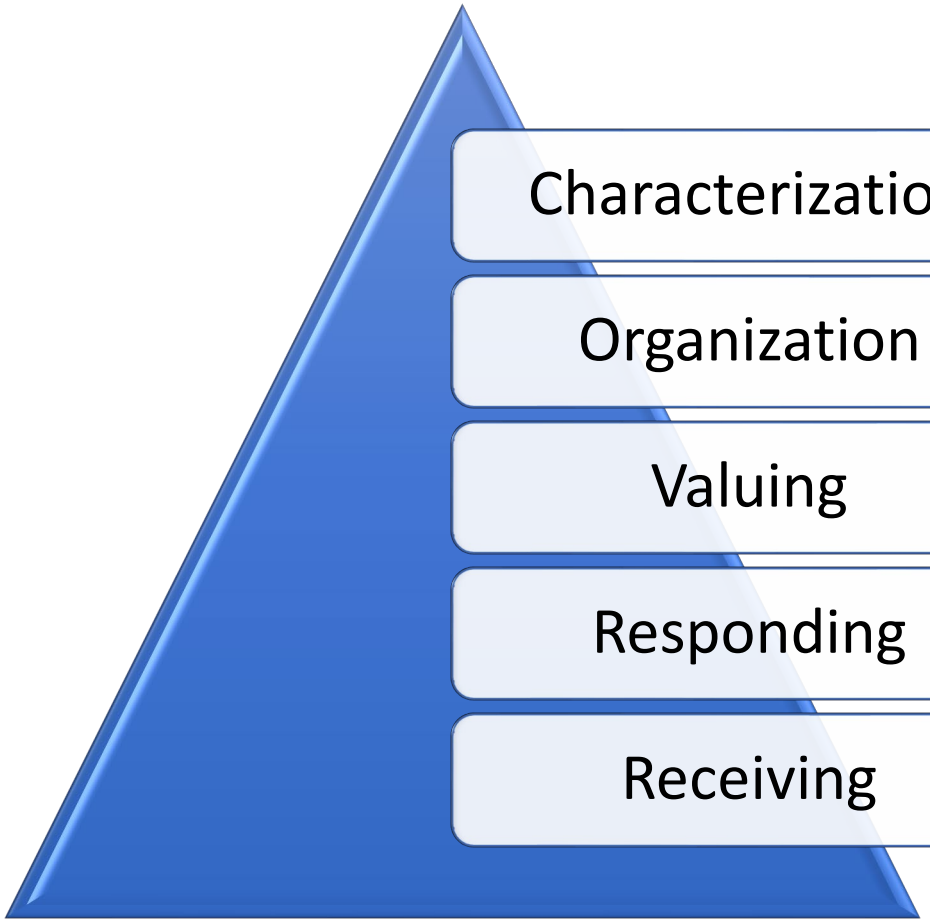
– "What's happening" Drawing connections among ideas

– "Doing it" Using information in new situations

– "How" Explaining ideas or concepts

– "What" Recalling facts, basic concepts

Bloom's Taxonomy - Affective



Invested, profound interest, a champion

A desire to investigate, classifying, assigning hierarchy

Caring, feeling that what one is doing means something

Participating, reporting, acting

Knowing, will listen

What Makes a Good Clinical Teacher in Medicine? A Review of the Literature

Gary Sutkin, MD, Elizabeth Wagner, Ilene Harris, PhD, and Randolph Schiffer, MD

Academic Medicine, Vol. 83, No. 5 / May 2008

68 articles included

480 descriptions of good clinical teachers

49 themes

Clustered into 3 larger categories

- Physician characteristics
- Teacher characteristics
- Humanistic characteristics

Physician characteristics

Demonstrates medical/clinical knowledge* 6,11,15,20,23,24,27,33,36, 45,47–51,54,55,58,59,61,62,64,66, 67,70,73,74,77,79 (30)

Demonstrates clinical and technical skills/competence, clinical reasoning* 11,12,15,19–21, 30,32,35,48,49,51–53,55,57,58,62, 64,66,67,69,73,74,77,79–81 (28)

Shows enthusiasm for medicine† 6,11,12,14,16, 21,27,32,45,49,50,52,54,56,59,62, 63,68,77 (19)

Teacher characteristics

Maintains positive relationships with students and a supportive learning environment† 11,14,17, 21,22,24,29,31–34,36,48,49, 58,59,65–67,69,72,74,77–79,82 (27)

Demonstrates enthusiasm for teaching† 12,14,17,20,22, 27,30,31,34,36,49,50,53,67, 69,74,77,81 (18)

Is accessible/available to students† 13–15,17,18,30,33,34,36, 65–67,69,74,76,81 (16)

Human characteristics

Communication skills† 12, 21,22,27,29,30,32, 34,35,54,58,60,65,66, 67,71,74,75,77,82 (21)

Acts as role model–other† 11 14,16,19–22,24,32,50, 57,69,72,80,81 (15)

Is an enthusiastic person in general† 1,12,19,32,49,50,51,53, 56,58,59,61,69,81 (14)

What Makes a Good Clinical Teacher in Medicine? A Review of the Literature

Gary Sutkin, MD, Elizabeth Wagner, Ilene Harris, PhD, and Randolph Schiffer, MD

Academic Medicine, Vol. 83, No. 5 / May 2008

68 articles included

480 descriptions of good clinical teachers

49 themes

Clustered into 3 larger categories

- Physician characteristics
- Teacher characteristics
- Humanistic characteristics

What Makes a Good Clinical Teacher in Medicine? A Review of the Literature

Gary Sutkin, MD, Elizabeth Wagner, Ilene Harris, PhD, and Randolph Schiffer, MD

Academic Medicine, Vol. 83, No. 5 / May 2008

68 articles included

480 descriptions of good clinical teachers

49 themes

Clustered into 3 larger categories

- Physician characteristics
- Teacher characteristics
- Humanistic characteristics

Psychological Safety

1. If you make a mistake in this team, it is often held against you.
2. People on this team sometimes reject others for being different.
3. It is difficult to ask other members of this team for help.
4. Members of this team are able to bring up problems and tough issues.
5. It is safe to take a risk in this team.
6. No one on this team would deliberately act in a way that undermines my efforts.
7. Working with members of this team, my unique skills and talents are valued and utilized.

Risky Business: Psychological Safety and the Risks of Learning Medicine

William E. Bynum, MD
Taha M. Haque, DO

Journal of Graduate Medical Education, December 1, 2016

Learning Behaviors:

- Making mistakes
- Missing important information
- Incorrectly answering questions
- Responding to feedback
- Reflecting on self-worth and professional identity

"…feels like he is "under a microscope" of constant evaluation and fears that engaging in these normal learning behaviors might lead to judgment, reprisal, and humiliation should he stumble or fail. The ambiguity and uncertainty that exist in the clinical learning environment increase the risk associated with his learning experience."

Risky Business: Psychological Safety and the Risks of Learning Medicine

William E. Bynum, MD
Taha M. Haque, DO

Journal of Graduate Medical Education, December 1, 2016

- risks of feeling incompetent, unworthy, or deficient
- experiencing marginalization and impaired belonging within a team
- being humiliated by trusted advisors
- having to remediate in the face of academic struggle
- being blamed or held legally responsible following a medical error

Does Psychological Safety Impact the Clinical Learning Environment for Resident Physicians? Results From the VA's Learners' Perceptions Survey

Karina D. Torralba, MD, MACM
Lawrence K. Loo, MD
John M. Byrne, DO
Samuel Baz, MD
Grant W. Cannon, MD
Sheri A. Keitz, MD, PhD
Annie B. Wicker, BS
Steven S. Henley, MS
T. Michael Kashner, PhD, JD

Journal of Graduate Medical Education, December 1, 2016

- 13,044 residents completed the Learners' Perception Survey (30% completion rate)
- more likely to report PS if they:
  - were male
  - were in a less complex clinical facility,
  - in an "other" medicine or psychiatry specialty
  - cared for patients who were aged, had multiple illnesses, or had social supports

PS was strongly associated with residents' satisfaction of their clinical learning experiences, with respondents who reported **1 higher level of PS being 3.0 times more likely to report a higher level of satisfaction for their clinical learning environment (95%CI 2.8-3.3, P < .001)**, when adjusting for observed covariates, correcting for response biases, and when calibrating for unobserved confounding factors.

Psychological Safety

1. If you make a mistake in this team, it is often held against you.
2. People on this team sometimes reject others for being different.
3. It is difficult to ask other members of this team for help.
4. Members of this team are able to bring up problems and tough issues.
5. It is safe to take a risk in this team.
6. No one on this team would deliberately act in a way that undermines my efforts.
7. Working with members of this team, my unique skills and talents are valued and utilized.

Didactic teaching

Clinical teaching

Feedback/evaluation

Education research

Opportunities

I worked with this resident, and they were horrible…

They didn’t know what they were doing…

I couldn’t leave them alone…

Burgess et al. BMC Medical Education 2020, 20(Suppl 2):460
https://doi.org/10.1186/s12909-020-02280-5

BMC Medical Education

REVIEW Open Access

Feedback in the clinical setting

Annette Burgess[1,2*], Christie van Diggele[2,3], Chris Roberts[1,2] and Craig Mellis[4]

1. Planned, considering the place, timing and environment
2. Explicit
3. Descriptive
4. Focused on behaviour, not personality
5. Specific
6. Concise
7. Verified by the recipient
8. Honest

Table 1 Feedback model (data from Pendleton et al., 1984) [18]

1. Ask the learner what went well
2. Tell the learner what went well
3. Ask the learner what could be improved
4. Tell the learner what could be improved

Structure

- Schedule the feedback session at convenient time for teacher and student
- Make the purpose of meeting clear
- Seating arrangement in the room should show the teacher as a 'participant' e.g. round table
- Feedback should focus on observed knowledge, attitudes and behaviours
- The format of the session should include self-assessment, teacher assessment and joint development of an action plan

Format

- The aim of the feedback session is to improve student performance - make this clear
- Session structure should be made clear - student self-assessment, teacher assessment, joint development of an action plan
- Use an appropriate feedback model e.g. Pendleton's positive critique method
- It is important to both give positive feedback and areas requiring improvement
- The assessor should provide examples and strategies for improvement

Content

- Teachers and students need time to prepare respective content for the session
- The learner should assess their own learning objectives for the clinical placement, including formal objectives and personal objectives
- The teacher should prepare for the session by making direct observations of the student's performance, and gaining feedback from others on the team
- The teacher should review notes and only select a few points to cover

Burgess et al. BMC Med Edu. 2020.

Jacoutot, M. (2018, July 30). Why leadership should praise the process - not the result. LinkedIn. Retrieved October 10, 2022, from https://www.linkedin.com/pulse/why-leadership-should-praise-process-result-michael-jacoutot/

Bad things to write in evaluations:

- Dr. Resident is clueless
- I can’t leave Dr. Resident in the room alone

Instead, consider:

- Dr. Resident demonstrated good medical knowledge regarding our patient’s comorbidities. However, their knowledge of opioid pharmacology is not at the level I would expect.
- Dr. Resident struggled to articulate an appropriate management strategy for treating hypotension in our patient with a-fib and an EF of 15%

Article 10

Psychological Review
1986, Vol. 93, No. 4, 429–445

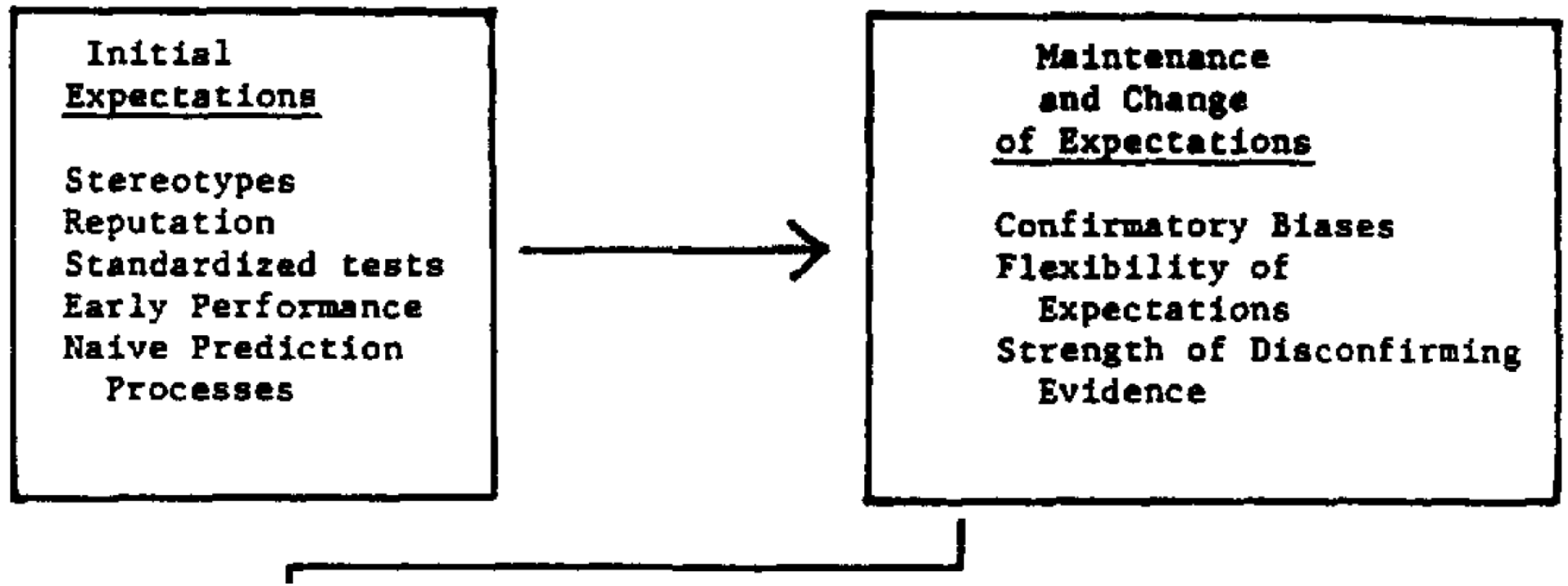
Copyright 1986 by the American Psychological Association, Inc.
0033-295X/86/$00.75

Self-Fulfilling Prophecies: A Theoretical and Integrative Review

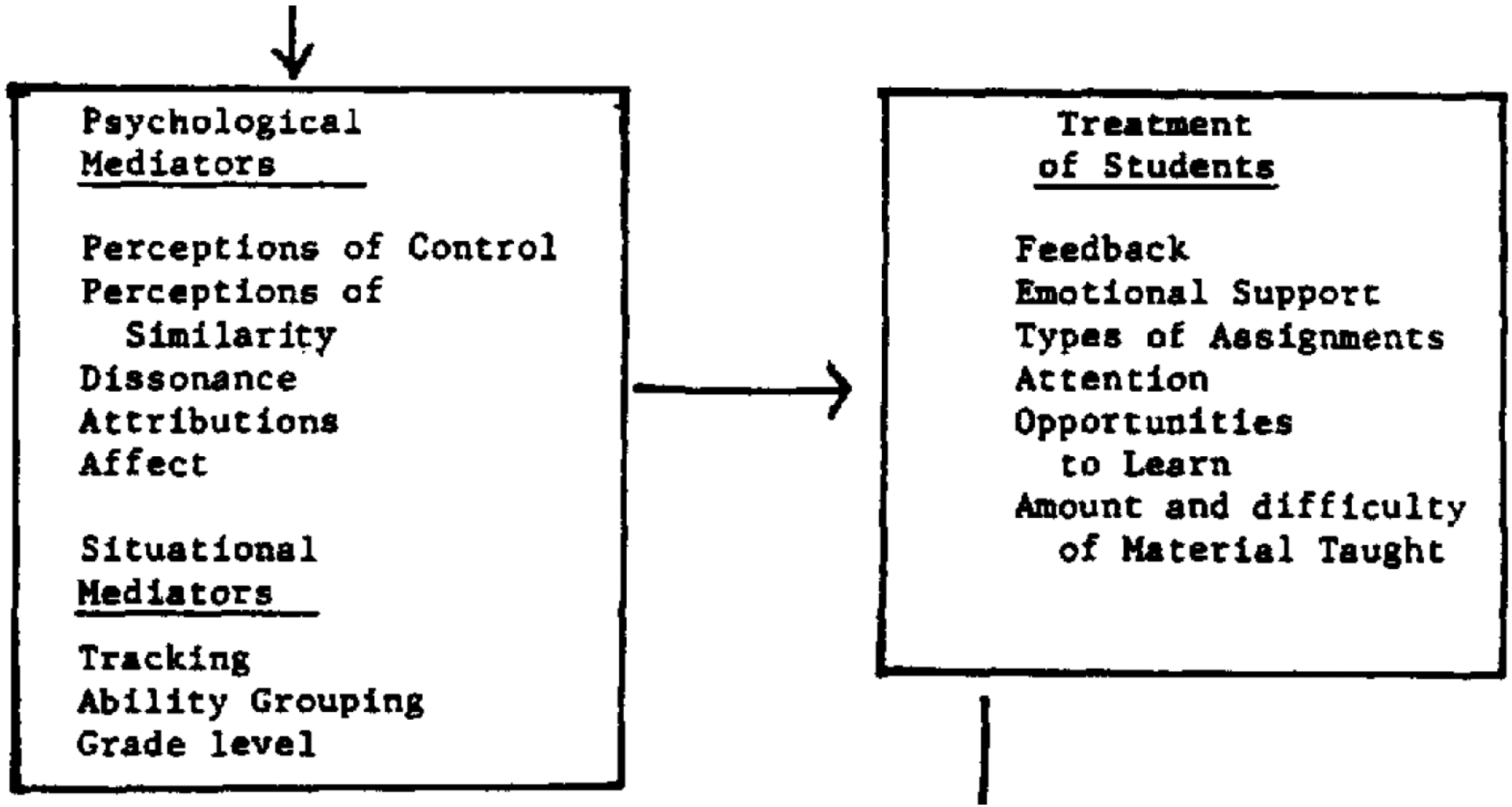
Lee Jussim
University of Michigan

Self-fulfilling prophecies have become a major area of research for social, personality, developmental, and educational psychologists. This article reviews classroom self-fulfilling prophecies in terms of three sequential stages: (a) Teachers develop expectations, (b) teachers treat students differently depending on their expectations, and (c) students react to this treatment in expectancy-confirming ways. The focus of the review is on the social and psychological events occurring at each of these stages, the causal processes linking one stage to the next, and the conditions limiting the occurrence of self-fulfilling prophecies. Finally, it provides a theoretical framework for both understanding past research and guiding future research on self-fulfilling prophecies.

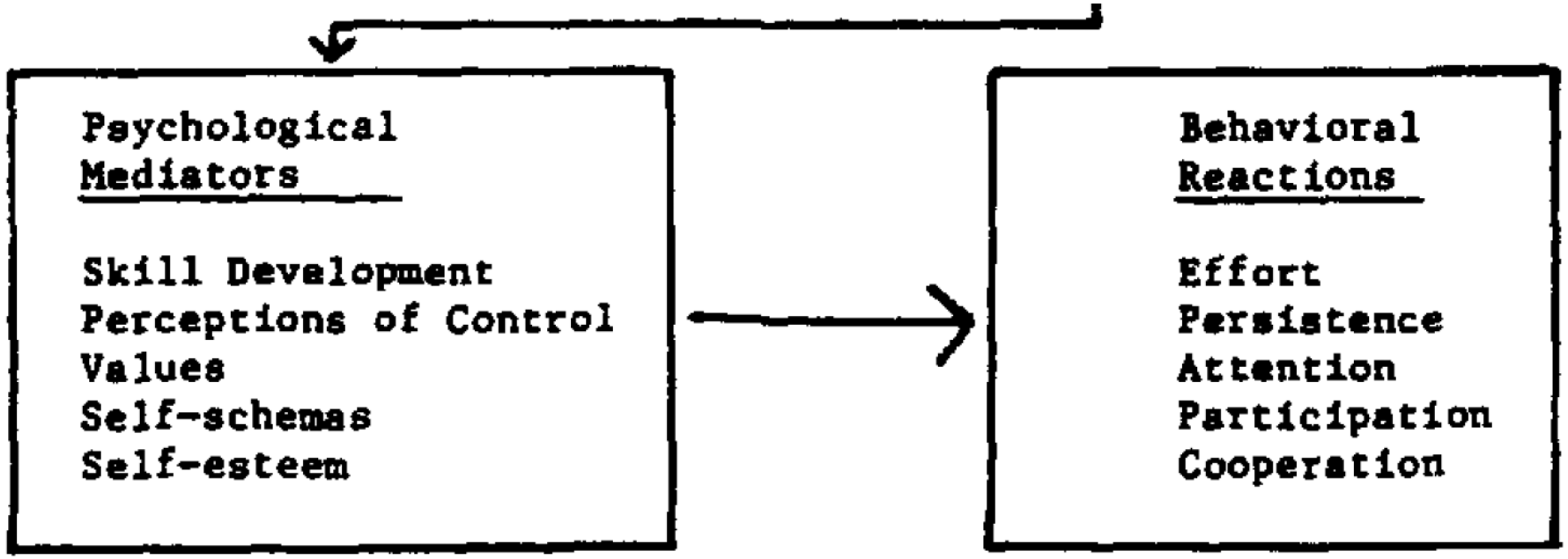
Teacher Expectations:



Differential Treatment:



Students' Reactions:



Low expectations:

- More need to control behaviors
- More monitoring
- More structured assignment
- Less feedback
- Less praise for effort
- Less chance to think and self-correct
- More likely to interpret treatment as unfavorable
- Respond less to success

High expectations:

- More emotional support
- More time and effort
- Provided more opportunities to learn
- Work harder to demonstrate competence
- High self-esteem leads to higher intrinsic motivation

Self-fulfilling prophecy

	"Good" Trainee	"Bad" Trainee
Good outcome	Due to the trainee (intrinsic)	Due to the environment (extrinsic)
Bad outcome	Due to the environment (extrinsic)	Due to the trainee (intrinsic)

Preconceived notions of a trainee (reputation, bias, stereotypes) can perpetuate trainee behaviors

- A trainee with a reputation of struggling might have a procedure taken away from them immediately. They expect to fail and to be monitored and controlled. They discount success.
- A trainee with a reputation of being strong may be given multiple attempts to perform a procedure. They are used to more praise and support. Success is affirming.

The Influence of Prior Performance Information on Ratings of Current Performance and Implications for Learner Handover: A Scoping Review

Susan Humphrey-Murto, MD, MEd, Aaron LeBlanc, MD, MEd, Claire Touchie, MD, MHPE, Debra Pugh, MD, MHPE, Timothy J. Wood, PhD, Lindsay Cowley, MA, and Tammy Shaw, MD

Acad Med. 2019;94:1050–1057.

Assimilation effect – bias toward the direction of the prior performance level

Contrast effect – bias away from the direction of the prior performance level

Indirect prior performance information – obtained from others (word of mouth, written)

Direct prior performance information – performance directly observed

The Influence of Prior Performance Information on Ratings of Current Performance and Implications for Learner Handover: A Scoping Review

Susan Humphrey-Murto, MD, MEd, Aaron LeBlanc, MD, MEd, Claire Touchie, MD, MHPE, Debra Pugh, MD, MHPE, Timothy J. Wood, PhD, Lindsay Cowley, MA, and Tammy Shaw, MD

Acad Med. 2019;94:1050–1057.

- Learner handover – good for feedback and longitudinal growth. However, may lead to bias
- 14% of US IM residencies had formal handover policies → most *prohibiting* handover
- Performed systematic review and analyzed 24 articles that met inclusion criteria

7 Themes:

1. Assimilation – nearly all studies revealed an assimilation effect with indirect handovers, noted to be “dose-dependent”
2. Direct vs. Indirect – more likely to have contrast effect with direct prior performance information
3. Positive vs. Negative – effect nearly 2x as large for negative prior performance information
4. Modality – no difference if verbal vs. written indirect prior performance information
5. Target performance – if performance observed incongruent with prior information, rater’s less confident
6. Specific vs. general standard – assimilation effect more prevalent with general standards
7. Raters – experts just as likely to be swayed by prior performance information as novices, 22% unaffected by prior performance information

Advances in Health Sciences Education
https://doi.org/10.1007/s10459-020-09979-6

How biased are you? The effect of prior performance information on attending physician ratings and implications for learner handover

Tammy Shaw[1,4] · Timothy J. Wood[2] · Claire Touchie[1,2,3] · Debra Pugh[1,3] · Susan M. Humphrey-Murto[1,2]

Received: 14 February 2020 / Accepted: 15 June 2020

Order (between subject)	LH condition (repeated measures)	
	Positive LH	Negative LH
Group A (n = 14)	(Video 3, 4, 6)	(Video 1, 2, 5)
Group B (n = 14)	(Video 1, 2, 5)	(Video 3, 4, 6)

LH condition	Mean mini-CEX rating (SD)*	Overall clinical competence (SD)**
Negative ($n=28$)	5.29 (0.79)	5.18 (0.90)
No LH or control ($n=14$)	5.72 (0.74)	5.73 (0.69)
Positive ($n=28$)	5.97 (0.89)	5.87 (1.01)

n = number of participants

Mean mini-CEX rating is calculated by averaging the individual competence rating scale scores per video for each rater, then calculating the average of these means per learner handover condition for each rater

*$P=.01$; **$P=.02$

Arguably, the absolute difference in scores (0.68 on a 9-point scale or 7.6%) might be considered small, however, in any individual with a score near the cut score, this difference is substantial, and could be the difference between a pass/fail standing.

Research Report

Learner Handover: Who Is It Really For?

Susan Humphrey-Murto, MD, MEd, Lorelei Lingard, PhD, Lara Varpio, PhD, Christopher John Watling, MD, PhD, Shiphra Ginsburg, MD, MEd, PhD, Scott Rauscher, and Kori LaDonna, PhD

Academic Medicine, Vol. 96, No. 4 / April 2021

23 faculty
2 institutions
13 specialties

1. **Handover benefitting learner** – to inform teaching and feedback, identify and assist struggling trainees, individualized learning opportunities
2. **Handover hindering through bias** – can lock in expectations, excessive scrutiny, excluded from learning opportunities
3. **Handover benefitting patients** – patient implications override that of trainee, need to know how much trust can be given,
4. **Handover benefitting faculty** – helps to target next faculty's areas for teaching, as "self-defense" when unfamiliar with the trainee, loses its benefit for patients and learners when it veers straight into gossip territory

Summary of handovers

- Some pros, some cons
- Better if structured/itemized as opposed to generalizations
- Not constructive if gossip/venting
- Should be used to target areas for improvement (for both thriving and struggling)
- Allow opportunities for success

Didactic teaching

Clinical teaching

Feedback/evaluation

Education research

Opportunities

We gave a group of learners a test

We taught a group of learners something

We tested them again and the p-value is < .05

7 Deadly Sins in Educational Research

Katherine Picho, PhD
Anthony R. Artino Jr, PhD

Journal of Graduate Medical Education, October 1, 2016

Sins committed before research

1. The curse of the handicapped literature review
2. Inadequate power
3. Ignoring the importance of measure

Sins committed during research

4. Using the wrong statistical tool
5. Merciless torture of data and other questionable analysis practices

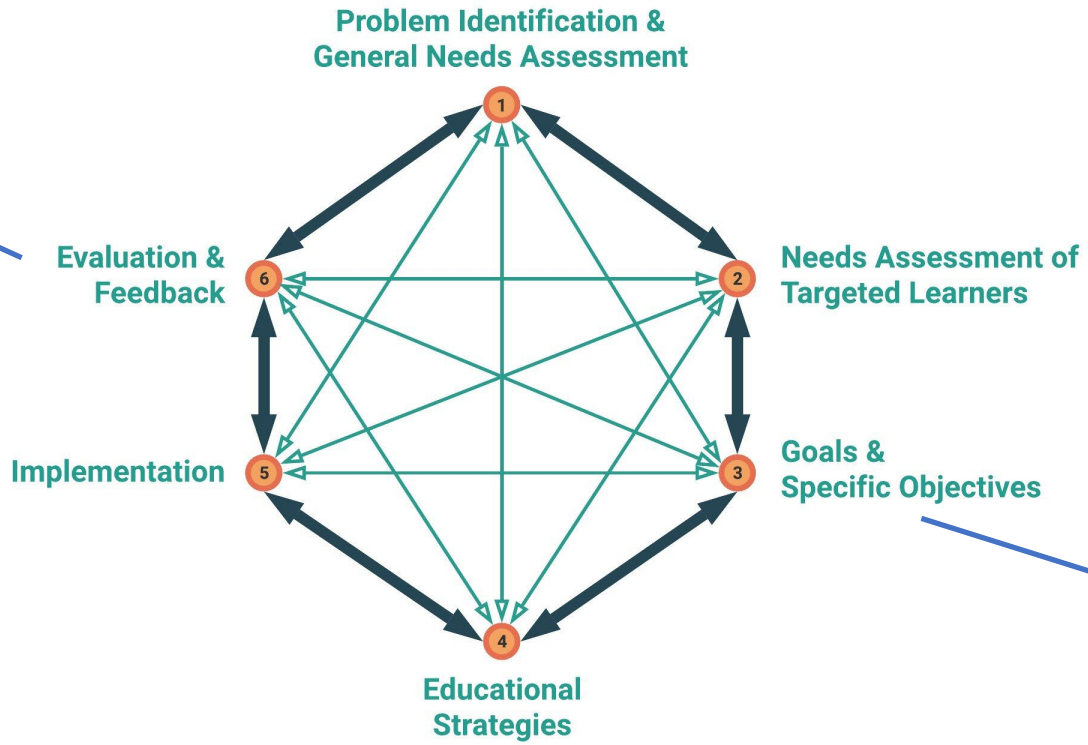
Sins committed after research

6. Slavery to the p-value
7. Lack of transparency in reporting results and maintaining raw data

KERN'S 6 STEPS

CURRICULUM DEVELOPMENT for
Health Professions Education can be divided into **6 STEPS**.

Kirkpatrick
Miller



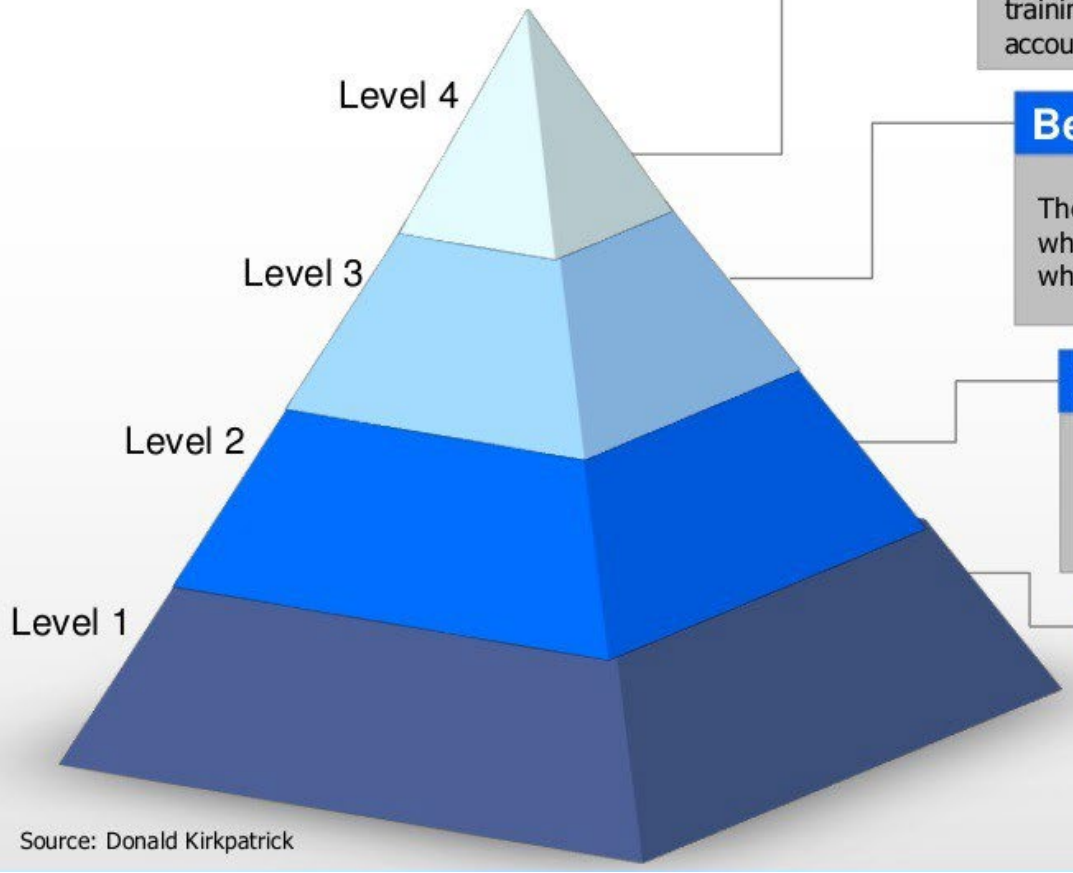
Specific
Measurable
Achievable
Relevant
Time-bound

By convention, **KERN'S 6 STEPS** are presented in a specific order, however curricular development involves fluidly transitioning among all steps.

Davis, J. (n.d.). *Curriculum development 1*. MedEd Models. Retrieved October 10, 2022, from https://www.mededmodels.com/curriculum-development-1

@MedEdModels

Overview of Kirkpatrick's Four-Level Training Evaluation Model



Results

The degree to which targeted outcomes occur as a result of the training and the support and accountability package

Behavior

The degree to which participants apply what they learned during training when they are back on the job

Learning

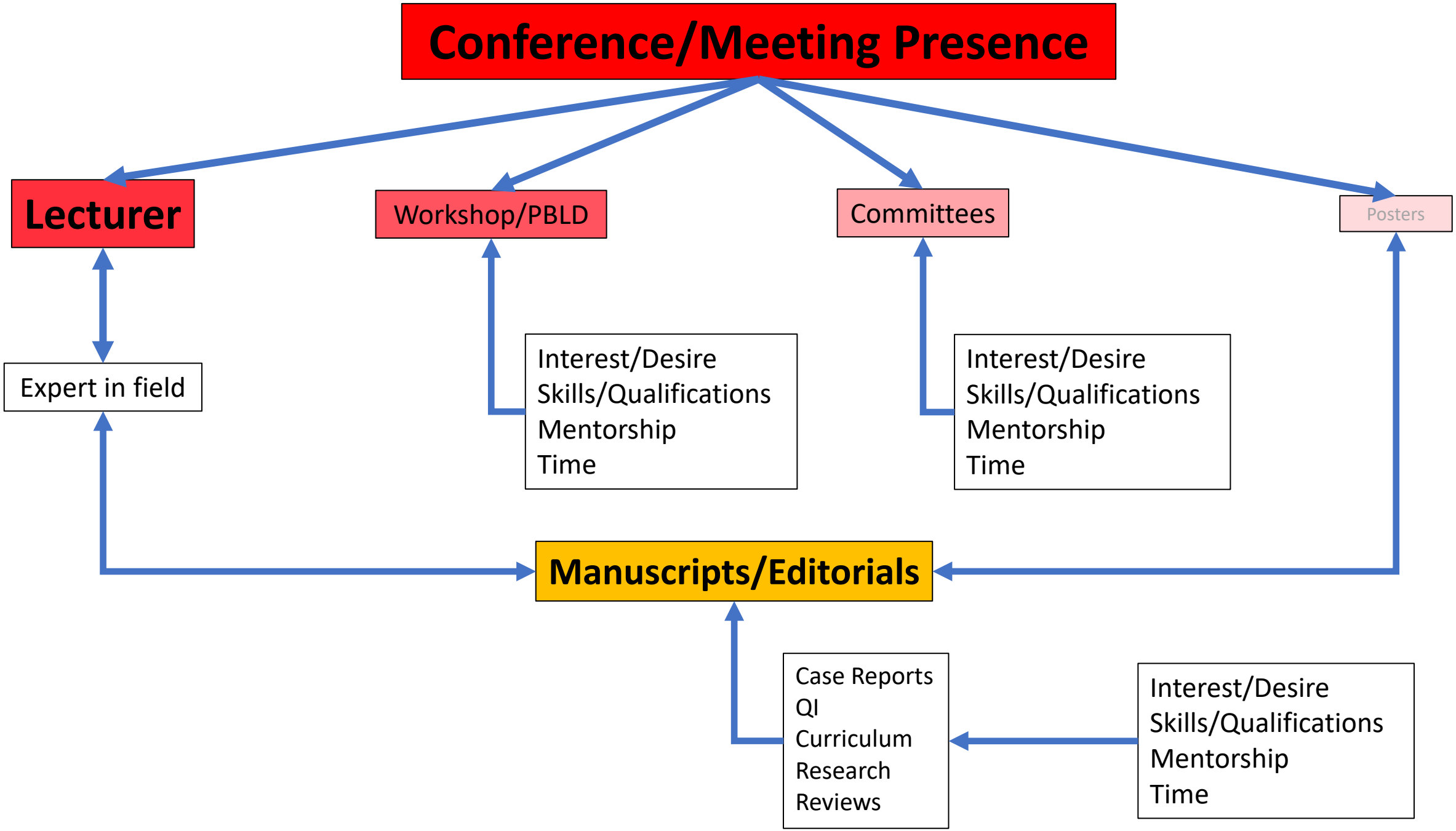
The degree to which participants acquire the intended knowledge, skills, attitude, confidence and commitment based on their participation in the training

Reaction

The degree to which participants find the training favorable, engaging and relevant to their jobs

Source: Donald Kirkpatrick

https://kloudlearn.medium.com/overview-of-the-kirkpatrick-model-and-foundational-principles-1d9a349a9ae3


Conference/Meeting Presence
Lecturer
Workshop/PBLD
Committees
Posters
Expert in field
Interest/Desire
Skills/Qualifications
Mentorship
Time
Interest/Desire
Skills/Qualifications
Mentorship
Time
Manuscripts/Editorials
Case Reports
QI
Curriculum
Research
Reviews
Interest/Desire
Skills/Qualifications
Mentorship
Time

Clinical teaching

Didactic teaching

Feedback/evaluation

Education research

Opportunities

UPMC Anesthesiology Residency

- Curriculum Committee
- Clinical Competence Committee
- Well-being Committee
- Inclusion, Diversity, Equity, and Acceptance (IDEA) Committee
- Recruitment and Selection Committee

UPMC GMEC Subcommittees

- Accreditation, review, and quality (ARQC)
- Diversity, equity, and inclusion
- Leadership in education and patient safety (LEAPS)
- Well-being, environment, learning, and living (WELL)
- Professional development (ProfD)
- Osteopathic programs oversight committee (OPOC)
- Resident and fellow association (RFA)

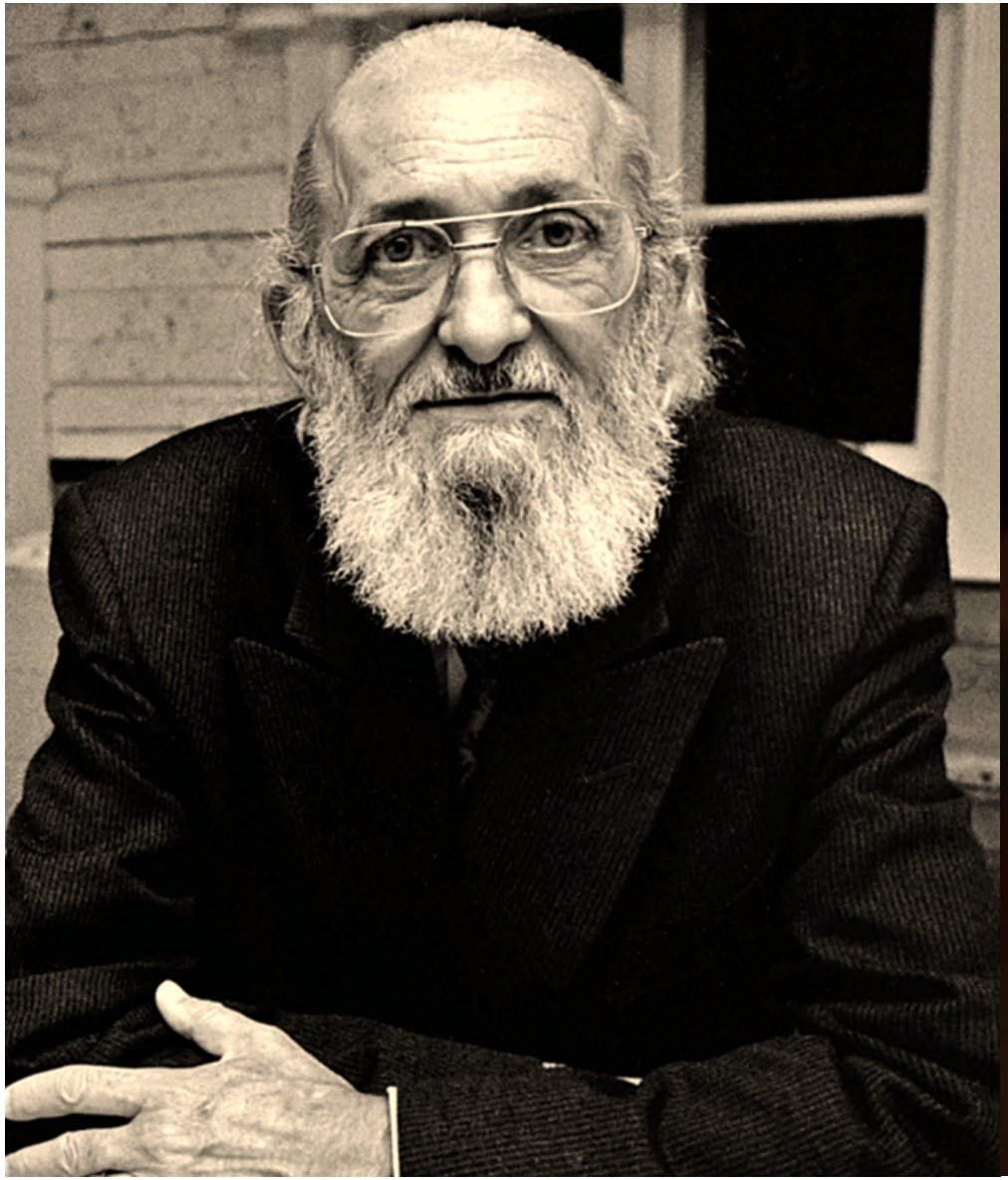
SOCIETY FOR EDUCATION IN ANESTHESIA

The Journal of Education in Perioperative Medicine

Committees

- Advancement of Technology in Education
- Bylaws
- Diversity, Equity, Inclusion, and Justice
- Educational Meetings
- Faculty Development
- Finances
- Global Outreach
- Graduate Medical Education
- JEPM
- Medical Student Education
- Membership
- Nominations
- Publications
- Research
- Simulation

2023 Spring Meeting
Friday, April 14, 2023 to Sunday, April 16, 2023
Grand Hyatt Seattle — Seattle, WA



Education must begin with the solution of the teacher-student contradiction, by reconciling the poles of the contradiction so that both are simultaneously teachers and students.

Paulo Freire