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Peer Observations: Enhancing Teaching Behaviors

Carolyn Marcelo

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BACKGROUND

- Varying degrees of experience and training
- Evaluations from students and residents
  - Feedback is grouped for anonymity
  - Separated by months: some only see once a year
  - Lack specificity, may be biased
  - Learners may lack framework
- Potential solution: Peer observation and feedback

OBJECTIVES

1. Examine if peer observation with feedback results in improved teaching behaviors

2. Determine if observers and teachers found observation and feedback useful

3. Determine if the comfort with peer observation improved for observers and teachers after observation

METHODS

- **Participants:**
  - **Teachers:** Academic hospitalists on wards or consults
  - **Observers:** Peer academic hospitalists
- **Setting:**
  - Morning rounds on medicine wards
  - During medicine consult rounds
- **Timing:**
  - Once/week for each teacher
  - Approximately 1 hour

METHODS

- **Peer observation process**
  - Observers determined by availability
  - No teacher had same observer for consecutive observations
  - Teams notified in advance
  - Same-day post-observation feedback session
  - Confidentiality of prior observations maintained
- **Surveys**
  - Peer Observation and Feedback Tool
  - Surveys of Teacher and Observer Perceptions

METHODS – *Survey Development*

Stanford Faculty Development Program

- 7 domains of effective clinical teaching
  - **Learning climate**
  - **Control of session**
  - Communication of goals
  - **Promotion of understanding and retention**
  - **Evaluation**
  - **Feedback**
  - Promotion of self-directed learning

- Used effectively to create evaluation tools for clinical teaching

Teaching Observation Tool

Provider being Observed: _____ Provider Observing: _____ Date of Observation: _____

	TEACHING BEHAVIORS	OBSERVED			COMMENTS
		Not	Sometimes	Consistently	
LEARNING CLIMATE	Shows interest through body language, uses animated voice	☐	☐	☐	
	Looks at and listens to learners	☐	☐	☐	
	Does not monopolize discussion, does not interrupt unnecessarily	☐	☐	☐	
	Uses learners' names	☐	☐	☐	
	Invites learners to express opinions	☐	☐	☐	
	Recognizes clinical ambiguity, open to others' ideas	☐	☐	☐	
	Invites learners to bring up limitations	☐	☐	☐	
	Acknowledges own limitations	☐	☐	☐	
CONTROL OF SESSION	Adapts leadership style to educational purposes (MS3, MS4, R1, R2, R3)	☐	☐	☐	
	Does not digress, keeps on topic	☐	☐	☐	
	Calls attention to time	☐	☐	☐	
	Appropriately paces conversation with patient	☐	☐	☐	
PROMOTION OF UNDERSTANDING & RETENTION	Uses examples (e.g., cases, self as model) and analogies	☐	☐	☐	
	Defines any new terms	☐	☐	☐	
	Responds adequately to learners' questions	☐	☐	☐	
	Has learners reformulate material	☐	☐	☐	
	Provides a chance for skill practice	☐	☐	☐	
	Assigns/discusses literature	☐	☐	☐	
	Suggests expert consultations (appropriate, timely)	☐	☐	☐	
	Asks questions to stimulate reflection	☐	☐	☐	
EVALUATION	Observes learners' performance	☐	☐	☐	
	Asks fundamental recall questions (requires recall of scientific/medical information, skills, or attitudes)	☐	☐	☐	
	Asks fundamental analysis/synthesis questions (requires demonstration of understanding)	☐	☐	☐	
	Asks applied questions at recall or analysis/synthesis levels (requires application to a specific patient example or case)	☐	☐	☐	
	Asks learner to self-assess	☐	☐	☐	
FEEDBACK	Tells learner that performance is correct or incorrect	☐	☐	☐	
	If agrees or disagrees with learners' opinions, gives reasons	☐	☐	☐	
	Uses nonverbal cues like nodding	☐	☐	☐	

Number of Participants in the group: Residents: _____; Medical Students: _____; Pharmacy: _____; NPs: _____; Others (specify): _____
NF present Yes ☐ No ☐
Number of Patients: (check box separately for each) ○○○○○○○○○○

STATISTICAL METHODS

- **Descriptive statistics**
  - *Continuous variables* = mean (SD)
  - *Categorical variables* = percentages
- ***P*-values of <0.05 statistically significant**
  - *Continuous variables* = T-test
  - *Categorical variables* = chi-square/Fisher's exact test
- **Scoring of peer observation tool items**
  - 1 = not observed
  - 2 = sometimes observed
  - 3 = consistently observed
- **Teacher/observer surveys**
  - Five-point Likert scale

STATISTICAL METHODS

- **Mixed-linear growth curve models with crossed-design**: association of teaching skills with feedback

- **Crossed-design**: account for 3 types of correlation
  - For the <u>same teacher</u> on <u>separate observations</u>
  - For the <u>same observer</u> scoring a <u>different teacher</u>
  - For the <u>same teacher</u> scored by a <u>different observer</u>

- **Variables for adjustment:** age, gender, and years as attending of teachers and observers

- **Pearson's correlation:** correlation between domains

- **Cronbach's alpha:** internal consistency of tool items

All statistical analyses were performed using the Stata.MP version 14 for Windows (StataCorp LP, College Station, Texas)

STATISTICAL METHODS
Crossed-design Mixed Models
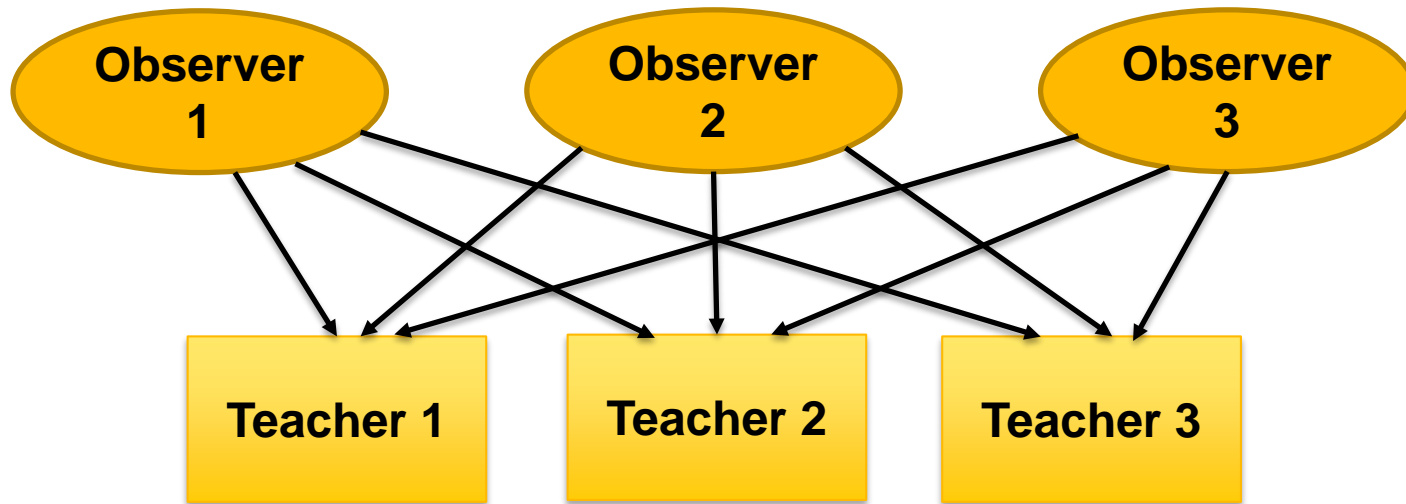
RESULTS

Study Population Characteristics

Variables	(N= 27; O=70)
Age, years, mean (SD)	37.5 (4.97)
Years as Attending, mean (SD)	6.36 (4.17)
Time spent in minutes, mean (SD)	73.0 (17.26)
Number of patients, mean (SD)	6.47 (2.38)
Number of Learners, mean (SD)	4.31 (1.2)

RESULTS

Study Population Characteristics

Variables	(N= 27; O=70)
Learning Climate, mean (SD)	2.64 (0.32)
Control of Session, mean (SD)	2.68 (0.33)
Promotion of Understanding & Retention, mean (SD)	2.13 (0.54)
Evaluation, mean (SD)	2.26 (0.54)
Feedback, mean (SD)	2.73 (0.37)

RESULTS

Correlation between domains of peer observation tool

	LC	CS	PUR	E	F
Learning Climate (LC)	1.00				
Control of Session (CS)	0.39 (<0.001)	1.00			
Promotion of Understanding & Retention (PUR)	0.60 (<0.001)	0.55 (<0.001)	1.00		
Evaluation (E)	0.31 (<0.001)	0.42 (<0.001)	0.70 (<0.001)	1.00	
Feedback (F)	0.32 (0.006)	0.27 (<0.001)	0.42 (<0.001)	0.30 (<0.001)	1.00

RESULTS – *Key Findings*

## Effect of Peer Observations on Teaching Skills

- 27 teaching attendings involved

- 70 peer observations

- Observations per teaching attending: range 1-4

- All teaching behavior domains significantly correlated with each other

- Cronbach's alpha = **0.81**

- Statistically significant increase in 2 teaching domain scores
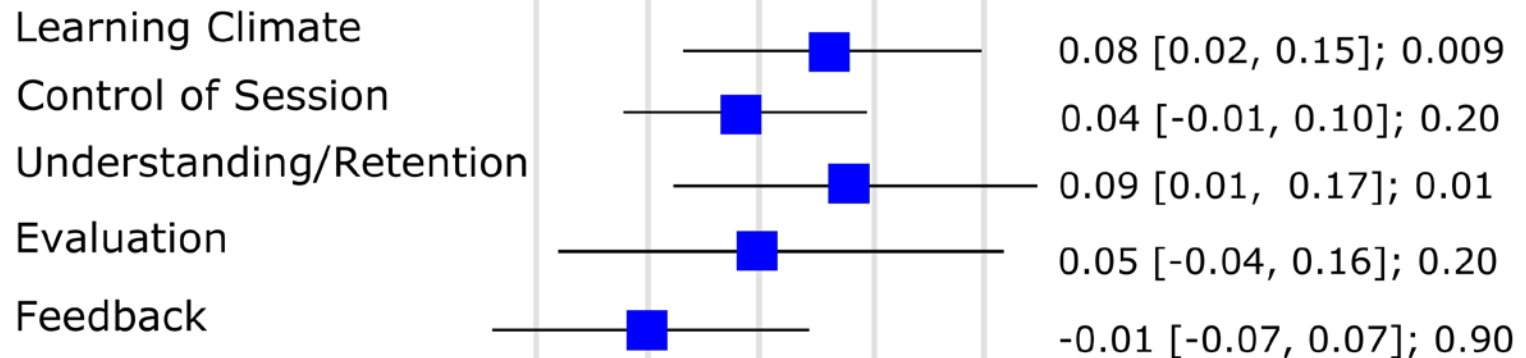
RESULTS – Learning Climate
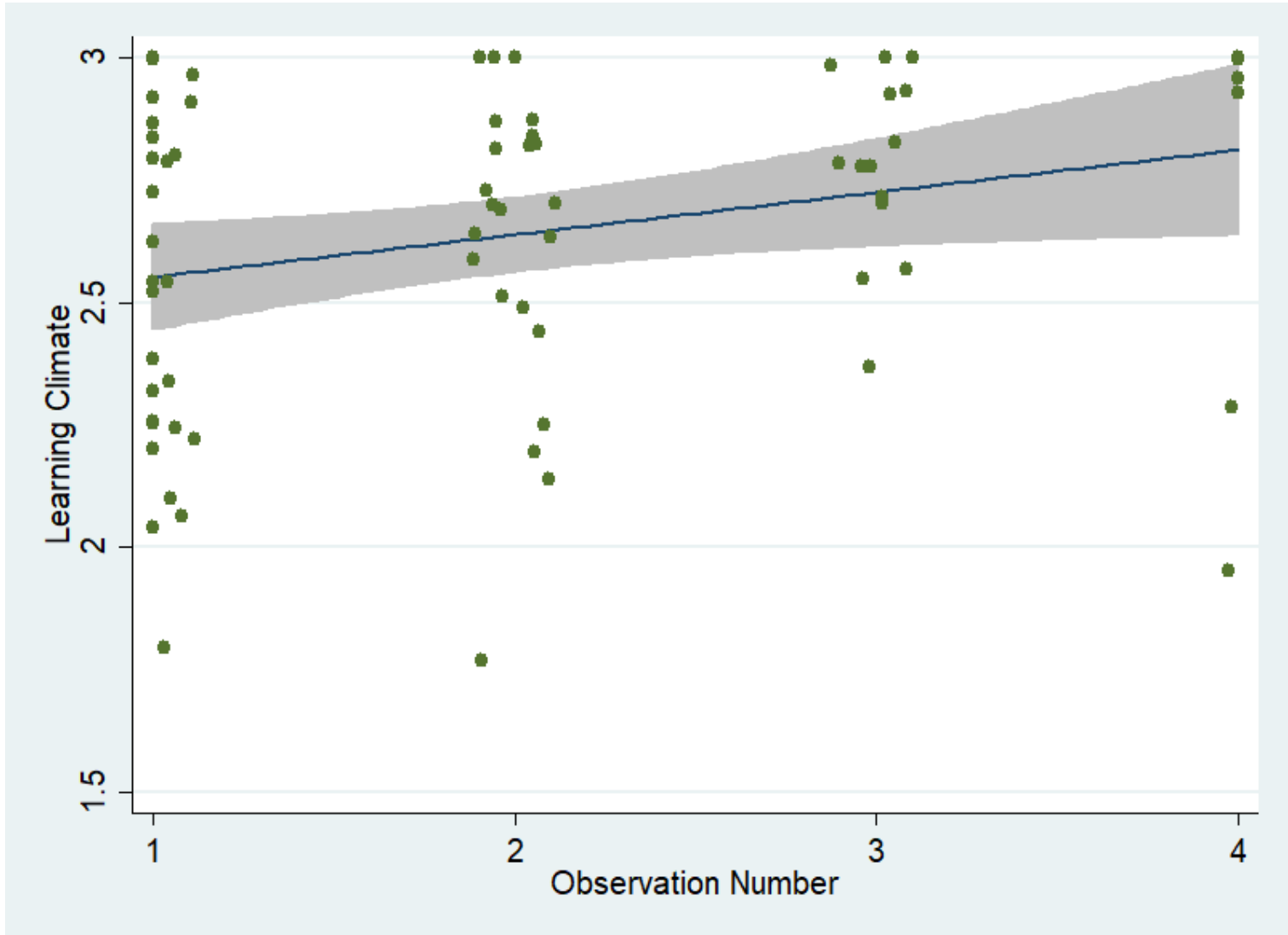
RESULTS – **Promotion of Understanding & Retention**
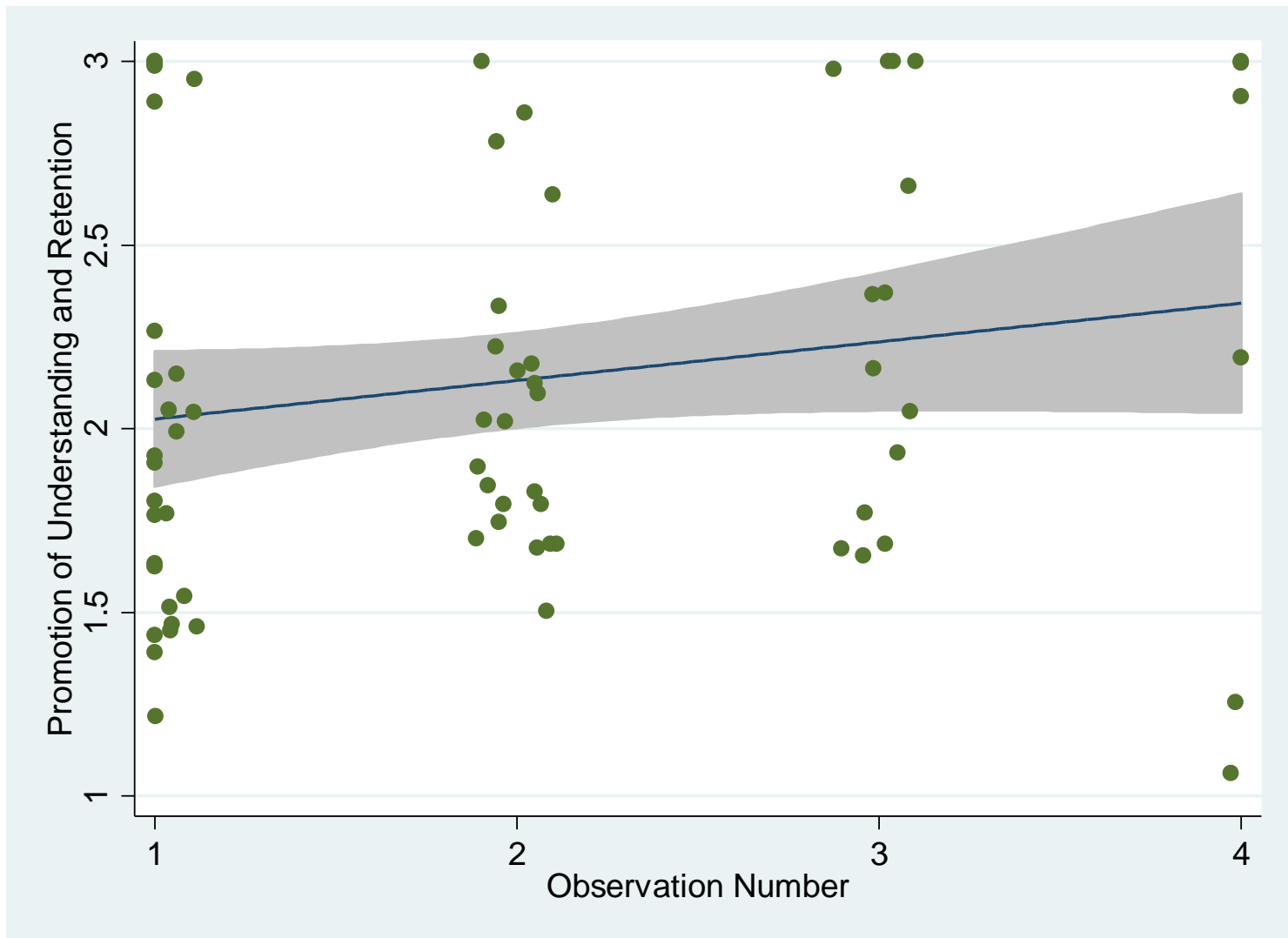
RESULTS – Improvement in Teaching Domains

Effect size [95% Confidence Interval] ; P-value

Unadjusted

Learning Climate — 0.08 [0.02, 0.15]; 0.009

Control of Session — 0.04 [-0.01, 0.10]; 0.20

Understanding/Retention — 0.09 [0.01, 0.17]; 0.01

Evaluation — 0.05 [-0.04, 0.16]; 0.20

Feedback — -0.01 [-0.07, 0.07]; 0.90

Adjusted

Learning Climate — 0.09 [0.02, 0.15]; 0.007

Control of Session — 0.04 [-0.01, 0.10]; 0.10

Understanding/Retention — 0.09 [0.02, 0.17]; 0.01

Evaluation — 0.05 [-0.04, 0.16]; 0.20

Feedback — 0.002 [-0.06, 0.07]; 0.90
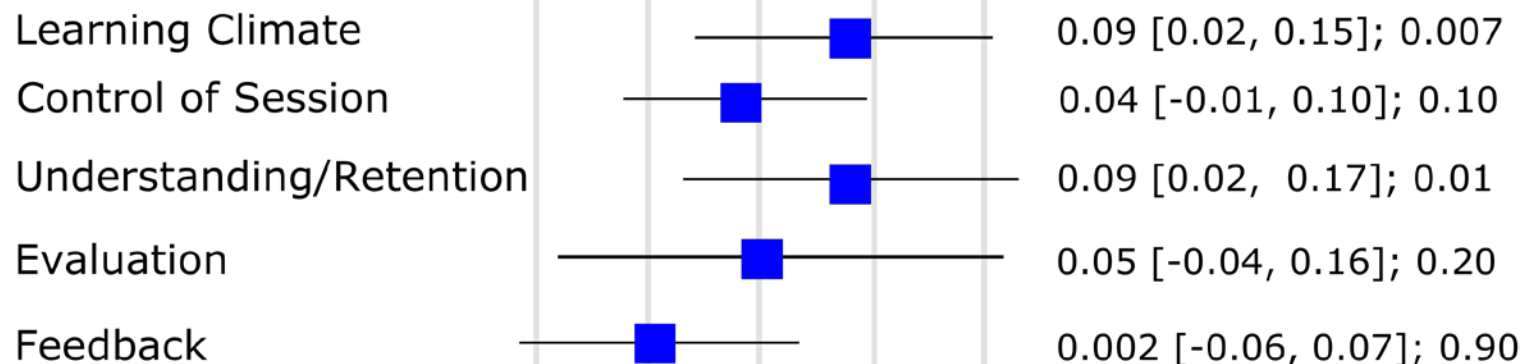
-0.1   -0.05   0   0.05   0.1   0.15   0.2

RESULTS

Surveys of Teacher Perceptions:

- Teaching attendings: 49 surveys
- Comfort level with observation: **79%** 'very' or 'somewhat' comfortable
- Comfortable with future observations: **90%**
- Feedback by observer: 'very' or 'somewhat' helpful in **92%**

Surveys of Observer Perceptions:

- Peer observers: 33 surveys
- Completing tool: 'very' or 'somewhat' easy in **100%**
- Providing feedback to peers: 'very' or 'somewhat' easy in **94%**
- Valuable experience: 'very' or 'somewhat' helpful in **88%**

STRENGTHS

- Limited observer bias: avoided same teacher-observer pairings

- Longitudinal study: assessed effect of feedback

- Objective tool used for observation and in guiding feedback

- Objective endpoint: observed teaching behaviors

LIMITATIONS

- "Not observed" category did not distinguish between

  - Opportunity existed, but teacher did not demonstrate behavior

  - No opportunity to demonstrate behavior

- Potential for Hawthorne effect: less likely over multiple observations

- Observer time commitment: questionable feasibility in heavily RVU-focused environment

CONCLUSION

- Feasible in bedside clinical teaching setting

- Result in significant and positive improvement in teaching behaviors

- Both teachers and observers found value in observation sessions

- Unmeasured benefits:

  - Contributed to culture of learning among faculty

  - Shared mental model of good clinical teacher

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Questions?

Thank you!