Celebrating 150 years of advancing medical research, education, and patient care to help people live longer, healthier lives

University of Iowa Carver College of Medicine
University of Iowa Health Care

Teaching Procedures – FACE

Teaching Procedures

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Learning Objectives

- Identify obstacles to effective procedural teaching
- Describe the stages of procedural skill development
- Differentiate effective and ineffective teaching methods
- Apply a framework to your procedure teaching

Roadmap

- Self-reflection and discussion
- Discuss importance and challenges to teaching
- Video simulation and debrief
- Review stages of competency
- Explore procedural teaching methods
- Present a framework for procedural teaching
- Make a commitment

Self Assessment

- How are you doing with teaching procedures?

- What needs improvement in your own practice?

Halsted's Classic Model

See One **Do One** **Teach One**

William S. Halsted, Chief of Surgery, Johns Hopkins, 1890's

The Need

- Learners report need for better procedure training
- Teaching of procedures is lacking, neglected
- Needs to occur earlier – medical school
- Competence is difficult to define

Accountability

- Greater concern for patient safety is prompting greater scrutiny of competency in many areas, including procedures

- Competency of the trainer is under scrutiny

Discussion

What challenges to procedural teaching do you encounter in your practice?

Challenges

- Time pressure
- Unwilling patient
- Teacher not completely comfortable
- Learner uncomfortable asking for clarification in the presence of the patient
- Episodic – new staff may not trust skills of learner

Challenges cont.

- Unstable patient
- Assessing learners' ability level
- Assessing learners needs
- Infrequently performed procedures
- Wish to avoid patient pain and discomfort

Ethical Challenges

- Patients may want the most experienced clinician to perform the procedure

- Instructor may fell pressure to mislead the patient about who will be performing the procedure and/or what their level of experience

Procedures Have Risks

- May involve risk to patient
- May involve risk to learner or teacher
- The way they are performed may affect results

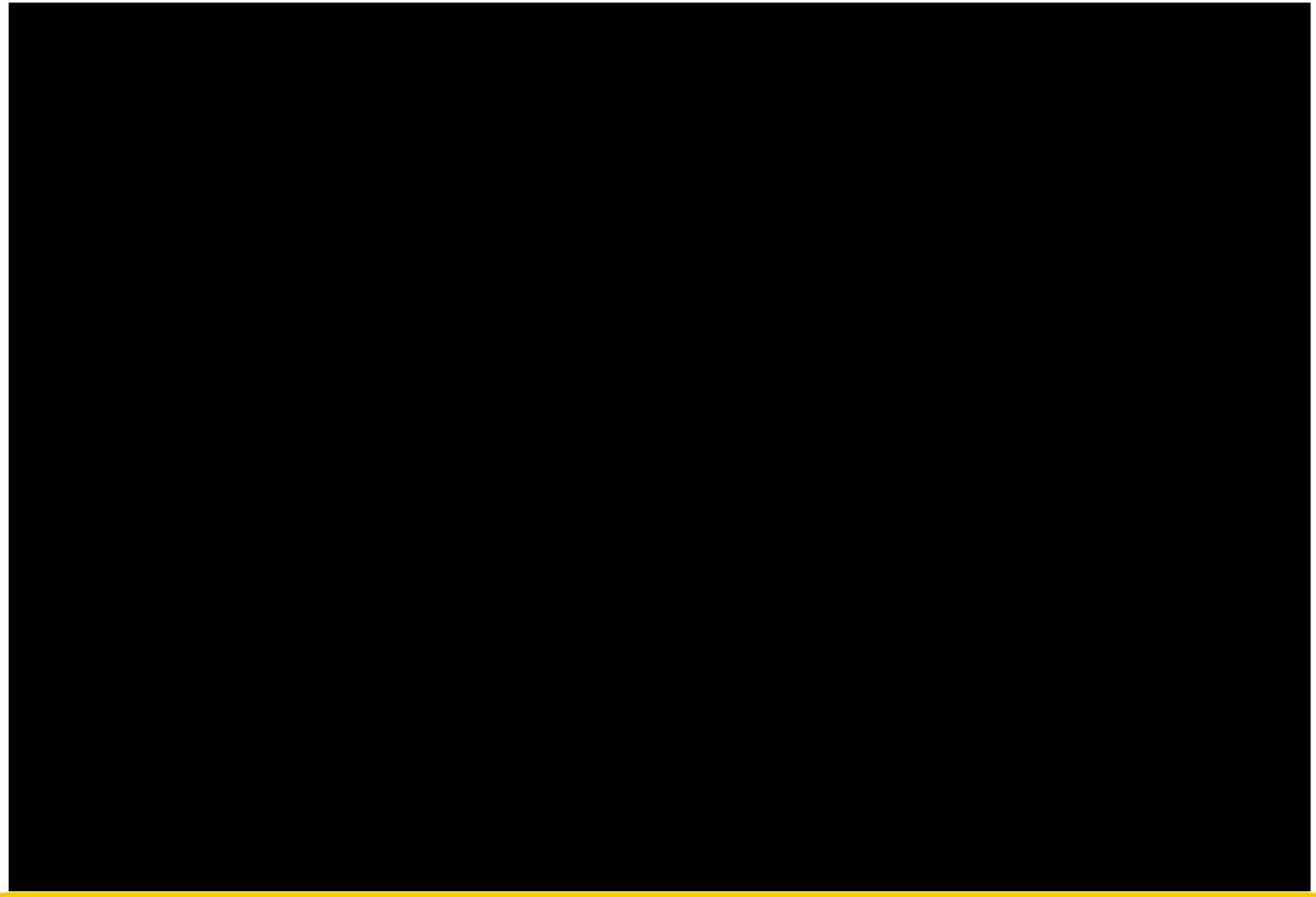
Simulation Video

Discussion following the video:

1. What behaviors were effective?

2. What areas for improvement did you observe?

Simulation Video



“The Bad” Video Debrief

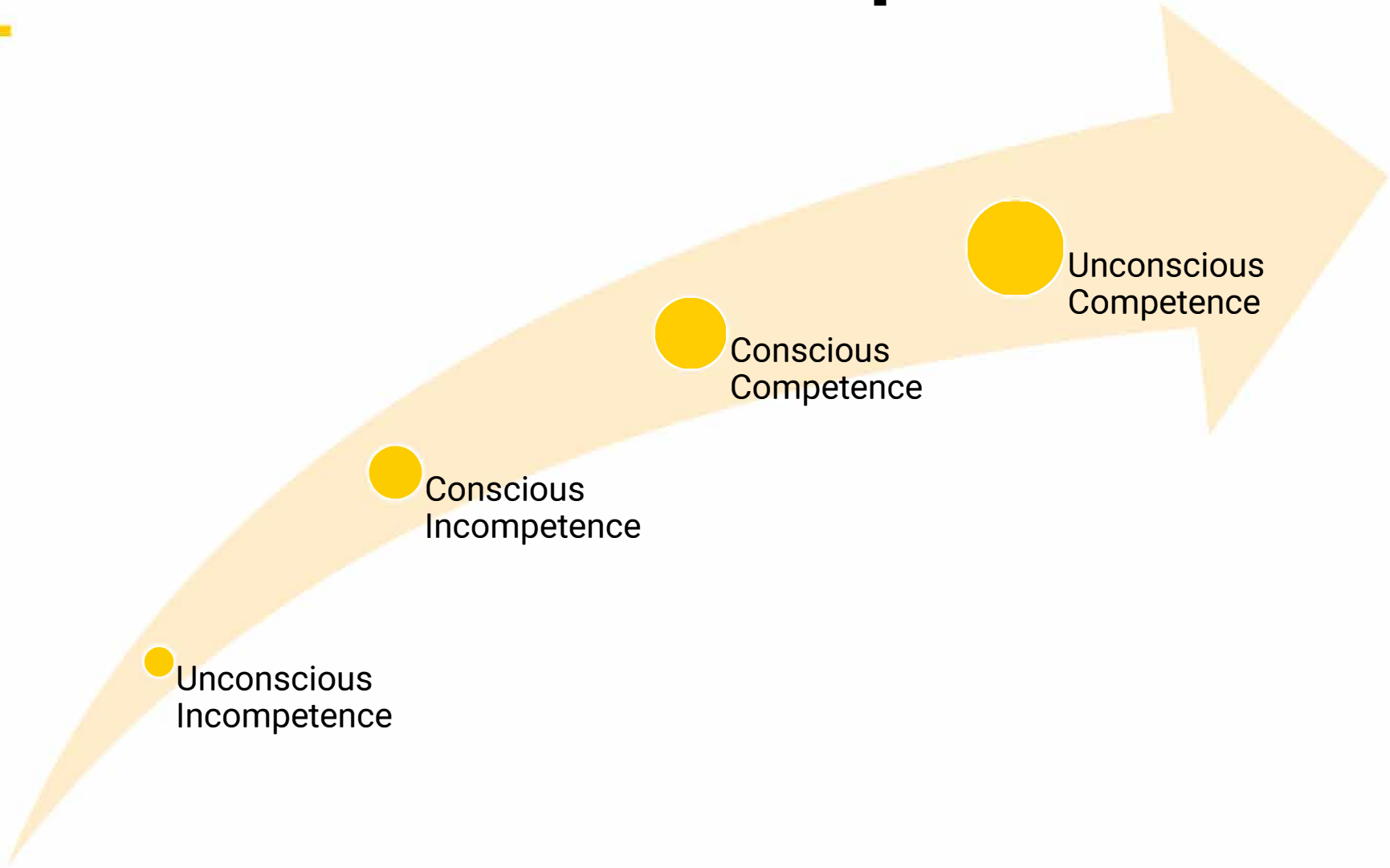
What behaviors were effective?

What areas for improvement did you observe?

Competency and our Teaching

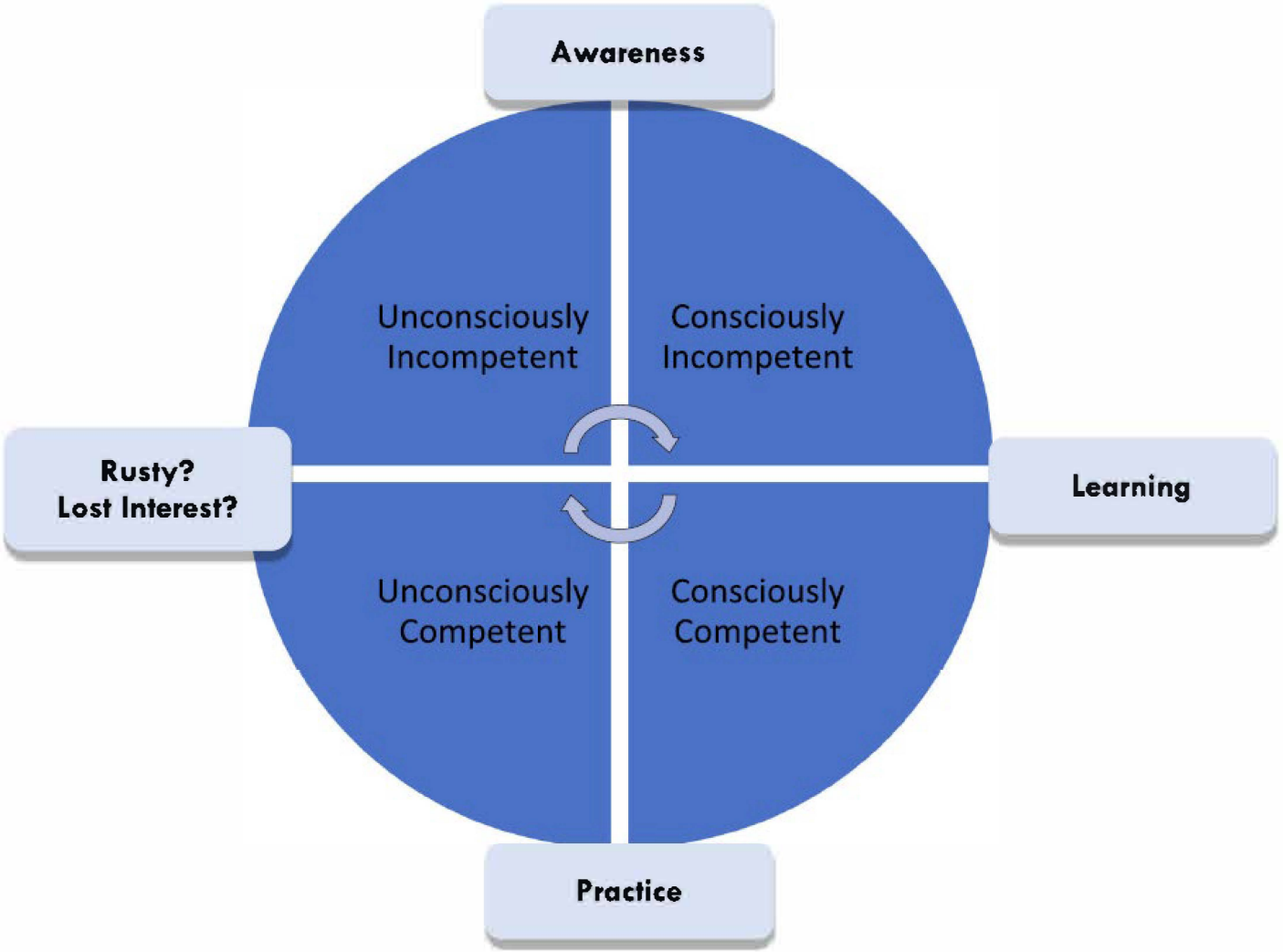
What behaviors and methods can we use as educators to move our trainees towards competency?

Maslow's Conscious Competence Model



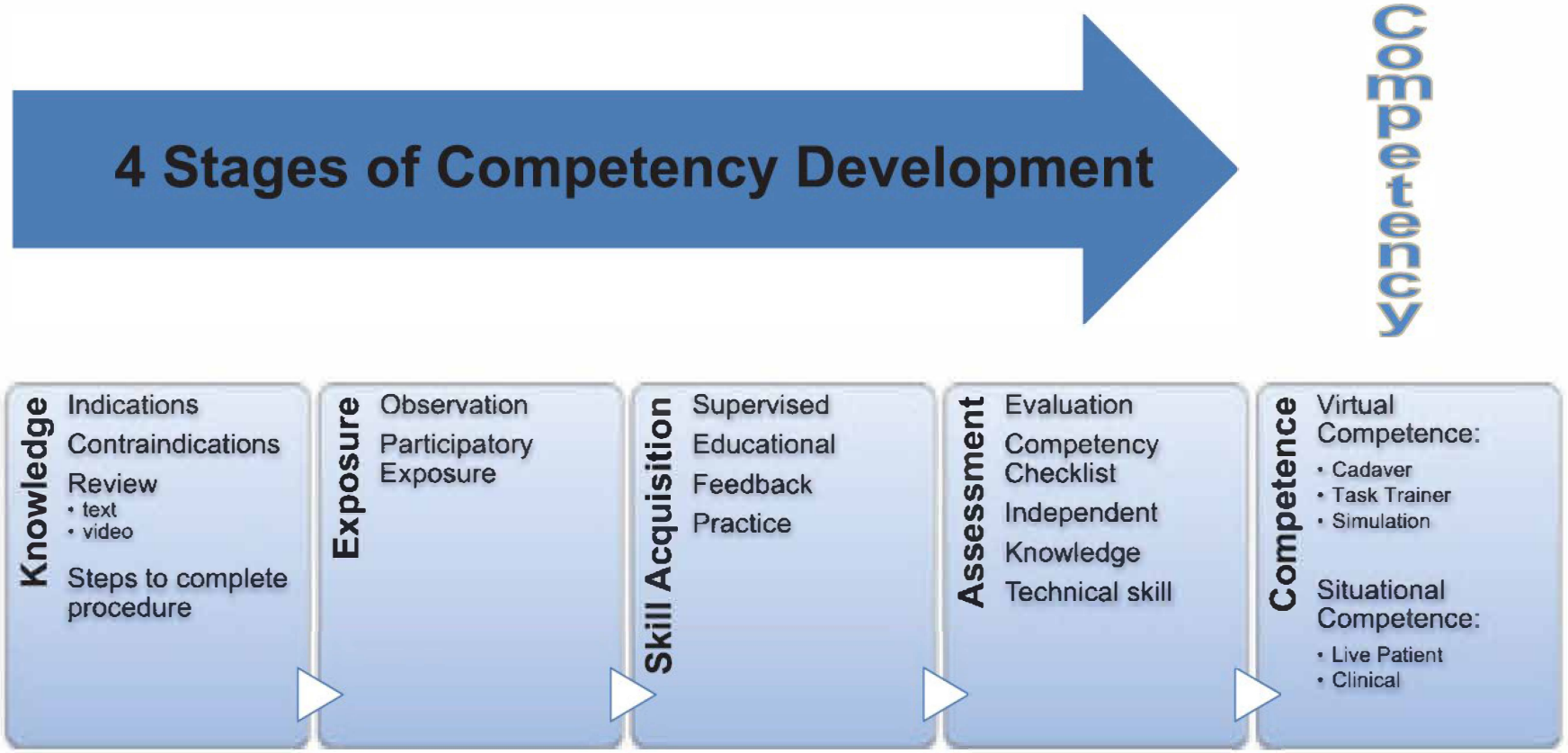
Maslow, AH. *Motivation & Personality. 1987*

Maslow's Conscious Competence Model



Peyton JWR. Teaching and learning in medical practice. 1998

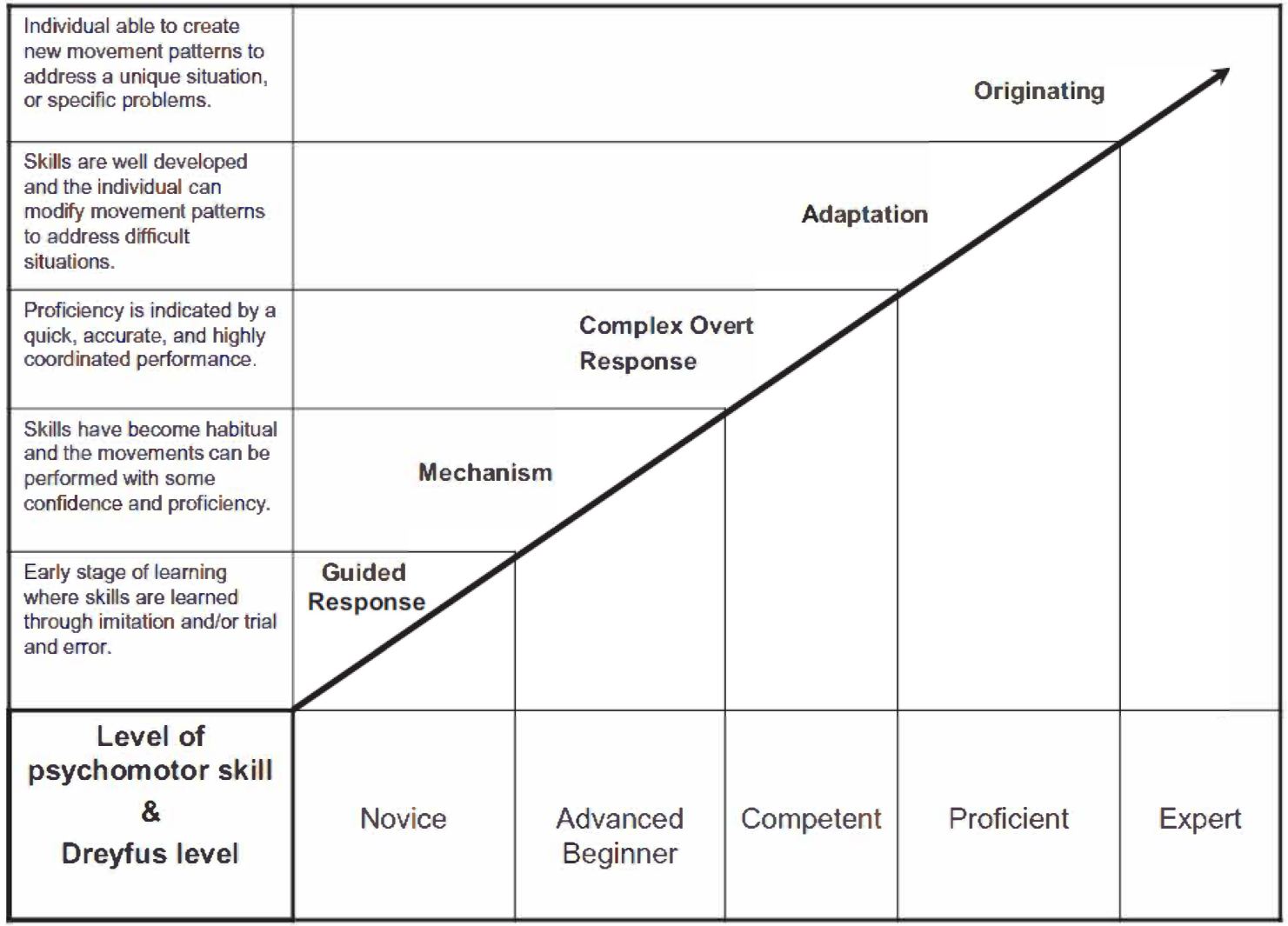
Stages in Developing Competency



Manthey. Clinical Teacher, 2012

Procedural Skill Development

- Dreyfus Model
- Simpson's & Harrow's Taxonomy of Psychmotor Domains



Sawyer. Academic Medicine. 2015

Discussion

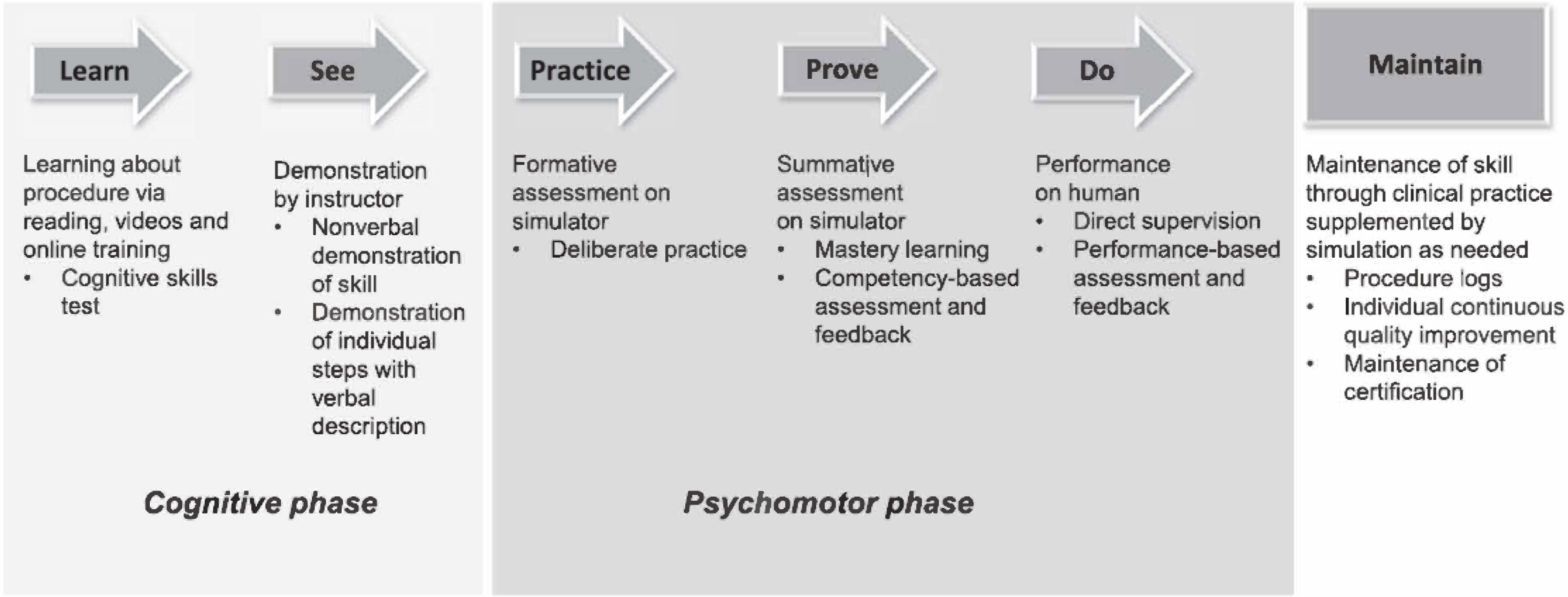
What methods do you use in teaching procedures?

Peyton's 4 Step Approach

1. ***Demonstration***: Instructor demonstrates the skill at normal speed and without additional comments.
2. ***Deconstruction***: Instructor demonstrates the skill by breaking it down into simple steps, while describing each step.
3. ***Formulation***: Instructor demonstrates the skills whilst being 'talked through' the steps by the learner.
4. ***Performance***: Student demonstrates the skill, while describing each step.

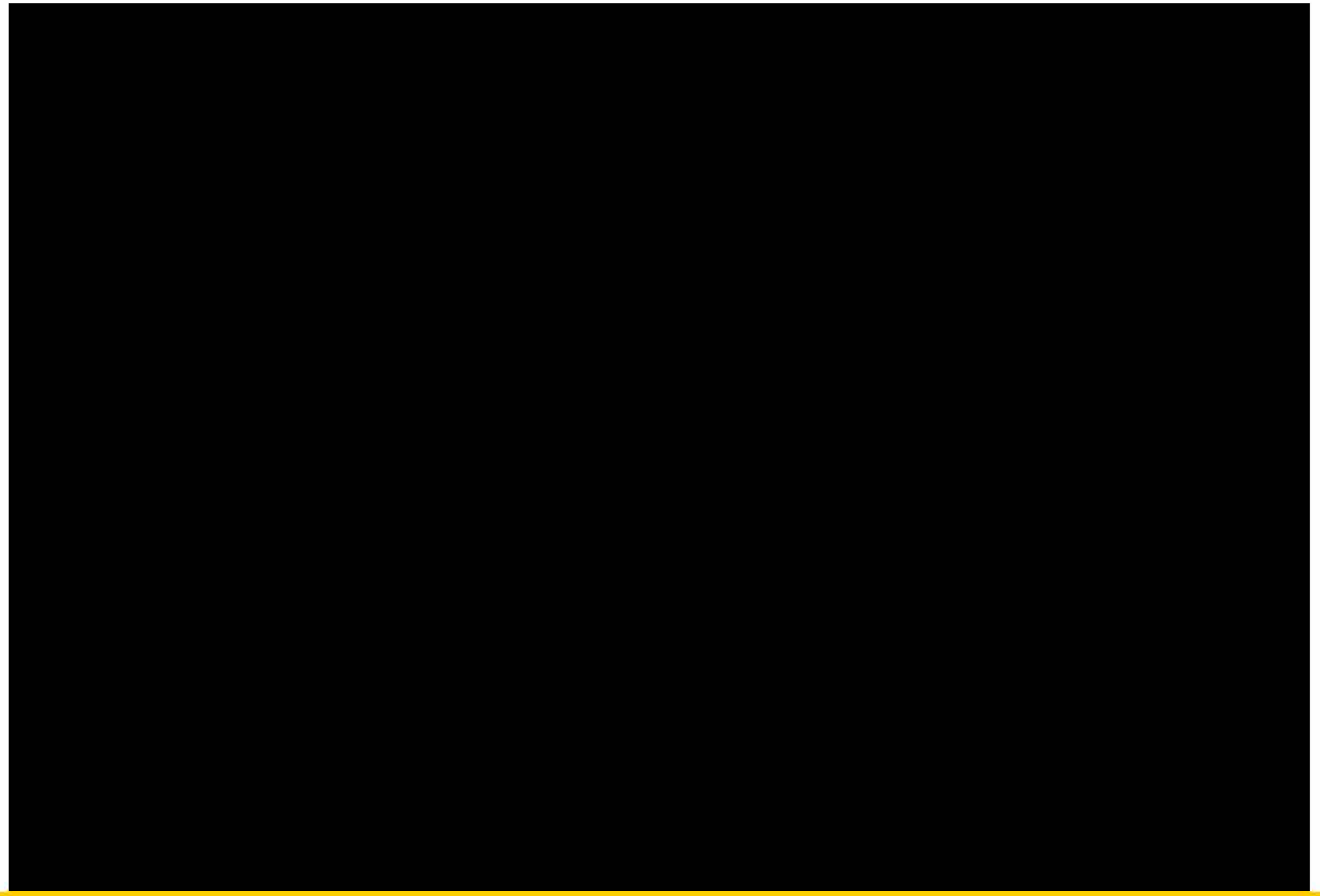
Peyton JWR. Teaching and learning in medical practice. 1998

Sawyer's Pedagogical Framework



Sawyer. Academic Medicine. 2015

Simulation: “The Good”



Five Principles – “The 5 P’s”

Adapted from McLeod, et al

1. Proficiency assessment
2. Preliminary didactic session
3. Perform procedure – learner or teacher
4. Provide feedback
5. Plan for practice and documentation

McLeod. Academic Medicine. 2001

1) Proficiency Assessment

- Assess the learner's level of competence
- Elicit experience and comfort level
  - Ask, "Have you encountered any problems when doing this procedure?"
- Assess the learners needs
- Assess learner preparation
  - Read about procedure
  - Suggest web site
  - Provide handout with procedure steps

2) Preliminary Didactic Session

- Discuss indications and contraindications
- Review anatomy
- How to obtain informed consent
- Step-by-step explanation of the procedure
  - Ask learner to verbalize the steps
  - Use explicit language
- Encourage visualization
- Discuss complications and management
- Address meeting the learner's needs

3) Perform the Procedure

- Gather supplies
  - Learner gathered
  - Checked by instructor
- Ensure completion of pre-procedural checklist items
  - Informed consent
  - Time Out
- Perform procedure with step-by-step explanation
- Documentation and follow-up

Tips- *Teaching while performing*

- Prepare patient for your narrative
- Allow unobstructed view for learner and others in the room
- Identify critical steps and pitfalls
- Encourage learner to verbalize his/her actions
- Break complex tasks into simpler components

Tips- *Teaching while performing*

- Patient safety is always your #1 priority
- Allow for graded responsibility
- Be patient
- Be a good assistant
- At the bedside, focus on “how”, not “why”

4) Provide feedback to the learner

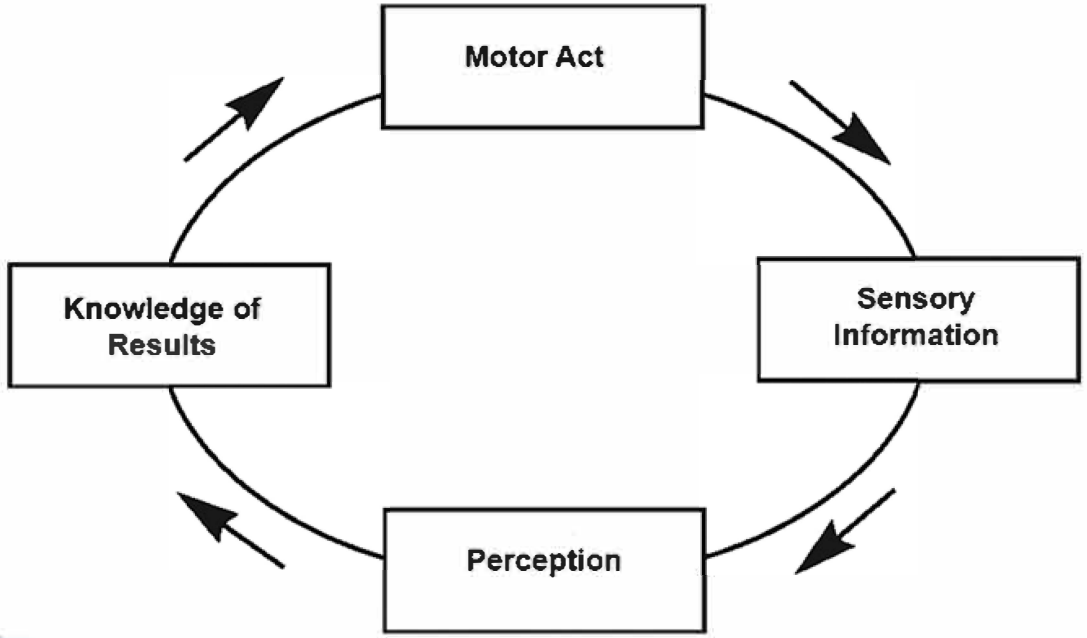
- Specific but limited
- Not personal, but directed at explicit behaviors
- Allow learner self-assessment
- Give a global assessment
  - "You should be supervised again next time"
  - "You can perform this procedure independently in the future"

4) Provide feedback to the learner

Pendelton's Feedback Model

- Ask the learner what went well
- Tell the learner what went well
- Ask the learner what could be improved
- Tell the learner what could be improved

Adams' "closed loop theory" of motor learning



Burgess 2020. Sawyer 2015.

5) Plan for Practice & Documentation

- Learner rehearsal in adverse circumstances
- Identify goals for next time
- Training programs or CCOM may have processes for documentation/logging
- Review and provide feedback on documentation

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McLeod. Academic Medicine. 2001

New Paradigm

See One →	See as many as necessary
Do One →	Do many-sequential, supervised procedures in practice setting
	Be cleared to perform independently
	Perform many independently
Teach One →	Develop & practice teaching methods

Make A Commitment

Identify one technique, tip, or method you would like to try next time you teach a procedure

Take Home Points

- Many challenges exist which can impede our ability to deliver effective procedural skills teaching
- Learners progress towards competency at different rates. They will have different needs.
- Pedagogical models of procedure teaching can improve your procedural teaching skills.
- Five Principles (“5 P’s”)– *proficiency, prelim, perform, provide, and plan* – is framework you can use in your procedural teaching

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Thank you

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