

As you come in....

**PLEASE SIT AT A TABLE WITH A  
FACULTY MEMBER**

# Evidence-based Medicine Curriculum Development

Concurrent Session

Matthew Tuck, MD, MEd

# Learning Objectives

- Describe the basic process of curriculum design
- Apply these principles to the design of your own learning session(s)
- Discuss curricular successes and challenges you are facing with mentors in a small group setting... speed dating!

# Start at the End

- What do you want your learners to be able to do by the time they have completed the curriculum?
  - May require needs assessment
- Start with goals of the curriculum
  - Map to learning objectives for individual sessions
  - Develop educational sessions based on these objectives
- Assess learning
  - Should measure learning objectives
- Revise

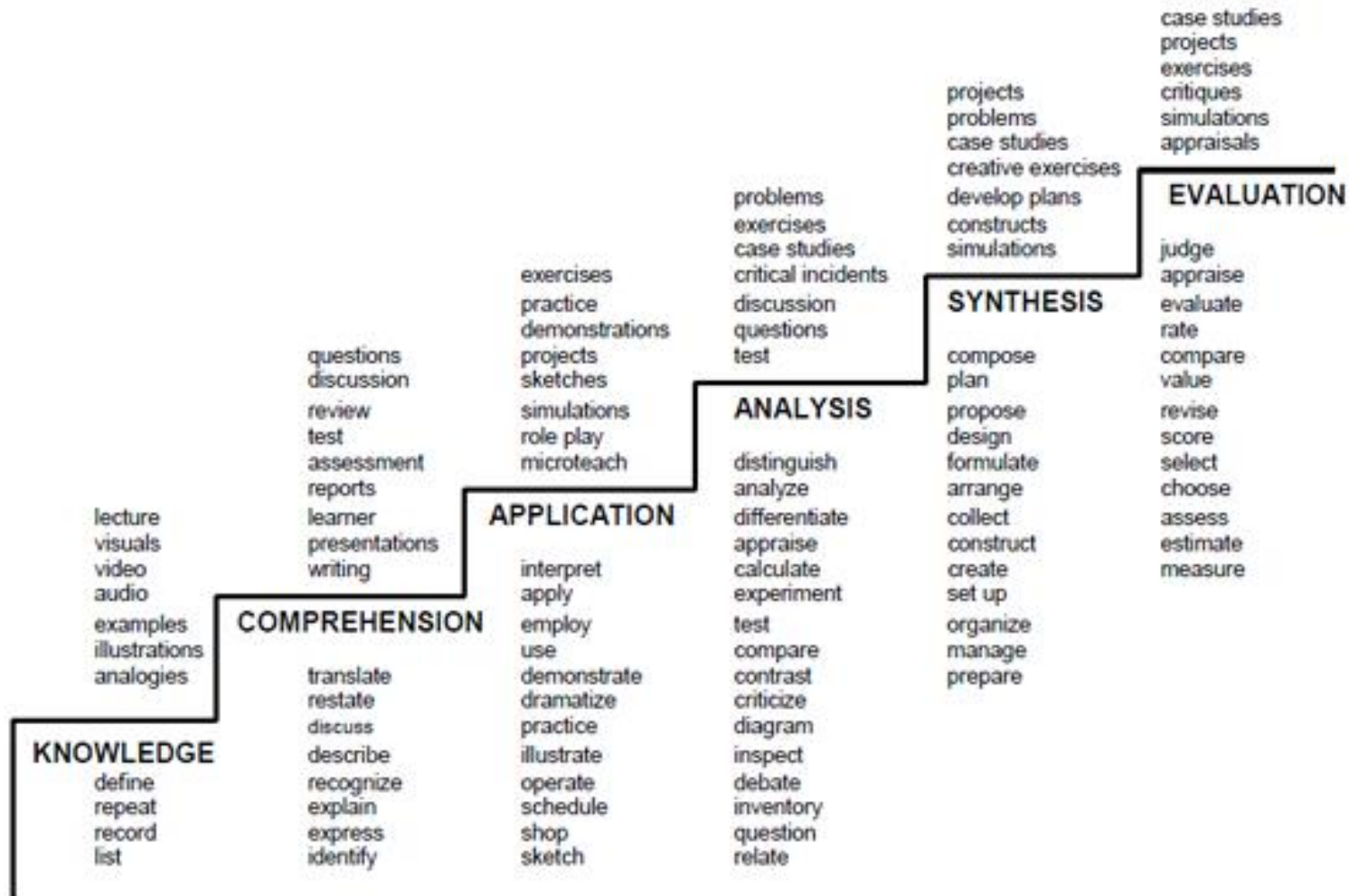
Diamond, R. (1998). *Designing and assessing courses & curricula: A practical guide*. (3<sup>rd</sup> ed.). San Francisco: Jossey-Bass.

# Sample Curricular Goals and Objectives

Course Length	Learner Level	Goals [This course will...]	Objectives [Learners will be able to...]
Short Course	Novice (MS, PGY-1)	<ul style="list-style-type: none"> <li>• Introduce the language of EBM</li> <li>• Illustrate question formation, study selection, and the hierarchy of evidence</li> <li>• Introduce core EBM definitions for different types of clinical questions</li> <li>• Highlight sources of bias in studies</li> <li>• Provide resources and references for critical appraisal and model several examples</li> </ul>	<ul style="list-style-type: none"> <li>• List the components of a well-structured question</li> <li>• Name the best study design for a clinical question</li> <li>• Identify sources of bias in studies on diagnostic testing and therapy</li> <li>• Calculate absolute risk reduction, relative risk reduction, number needed to treat</li> <li>• Interpret confidence intervals and describe their relationship to precision</li> <li>• List resources for evidence-based critical appraisal</li> </ul>

From: Zipkin, D., et. al (2010). *Creating or Upgrading Your Evidence-Based Medicine Curriculum*. Presented at the SGIM National Meeting. April 29.

# Bloom's Taxonomy

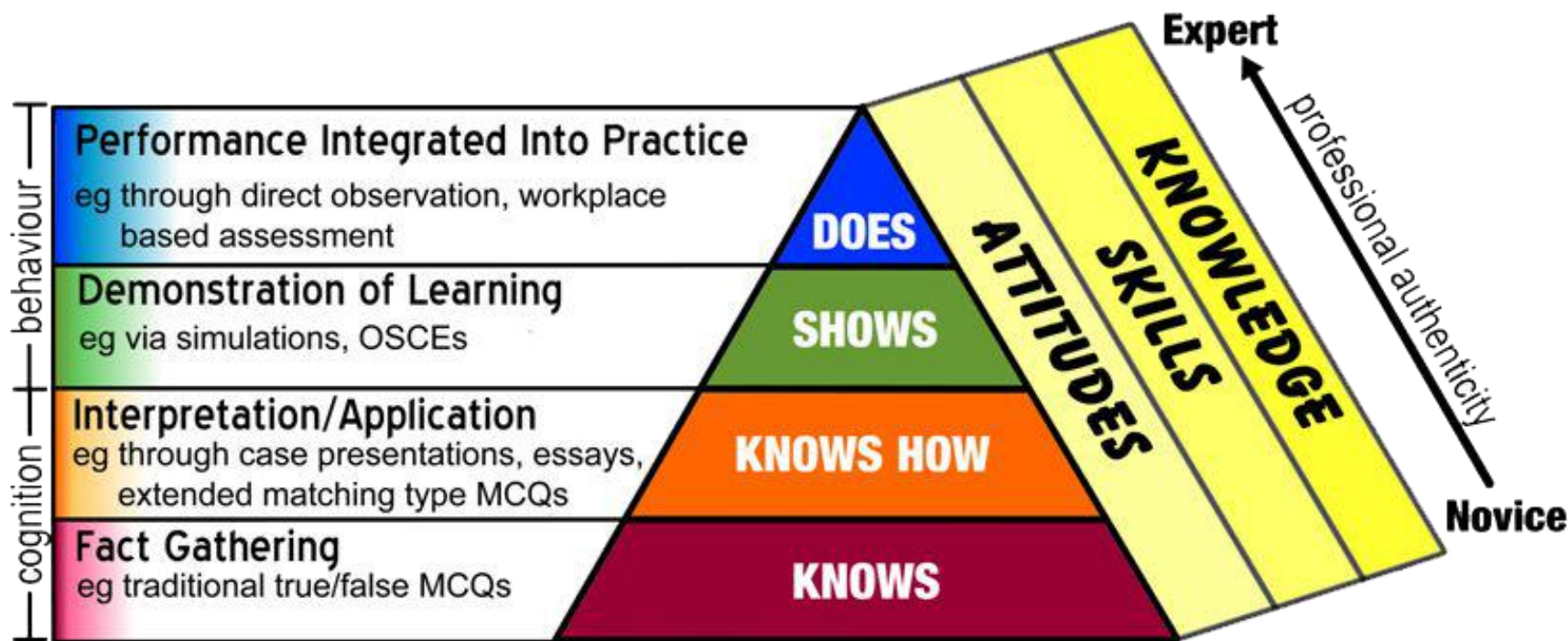


Adapted from: Bloom, B. (Ed.) (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook 1: Cognitive domain*. New York: David McKay.

# Miller's Pyramid - Assessment

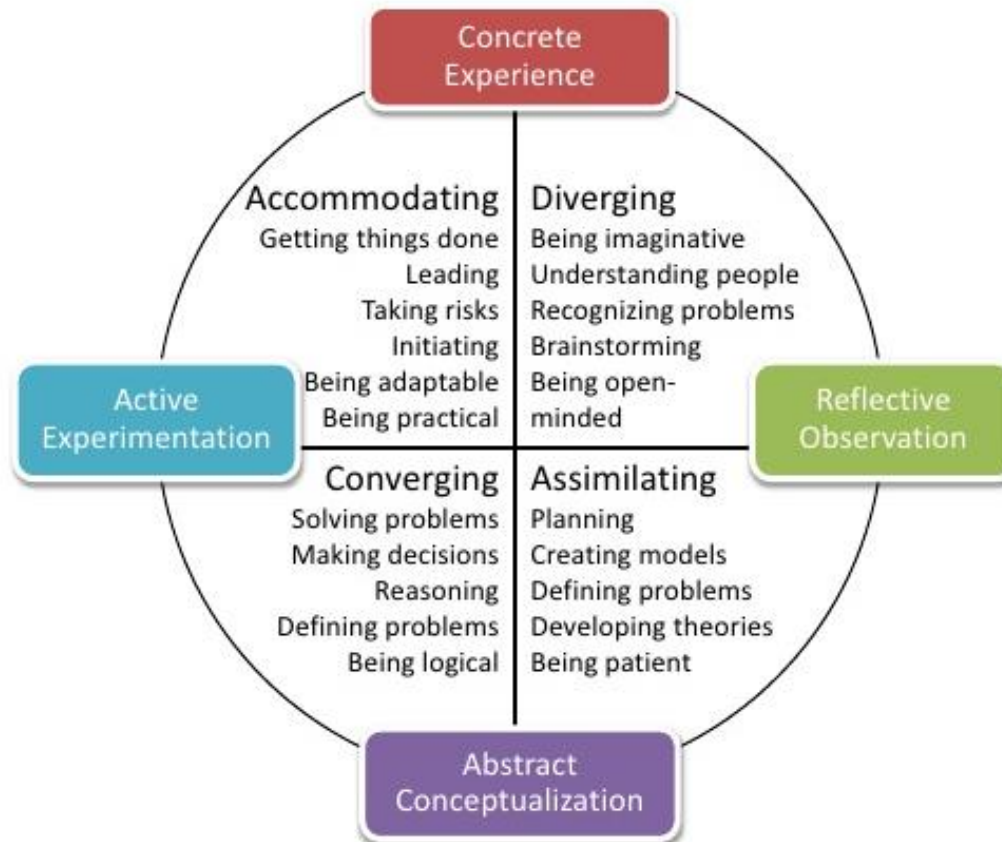
## MILLER'S PRISM OF CLINICAL COMPETENCE (aka Miller's Pyramid)

**it is only in the "does" triangle that the  
doctor truly performs**



*Based on work by Miller GE, The Assessment of Clinical Skills/Competence/Performance; Acad. Med. 1990; 65(9); 63-67  
Adapted by Drs. R. Mehay & R. Burns, UK (Jan 2009)*

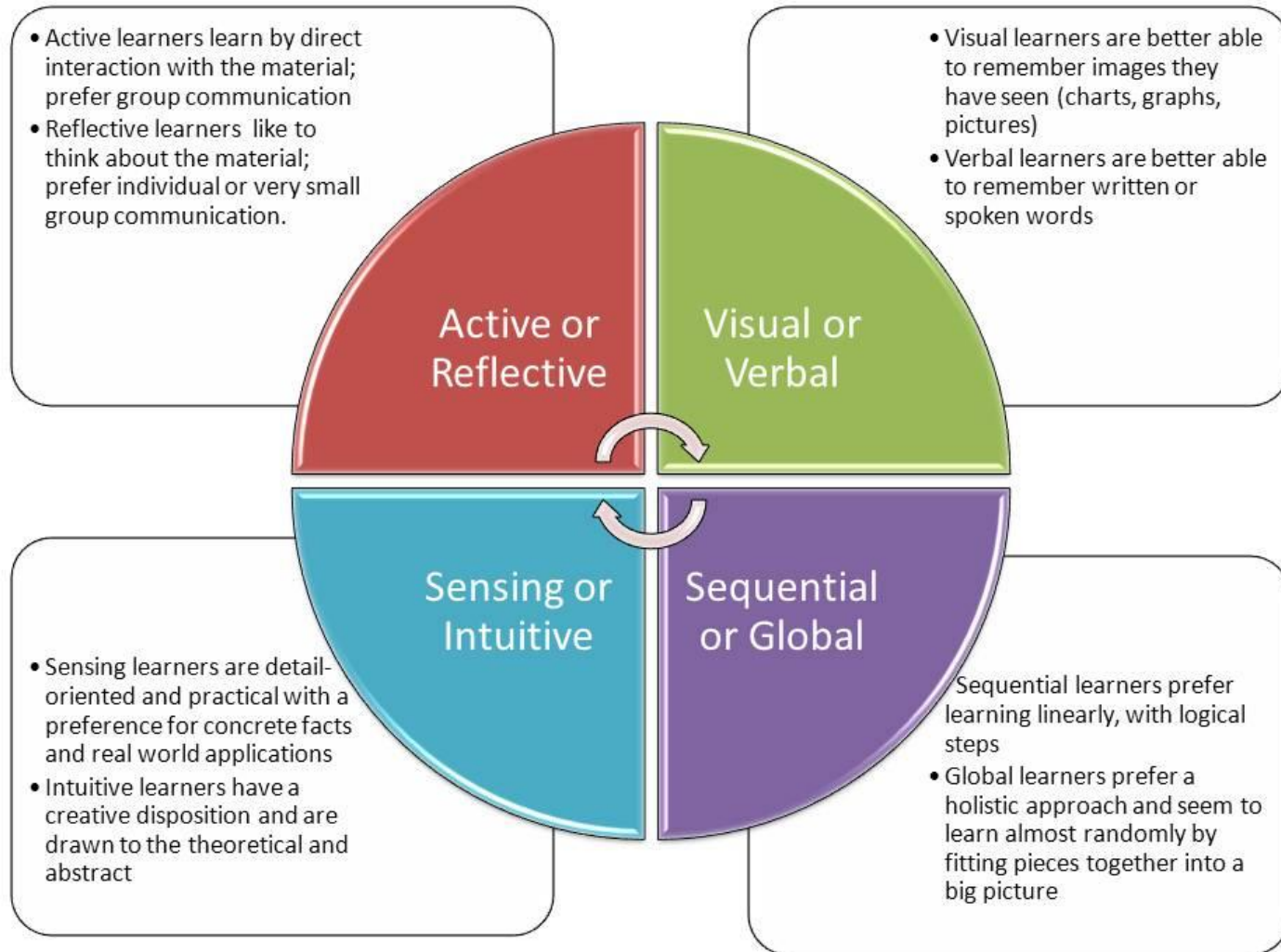
# Kolb: Learning Styles



Taken from Kolb Learning Style Inventory, p10



# Teaching to Learning Styles



Taken from: *Kolb Learning Style Inventory*.

# PLHET: A recipe for designing successful sessions

- Prep – What assignments or activities are expected of the learner prior to the session?
- Link – How does this relate to the learners' prior knowledge?
- Hook – What's motivating the learner?
- Engagement – What teaching method(s) and format(s) will you use to address different learning styles?
- Transfer – How are learners expected to use the information in the future?

# Practice!



# Resources

## Duke Teaching and Leading EBM

A Workshop for Educators and Champions of Evidence-Based Medicine



[Home](#) » [Materials](#)

### Start here

[Teaching and Leading EBM](#)

[Curriculum](#)

[Schedule](#)

[Participant Expectations](#)

**[Materials](#)**

[Hotel & Transportation](#)

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## Materials

### Web Resources

- [Duke Medical Center Library Clinical Tools: PubMed, UpToDate, Cochrane Library, etc.](#)
- [JMAAEvidence: Rational Clinical Exam series, PPT, Users Guides, etc.](#)
- [EBM Guide: links to teaching EBM tips articles, CAT templates, tutorials, etc.](#)

### Logistics / Expectations

- [Participant Planning Guide](#)
- [Examples of presentations for small groups](#)
- [Tips for Tutor Trainees](#)
- [6 Ts for Teaching / Feedback](#)

**Large Group Presentation Slides** (*will be added during the Workshop!*)

**Workshop Manual** (participants will receive this on a USB thumb drive as well as a print copy of the *Users' Guide to the Medical Literature, 3rd ed.*)

- [Duke Teaching and Leading EBM Manual](#)

### Supplementary Resources

# Resources



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# Resources

- Guyatt, et al. (2014). *Users' Guides to the Medical Literature (3<sup>rd</sup> ed.)*. New York: McGraw Hill.
- R. Fletcher, S. Fletcher, G. F. (2014). *Clinical Epidemiology: The Essentials (5th ed)*. Philadelphia: Wolters Kluwer - Lippincott Williams & Wilkins.
- Tips for Teachers of Evidence-based Medicine
- Diamond, R. (1998). *Designing and assessing courses & curricula: A practical guide (3<sup>rd</sup> ed.)*. San Francisco: Jossey-Bass.

# Common Challenges to Implementing an EBM Curriculum

- Balancing “required” (e.g. USMLE) with necessary (e.g. needed to practice) content
- Recruiting and retaining core faculty
- Buy-in of stakeholders
- Teaching in clinical environments
- Experiential learning
- Evaluating curricula and demonstrating benefit
- Sustainability

# Speed Mentoring!

