A Case Study in Team-Based Learning

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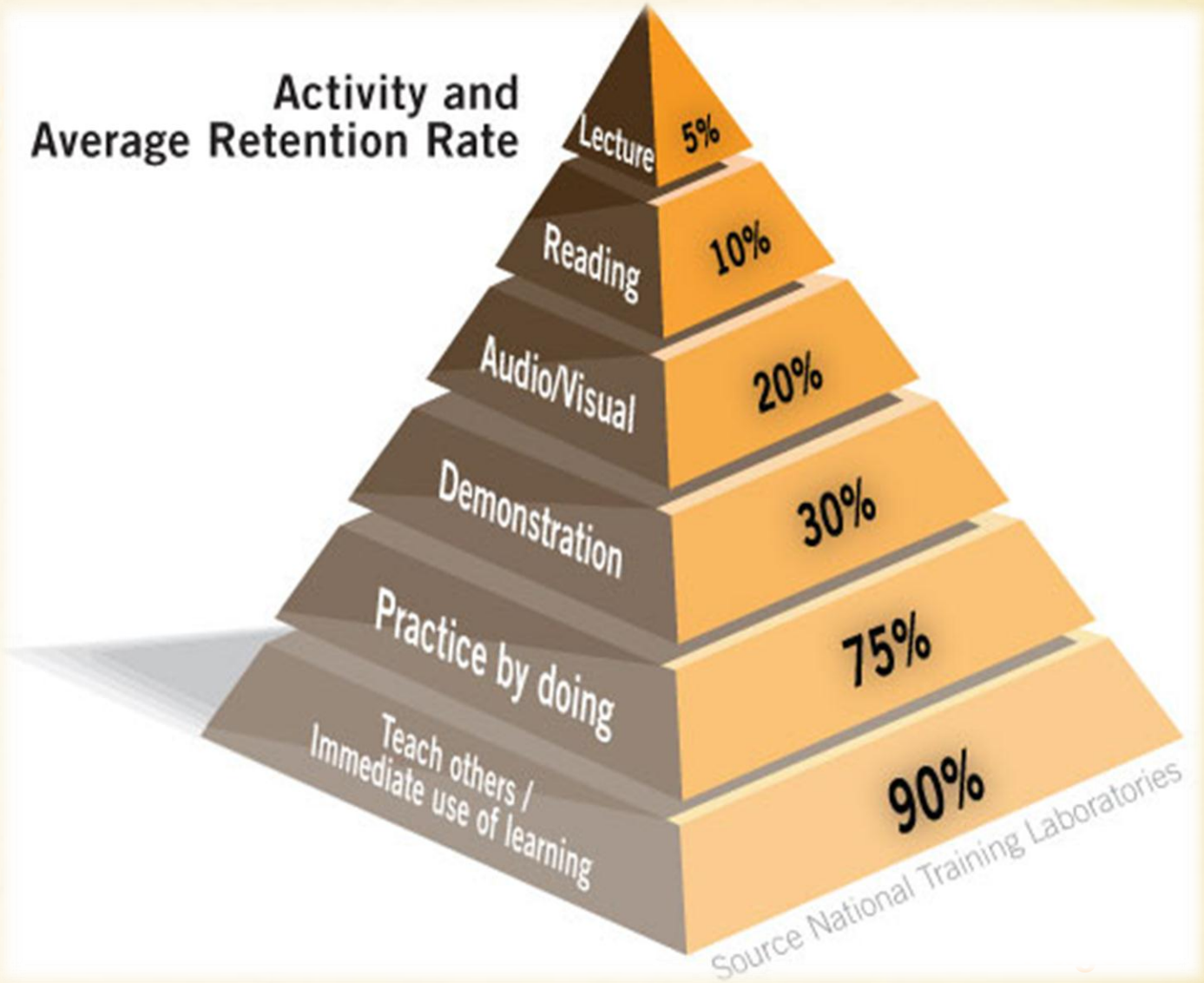
Adult Learning Principles

- ✓ The learner is not a "receptacle" of knowledge
- ✓ Direct experience shapes understanding
- ✓ Learning requires understanding of why
- ✓ Learning must be in some context

Learning Pyramid



Team-Based Learning

A special form of collaborative learning using a specific sequence of individual work, group work and immediate feedback to create a motivational framework in which students increasingly hold each other accountable for coming to class prepared and contributing to discussion.

-Michael Sweet

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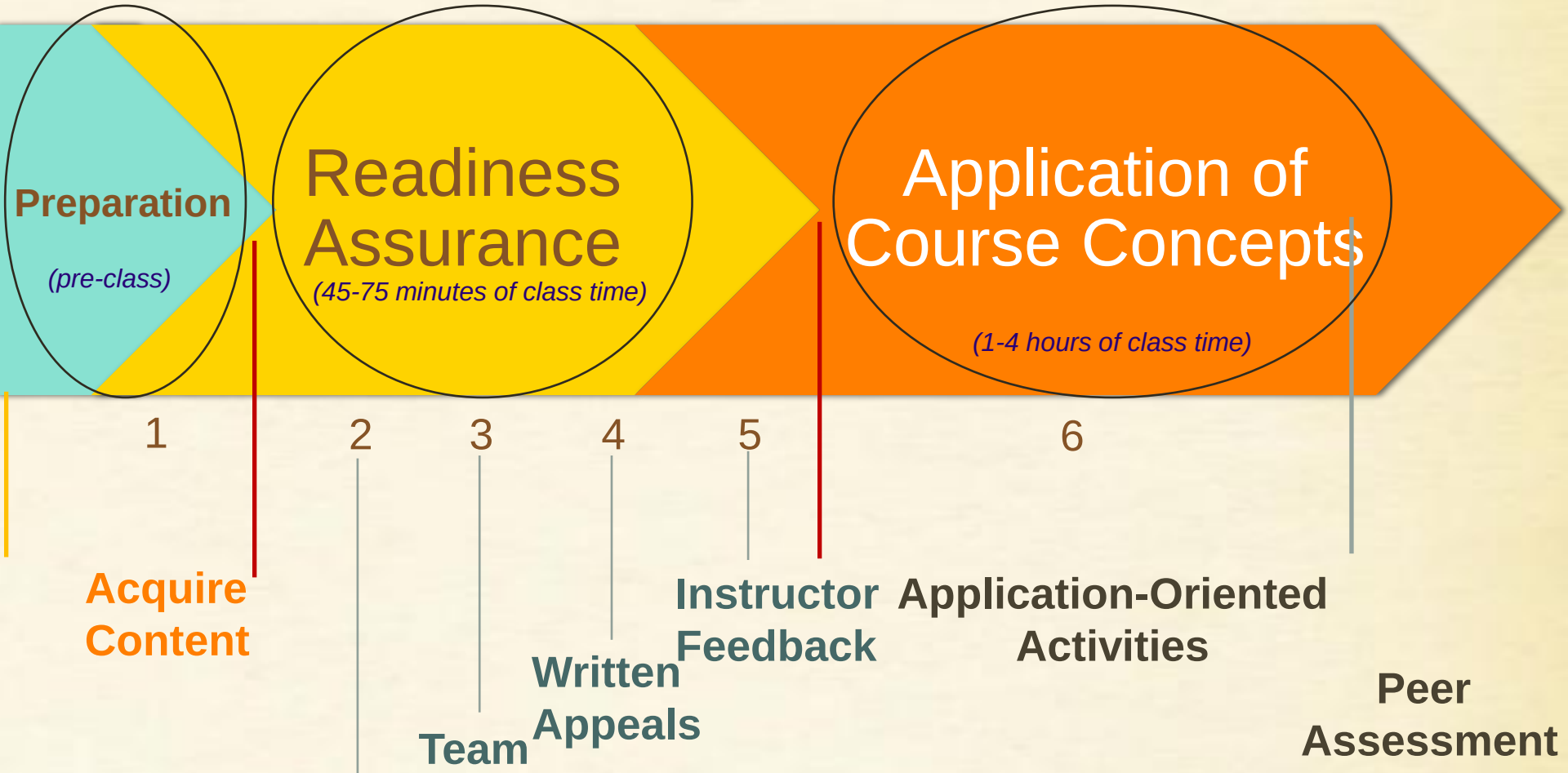
Team-Based Learning Instructional Strategy



Michaelsen et al., 2007

Previous Instructional Design

Lecture/Demo

(1 hour of class time)

Application of Course Concepts

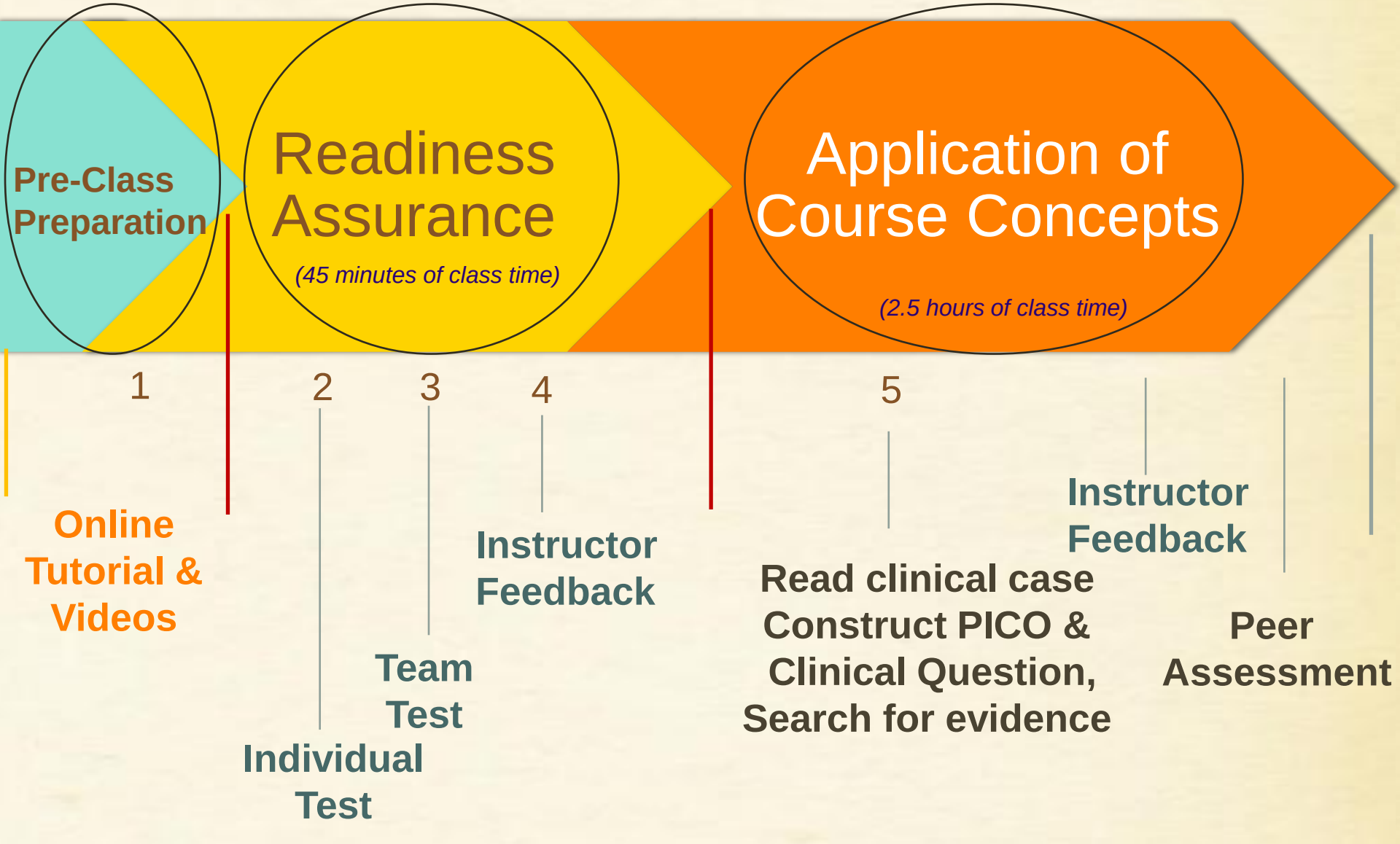
(1 hour of class time)

Acquire Content

Apply Knowledge

Active Learning
NOT
Team-Based Learning

Our Evidence Based Practice & Searching TBL Session



Pre-Class Preparation

Intro | What is EBP? | Assess & Ask | Acquire I | Acquire II | Acquire III | Appraise | Apply | Self Test | References | Eval

Intro Print Page **Search:** This Guide Search

Objectives

Upon completion of this guide, you will be able to:

* define Evidence-Based Practice (EBP) & the steps in this process.

* formulate a well-built clinical question using PICO.

* differentiate between filtered and unfiltered resources.

* employ proper search techniques to find the best evidence.

Credits

Parts of this tutorial were developed by Connie Schardt, Duke University Medical Center Library and Jill Mayer, University of North Carolina at Chapel Hill Health Sciences Library. See: http://www.hsl.unc.edu/services/tutorials/ebm/welcome.htm

How to Use this Tutorial

This tutorial includes five major units. We recommend that you go through each tab in sequence.

- **What is EBP?** This unit provides definitions and explains the steps in the EBP process.
- **Ask** introduces you to a patient, illustrates the anatomy of a good clinical question, and defines the types of questions and studies.
- **Acquire I, II, & III** construct a well-built literature search and identify potentially relevant articles.
- **Appraise** identifies criteria for determining the validity of a study.
- **Apply** gives you useful points to consider when determining if a study's results are applicable to your question.
- **Self Test** provides you with an opportunity to practice the EBP process with a new case.
- **References** lists additional sites for continued study of the EBP process, including a link to an EBP glossary.
- **Feedback** gives you the opportunity to provide feedback about this tutorial. We ask that you take the time to give us your thoughts and suggestions for improvement. All comments will be greatly appreciated.

NEXT

Librarian

Brandi Tuttle

Stuck? Ask a Librarian!

Available dukemclref

Type here to chat.
Press ENTER to

Readiness Assurance

Evidence Based Practice I

1. Which of these is not a step in EBP?
   a. Assess the patient
   b. Ask the question
   c. Appraise the evidence
   d. Advise colleagues on available resources

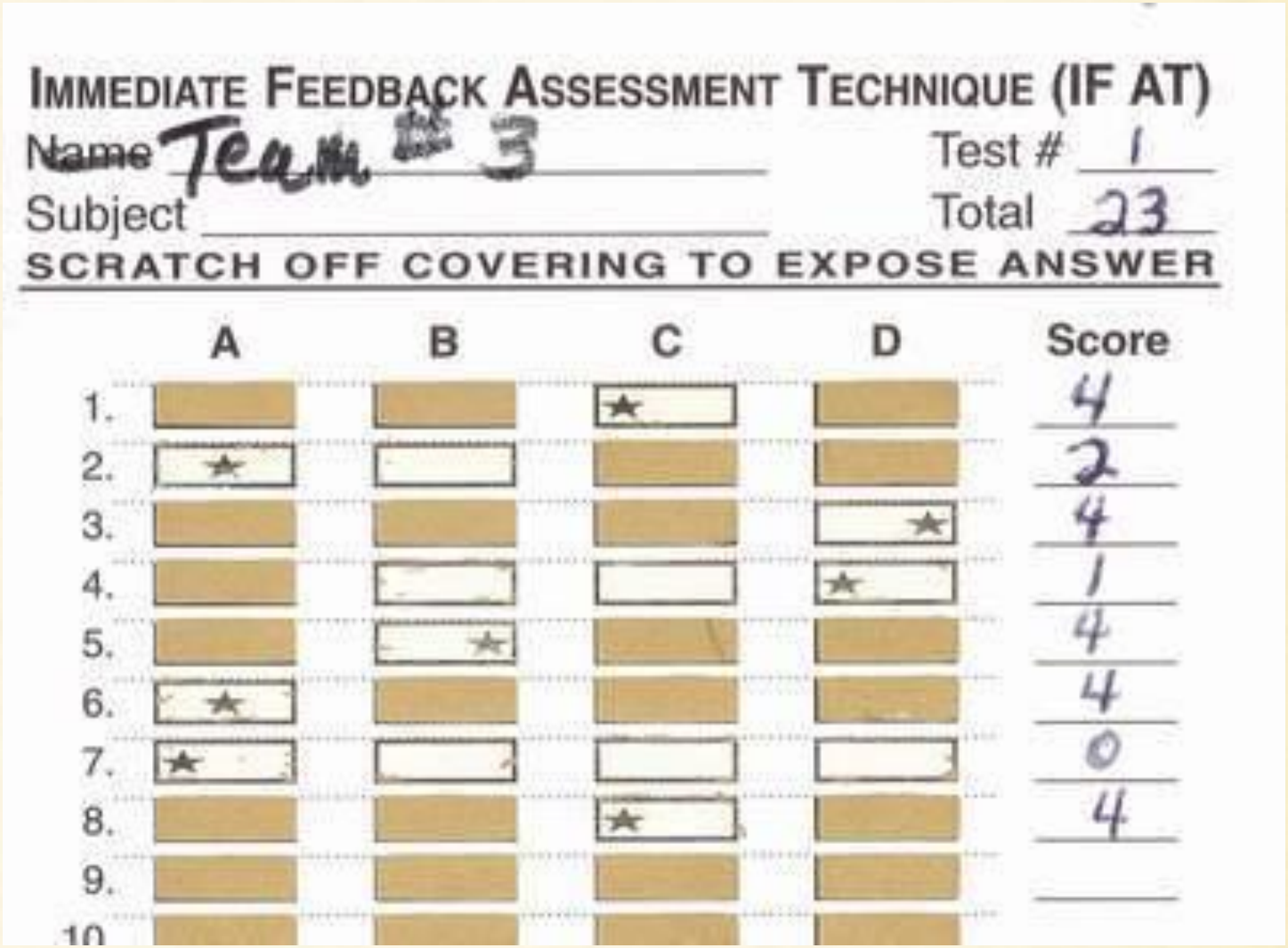
2. What does PICO stand for?
   a. Problem, Investigation, Concerns, Observations
   b. Patient, Investigation, Control, Outcome
   c. Patient/problem, Intervention, Comparison, Outcome
   d. Prognosis, Intervention, Comparison, Observations

3. Select the correct order of levels of evidence from weak to strong:
   a. case control studies, meta-analysis, randomized controlled trial
   b. case series/case reports, cohort studies, systematic review
   c. cohort studies, systematic review, meta-analysis
   d. case control studies, case series/case reports, randomized controlled trial

4. Which statement most accurately describes PubMed?
   a. PubMed searches across more than seventy evidence-based practice Websites simultaneously.
   b. PubMed is a searchable database of systematic reviews, randomized controlled trials and clinical practice guidelines designed especially for physical therapy.
   c. PubMed is a searchable database comprised of evidence based clinical practice guidelines.
   d. PubMed is the search engine for the database MEDLINE.

5. What type of article best answers clinical questions of therapy?
   a. Cohort study
   b. Case-controlled Study
   c. Randomized Controlled Trial

Readiness Assurance



IMMEDIATE FEEDBACK ASSESSMENT TECHNIQUE (IF AT)

Name Team # 3 Test # 1

Subject _____ Total 23

SCRATCH OFF COVERING TO EXPOSE ANSWER

	A	B	C	D	Score
1.			★		4
2.	★				2
3.				★	4
4.				★	1
5.		★			4
6.	★				4
7.	★				0
8.			★		4
9.					
10.					

Team Application

Team Application

Case: Your patient, Sam Adams, is a 66 YOM with COPD, asthma, and depression. He has a history of hospitalizations for poor asthma control, and is currently taking corticosteroids. He has been referred to outpatient physical therapy to increase his endurance. Sam is skeptical about physical therapy and doesn't see the point. He asks if there is any research that physical therapy can help patients like him.

Questions:

1. What is your PICO?
2. What is your clinical question?
3. Conduct a search in PubMed, Google Scholar and CINAHL. Use the table below to document your *most successful* search in each of these three resources. Please tell us:
    a. Keywords or terms searched(PubMed- include your MeSH terms), tell us if you used AND/OR and how
    b. # of search results
    c. Filters or limits applied
    d. Articles selected- Document the two most appropriate articles from each search.
    e. Type of Study – What type of studies did you find?

Resource Searched	Keywords/search terms used (include Boolean if used)	# of results	Filters or Limits used	Articles selected (give citation OR PMID #)	Type of Study
PubMed					
CINAHL					
Google Scholar					

Benefits

- Increases student accountability
- Encourages teamwork
- Less lecturing, more "doing"
- Learner-centered, instructor led
- Depth of understanding is greater
- Promotes higher level learning
- Practice applying concepts
- Immediate feedback

Keep in mind…

- Faculty & student buy-in needed
- Increase in prep work time
- Group formation & assessment questions are crucial
- Adequate class time needed
- Role of "lecturer" or "gate keeper of knowledge" shifts to facilitator
- Need to be comfortable being challenged

Outcomes

		TBL
Knowledge Acquisition:		**Knowledge acquisition – positive outcomes** *(Chung, et al., 2009)*
RESULTS		
Learner Outcomes & Behaviors:		**Increased preparation and engagement** *(Haidet, 2006)*
		Enhanced communication and teamwork skills *(Thompson, 2007)*
		Enhanced critical analysis, reasoning skills *(Pileggi and O'Neill, 2008)*
		Students perform better on exams *(Koles, et al. 2010)*
User Satisfaction:		**Increased learner and faculty satisfaction** *(Parmelee, 2009)*

Next Steps

- ✓ Continue to refine the EBP TBL session
- ✓ Look for more arenas to deploy TBL
  - Next up: PubMed Searching with MSIIs in August
- ✓ Engage with faculty, offer assistance and information

Thank you for your attention!

But really… how much will you remember?

Feel free to contact me:
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Additional Resources

- Koles, P., Stolfi, A., Borges, N., Nelson, S., & Parmelee, D. (2010). Impact of team-based learning on medical students' academic performance. *Academic Medicine*, *85*(11), 1739-1745.
- Metcalf, S. (2006). Will team-based learning mesh well with library instruction? *Loex quarterly, 33*(3), 6-8.
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- Parmelee, D. (2010). TBL: Moving forward in curriculum innovation: a commentary. *Medical Teacher*, *32*(2), 105-107.
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