

# Modified Problem Based Learning (mPBL) in Graduate Medical Education: How to Make it Work ?

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# If you could get one thing out of this workshop.....

- Poll everywhere for expectations...



# Objectives

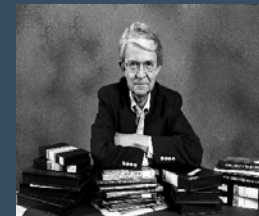
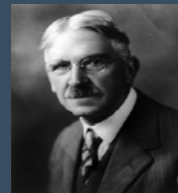
1. Explore the current use of problem based learning methods in graduate medical education
2. Demonstrate the components of an effective modified PBL curriculum for residency programs
3. Introduce new and robust methods of delivering content using a problem based learning approach
4. Identify the affordances and constraints of incorporating problem based learning methods in a residency curriculum
5. Brainstorm approaches into incorporating problem based learning strategies in residency programs

# History of PBL?

- Problem based learning is a method of teaching and learning that originated at McMaster University, Medical Program, in the mid-60s
- This method of teaching and learning spread fairly fast and within a few years of its conception. Now several hundred schools offer some form of problem-based learning

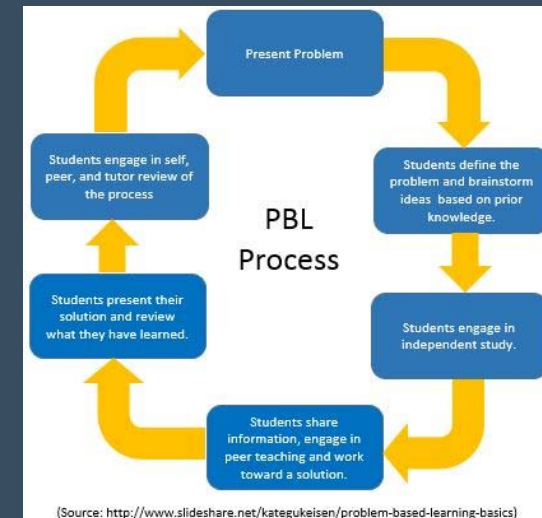
- Informed by adult learning theory :

- Dewey
- Socratic
- Piaget
- Vygotsky



# What is Problem Based Learning?

- **Problem-based learning (PBL)** is a student-centered approach in which students learn about a subject by working in groups to solve a problem
- **PBL** is an active and iterative process to identify what students know and, more importantly, what they don't know
- The problem is what drives the motivation and the learning by :
  - Examining and defining the problem
  - Exploring what they already know about underlying issues related to it
  - Determining what they need to learn and where they can acquire the information and tools necessary to solve the problem
  - Solving the problem
  - Reporting on their findings



# Why to make a move towards PBL?



# Activity #1

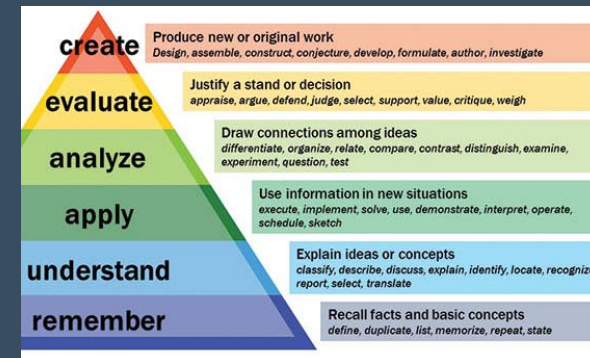
## Small Group discussion:

- Have you ever been part of a PBL? What was it like?
- What is the value of PBL methods in medical education?
- Have you had a chance to use problem based teaching methods during residency training? How was it?



# What is Modified PBL (mPBL)

- In traditional problem based learning, the facilitator :
  - Keeps the students on topic
  - Aims to address and handle difficult group dynamics
  - Provides small amounts of targeted information
  - Evaluates students



In modified problem based learning (mPBL), the facilitator, in addition to the above:

- Provided “active facilitation” during the small group discussions
- May be a content expert in the problem
- Challenges the learner by posing questions that targets higher order levels of learning (e.g applying, analyzing, and evaluating rather than just remembering)



# Activity #2

## Small Group discussion:

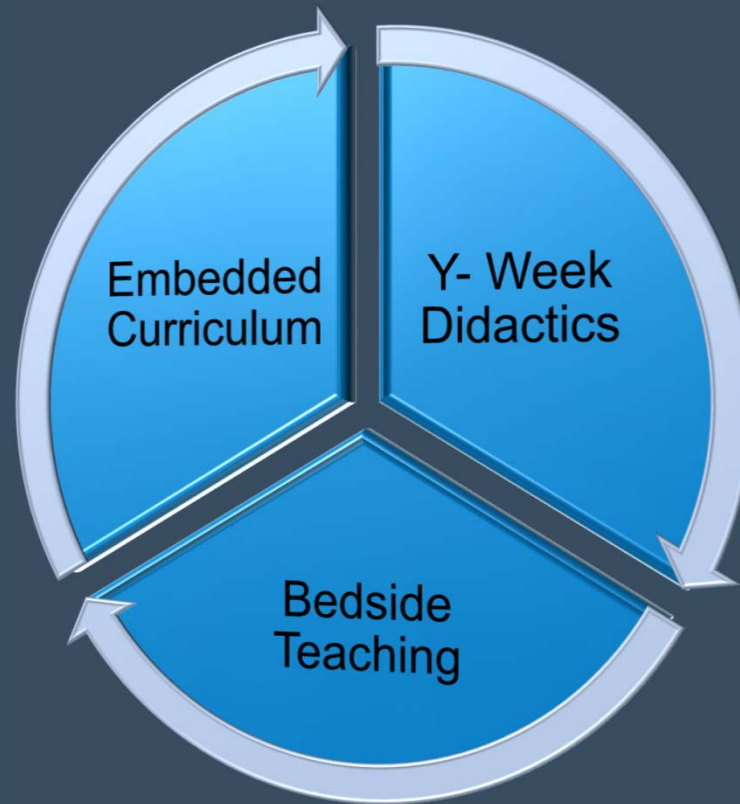
- How could you implement PBL into your residency program?
- What are the challenges you anticipate?
- Brainstorm solutions to overcome these constraints



# THE CLEVELAND CLINIC EXPERIENCE



# Structure



# Break down of the Y-week structure

- Each Y-week is every 5 weeks
- 10 y - weeks / year
- 6 internal medicine clinics/ week +1 subspecialty clinic
- Two protected half-days for delivering academic content
- Each FRAME consists of 16-18 PGY 2/3's
- PBL is delivered during the Y- week

# Break down of “Y” WEEK CURRICULUM

## MONDAY

8:00 – 8:30: Case introduction



8:30 – 9:00: Interactive core didactic



9:00 – 10:00: **Journal club**



10:00 – 12:00: FRAME

## TUESDAY

1:30 – 2:30 Case discussion in 3 groups



2:30 – 3:00 Q&A session with content expert



3:00 - 3:30 Didactic by content specialist



3:00 - 3:30 Didactic by content specialist

## Session 1 (Monday, 8:00am - 8:30 am)

■ Case introduction(Multi-system case)

■ Formation of differential diagnosis

■ Formation of learning objectives

## Session 2 (Tuesday, 1:30 pm - 3:30 pm)

■ Discussion of LO's( 1:30 - 2:30 pm, small resident group discussion (faculty and chiefs present)

■ Q&A session ( 2:30 – 3:00PM)  
■ Didactic (3:00 - 3:30 PM)

■ Promotes adult learning, including self-directed learning and timely application of new information

# MyLearning online

<https://mylearning.ccf.org/course/view.php?id=1023>

The screenshot displays a web browser window with the URL <https://mylearning.ccf.org/course/view.php?id=1023>. The page features a navigation menu on the left with an "Administration" link. The main content area is titled "Modified PBL Outline" and lists several medical topics, each with associated video and audio resources:

- Nephrology**
  - Video—Nephrotic Syndrome
  - Audio—Nephrotic Syndrome
- Women's Health**
  - Video—Contraception for Non-Gynecologists
  - Audio—Contraception for Non-Gynecologists
- Hematology**
  - Video—Immunosuppression in Solid Organ Transplant Recipients
  - Audio—Immunosuppression in Solid Organ Transplant Recipients
- Cardiology/Pulmonary**
  - Video—Acute Coronary Syndrome
  - Audio—Acute Coronary Syndrome
- Infectious diseases/Rheumatology**

The footer of the page includes the text "Cleveland Clinic © 1995-2018. All Rights Reserved." and a navigation bar with links for "Home", "My Courses", "Find Learning", "Transcript", "My Reports", "Calendar", and "Support".

# Assessment

## Modified PBL Assessment of Medical Knowledge (MK) and Assessment of Interpersonal and Communication Skills (ICS) Milestone Stage

Please check the box under the appropriate milestone stage for the trainee you are assessing. Milestone stages are aligned with sub competencies on this form. At the end of the assessment, you will have the opportunity to provide narrative feedback to the trainee. Your feedback is critical to helping your trainee progress to the next milestone stage.

	Critical Level	Novice Level	Advanced Level	Unsupervised Practice Level	Aspirational Level
<p>1. <b>Subcompetency, ICS2:</b> Resident communicates effectively in <b>interprofessional</b> teams Which milestone level best describes resident's performance?</p>	<input type="radio"/> Hampers gaps in Collaboration and team work	<input type="radio"/> Uses unidirectional communication that fails to utilize The wisdom of the team	<input type="radio"/> Rarely engages in Collaborative Communication With appropriate Members of the team	<input type="radio"/> Consistently and actively engages in collaborative communication with all members of the team	<input type="radio"/> Role models and Teaches collaborative Communication with The team to enhance Patient care, even in Challenging settings an with conflicting team member opinions
<p>2. <b>Subcompetency, MK2:</b> Resident has the foundational knowledge to apply diagnostic testing and procedures to patient care. Which milestone level best describes resident's performance?</p>	<input type="radio"/> Exhibits gaps in knowledge of basic diagnostic tests and common procedures	<input type="radio"/> Inconsistently demonstrates knowledge of basic diagnostic tests  Inadequate knowledge of rationale and risks associated with common procedures  Inadequate knowledge of pre-test probability and test performance characteristics	<input type="radio"/> Consistently demonstrates knowledge of basic diagnostic tests  Demonstrates knowledge of rationale and risks for common procedures  Inadequate knowledge of pre-test probability and test performance characteristics	<input type="radio"/> Consistently demonstrates knowledge of complex diagnostic tests  Demonstrates knowledge of pre-test probability and test performance characteristics  Teaches rationale/risks associated with common procedures  Anticipates potential complications when performing procedures	<input type="radio"/> Anticipates and accounts for pitfalls and biases when interpreting diagnostic tests and procedures  Pursues knowledge of new and emerging diagnostic tests and procedures

Comments/Feedback:

\* Required fields

Reset Form

Submit completed evaluation

Submit



# WHATS HAPPENING AS A RESULT

## FEEDBACK

- Residents have enjoyed focus on self directed learning and teaching peers
- relevance to learning has increased and has become more dynamic, fun and interactive
- Each resident has not been able to cover all learning objectives due to short turnaround time between introduction and case discussion

## VISION

- Increasing turnaround time between case introduction and discussion
- Advancing cases to cover more curricular topics
- Having multidisciplinary content experts for multisystem cases
- Building up video library / podcasts to **ENHANCE CURRICULAR CONTENT**

# Key Takeaways

- PBL can successfully be implemented in graduate medical training programs
- Modified PBL allows for a hybrid structure that encompasses both peer to peer learning and traditional didactic style teaching
- Modified PBL would work best if implemented into a X+Y week structure
- Allows for assessment of learners



# References

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- Svinicki, M. & McKeachie, W. (2011). *McKeachie's teaching tips: Strategies, research, and theory for college and university instructors (13th ed)*. Belmont, CA: Wadsworth.
- <https://www.cte.cornell.edu/teaching-ideas/engaging-students/problem-based-learning.html>



Every life deserves world class care.

Questions:

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