What is PBL?

- Problem-based learning (PBL) is described as:
  - discovery learning which helps students in small groups with a faculty tutor/guide,
  - "develop scientific thinking about patient problems and to acquire basic science and clinical information in a manner that ensures retention and transfer to the real-life task of the clinician." (1)
  - Problem based learning or PBL develops
  - effective clinical reasoning and self-directed learning skills within a context of solving clinical problems. (2)

Why this topic?

- PBL
  - 1969 - PBL was first embraced by medical schools – first in Canada then US
  - A common teaching method in many medical schools
  - Pharmacists and other health professionals could benefit from similar / common learning
PBL in Action

• If possible select a discussion room that provides a chalk board, or white board.

http://www.feinberg.northwestern.edu/sites/pa/index.html

Some lessons learned

• Importance of continuous and frequent feedback to students and faculty
• PBL in June is very different from PBL in May
• Being a (good) tutor is harder than one initially thinks
  – At first I tended to either provide hints that gave everything away, or alternatively were so obscure no one in the class realized a provided a hint!
  – Providing suitable hints when the group gets stuck or goes off track is truly an art.
  – I will provide an example or two when we get to the cystitis case.

PBL Resources

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<thead>
<tr>
<th>PBL Case Sources</th>
<th>Preceptor</th>
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<tr>
<td>Hardware for PBL</td>
<td>Students with laptops or similar, Internet access.</td>
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<td>Space needs</td>
<td>Conference rooms, White boards/white easel paper.</td>
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<td>Time for PBL</td>
<td>Each clinical case could take 2-3 one hour sessions</td>
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<td>Faculty</td>
<td>Preceptors serve as a Guide on the Side</td>
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<td>Student groups</td>
<td>groups of 5-6 students per case, students need to attend all sessions on the topic. (Students or Residents)</td>
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Is PBL Effective?

PACKRAT Content Areas and Tasks – Conclusion of Year 2

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Advantages

Practice Based Learning (PBL)
• Best use of Preceptor Time;
• Provides preceptor perspectives about application and synthesis to benefit clinical year students and residents;
• Responsibility for learning resides with the student and resident;
• Preceptors will teach through modeling how to think rather than telling students what to think.
Baseline Structure

- Plan on a multi-session discussion (one or two sessions)
- Any student question based on knowledge of a fact, something that could be found in a textbook, pocket reference, Up to Date etc. is the responsibility of the student. Each student in your group is responsible for preparing a response to these questions/lack of knowledge. We refer to these assignments as Learning Issues or LI’s. As in “It seems to me that our group needs to prepare an LI about this issue.”
- The preceptor is responsible for modeling application and synthesis of information presented as an LI, often incorporating examples from your own practice experiences. And of course using hints to keep your group on track.

Differential Diagnosis Analogy

- Considering a given discussion case:
- Students/Residents should prepare a differential treatment plan to coincide with the likely patient diagnosis. (Following the medical model)
- The patient interview, assessment of the patient exam, and laboratory testing should be used in a focused manner to narrow the differential treatment plan.

Structure-Patient Case

Given a particular patient case assignment for example a 24 yof presenting with an uncomplicated bladder infection:
- What will the patient tell you?
- What do you want to ask the patient?
- What do you need to look for in the patient examination?
- What tests do you want to examine?
- What is the differential diagnosis?
- What would be your differential treatment plan?
- Do any of your findings from above target your plan?

What would be your differential treatment plan?

Given a particular patient case assignment for example a 24 yof presenting with an uncomplicated bladder infection:
- Which plan fits in best with the information from the patient interview, examination and lab evaluation?

Structure-Journal Club

- What do you think about the demographic data? (Is there a good match between groups, and does the study have external validity for your practice)
- What is the comparison treatment? Appropriate? Is placebo ethical?
- Why is intent to treat desirable?
- Did the study report clinical outcomes that matter or lab/intermediate outcomes?
- Does the study report harms? How hard did they look for harms?
- Are the efficacy and hazard outcomes meaningful? Are the differences if any meaningful? Are they unlikely to be due to chance?
- Does your study have enough power to make a claim of no difference?

Should you give it a try?

- Attending a lecture is an effective way to gather facts, but students end up in a passive rather than active mode, and if you now serve as faculty or as a preceptor, you might have noticed that students might not remember these facts for very long after the final exam. As a preceptor I can attest that fact-based learning doesn’t help very much with application and analysis skills, doesn’t promote working as a part of a team, and doesn’t help to develop the learning skills needed to be successful in experiential training.
- After one or two sessions your students and residents will not want to go back to traditional methods.
- Meets an important gap in pharmacist skills-critical analysis, working with other clinicians, and patient/colleague communication.
- I have enough information about the students reasoning and understanding to actually provide helpful and meaningful feedback to my students.
References

- Camp, G. Problem-Based Learning: A Paradigm Shift or a Passing Fad? Medical Education Online. 2. doi:http://dx.doi.org/10.3402/meo.v1i.4282.
- Fotis M. Practice Based Learning. Available at: http://connect.ashp.org/blogs/michael-fotis/2014/02/08/practice-based-learning

You set up a case about CHF for PBL discussion. For some reason your group is confused about the causes of pulmonary congestion. As a PBL facilitator you should:

a. Explain the mechanism of pulmonary congestion to the class
b. Ask the class to describe the relationship between cardiac output and pulmonary congestion.
c. Tell your class not to worry everyone prescribes an ACE inhibitor anyway.
d. Interrupt the discussion while someone looks up the answer.

The group is unable to describe the relationship between pulmonary congestion and cardiac output. You should:

a. Give them the answer
b. Ask them to look it up on their own
c. Add this question to the listing of learning issues the class will discuss at your next meeting.
d. Give up on PBL and just present a lecture to your group.

In journal club your group chooses a paper about a new treatment for Type 2 DM. In this paper the latest wonder drug is compared to placebo. What should you infer about the patients in this study?

a. Placebo controlled studies are the best way to measure efficacy of the study agent
b. The subjects in this study likely did not have a compelling indication for treatment of type 2 DM, and may not be at all like the patients you are responsible for managing
c. There is no need for the authors to report harms as there is a placebo arm to the study
d. Wait for a review article to be published to tell you what to think.

Identify the statement that is not correct about Practice Based Learning

a. Students take responsibility for their own learning needs
b. The preceptor is responsible for modeling application and synthesis of information presented as an LI
c. Preceptors have the information they need to provide helpful feedback to students
d. Students rarely need help with critical thinking.