UTMB SOM PBL Facilitator Guidelines

Some of the goals of PBL are to develop effective problem-solving skills while identifying and filling knowledge gaps. These goals are most effectively accomplished when, given an unfamiliar problem, the students apply their existing foundational knowledge and develop plausible speculations to build an adaptable mental model of how something works, how it breaks, and how it may be fixed. Establishment of this “primitive”, mental model serves the student as an intellectual sponge that is capable of absorbing and retaining new, relevant information. In so doing, the mental model becomes a sophisticated, useful body of knowledge. Unfortunately, this PBL potential is too often hindered because too many students are too uncomfortable with the status of their existing body of knowledge and too intimidated by ambiguity and uncertainty to speculate, brain-storm, and hypothesize. These factors may be responsible for unsatisfactory student behaviors in PBL such as:

- Limited participation.
- Too much reliance on other resources (e.g. internet, scribe-notes) and the thoughts of others.
- Unwillingness to develop hypotheses prior to looking up an answer.

The following suggestions for facilitators are intended to help students have an effective PBL experience.

1. Ask your group to identify their ground rules in the first PBL class and use them to monitor the group’s process and give feedback.
2. Be a role model for your group: Be on time, promote a positive learning climate, stay engage (do not text or email while the students are discussing the case). Model giving and receiving feedback based on the SORTED Model).
3. Come to class prepared by reading the facilitator notes in advance, thinking about the flow of the case, writing questions that may help facilitate a deeper discussion, and knowing what students are learning in other parts of the course (e.g. labs and lectures).
4. Run the student PowerPoint case slides yourself in order to control the timing of student discussions. (Note: It is best if you bring your own computer, but if you cannot or choose not to bring a laptop, use a student’s laptop to run the PowerPoint. If you are using an iPad, you will need to use the pdf version of the slides. Be aware, however, hyperlinks and videos will not work on the pdf.)
5. Anticipate what is on the next slide. Often the “tasks” slides are there to ensure that all groups discuss similar issues and questions that should arise from the previous information. Give the group the opportunity to bring up these issues prior to moving to the task slides.
6. Students should limit the use of their own laptops (e.g. to look up definitions) and never use them to look up their learning issues during class time.
7. Utilize the white board to capture case information, learning issues, and problem lists as it will keep the group’s problem-solving process visible throughout the case.
8. Ensure that the discussion of each learning issues is a discussion- not a mini-lecture read by a student.
9. Don’t allow students to avoid a discussion when they discover on a website that “the mechanism is unknown...” “They don’t know” is not a valid excuse to forego critical thinking. Encourage critical thinking by asking questions that allow students to develop their own hypotheses (mental models) based on their current level of knowledge. Encourage development of learning issues by asking “how might that happen?” Subsequent discussions should result that refine their mental models.

10. Encourage students to express learning issues in complete sentences that focus on a specific question. (e.g. “How does glycolysis contribute to glucose homeostasis?” vs “Understand glycolysis”).

11. Ask students probing questions to assess, evaluate, compare, weigh evidence, rank hypotheses, and provide reasoning behind their opinions.

12. Guide students to use their knowledge to construct their own hypotheses using visual aids (e.g. flow diagrams, concept maps, and mechanisms) especially in the discussion of difficult concepts.

13. Encourage students to use the basic sciences to explain patient’s symptoms and clinical signs.

14. Make sure students use their own voice (their own words) when synthesizing and discussing information (in the case and when reporting learning issues), not just read information directly from their lecture notes, journal articles, or off of the internet to the group.

(Suggestion: ask student to describe the information as they would explain it to his/her grandmother. Based on the student’s description, you may want to guide them to develop a more sophisticated discussion).

15. Facilitate the process. Do not lecture (even if you are an expert) or dominate the group discussion by rushing questions and not allowing the student’s time to think.

16. Ask open-ended questions that expand the discussions. Help students externalize their thinking; keep group focused on issues discussed and foster self-directed learning.

17. Encourage quieter group members to contribute,

18. Document student’s problems (seek help from course directors if needed), progress and successes in order to give effective feedback and accurate and honest end-of-course evaluations.

19. Provide feedback (following SORTED Model) to students anytime you see a student behavior that could be improved in a way that students believe you want them to succeed and improve.

20. Evaluate the students’ behavior based on criteria, not relative to the norm of the group.