Problem-based Learning Program for Cytopathology Education

Active Learning Program for Contemporary Cytopathology Education
(Problem-based Learning for Cytopathology)

Frequently Asked Questions (FAQ’s)

What is different about this educational product than other case-based learning tools?

The majority of currently available educational products that use a case-based approach typically provide a case presentation, initial knowledge checks, provide information on the diagnosis and workup, and then a final knowledge assessment. That type of learning is very passive; the learner may or may not absorb the information, and is provided all of the information from an authoritative source. Program Directors and Faculty in Cytology programs must recognize that their role as educators is shifting from one of primary sources of information, passive one way dispensers of information (i.e. lectures) to educators that promote an atmosphere where learning and application is cultivated through student self-directed learning. Problem-based Learning (PBL) pedagogy makes the learning process more meaningful and engaging while returning the responsibility for learning back to the learners.

In real practice the practitioner will have to identify their areas of weakness, what knowledge they need to acquire to further evaluate a case, find the sources of information (through textbooks, online journal access, etc.), assimilate it and then apply it to the problem in front of them. Active learning educational programs, or problem-based learning exercises, attempt to simulate an experience similar to real practice, where the student has to engage in self-directed learning. Many medical schools are already applying this new pedagogy with remarkable success, and students in cytopathology are increasingly likely to be at ease with this learning style.

The PBLs provided through this program each will provide learners with one or more life-like case presentations to motivate the learner to engage with the topic and promote self-directed learning. This unique PBL product also provides a separate handout to the faculty facilitator, whose role is to assist learners to successfully work as cohesive groups, guide critical thinking, encourage reasoning and discussion, support evidence-base resources, and, most importantly, assess progress. A facilitator does not necessarily have to be an expert on the content of the case; indeed, the facilitator’s module is a comprehensive source of content, providing guidance on how to organize the session.

How do I implement this educational product in my program?

The recommended way to use this product is to plan at least 2 sessions for each PBL, separated by several days. The first session is typically 1 hr. long, and the second session is usual 1.5 -2 hrs. long. These products are best used with a small group (2-5 learners) to allow active discussion and distribution of work, and one faculty facilitator.

In the first session, the learners are provided the case (learner’s module). The learner’s tasks are to analyze the problem, formulate learning objectives, identify appropriate resources for information, and assign responsibilities to group members to learn this information before the next session. It is important to have
the learners identify their own learning objectives, and the facilitator should guide the students in case any recommended learning objectives are missed. Similarly, the facilitator should guide the students to identify sources of information and help verify the sources as accurate, but will allow the students to find sources independently. Each learner should be responsible for acquiring knowledge on at least one of the learning objectives identified, and come to the second session prepared to teach their colleagues this information. Then the group will break for independent study until the next session.

In the second session, each learner will share with the group the information they have gained on the topic they were assigned. After this initial step, the group must answer the readiness questions to validate they have all the knowledge they need to complete the case. This is a time for the facilitator to make sure of the accuracy and completeness of the groups’ knowledge. Then, the learners will return to the original problem statement and attempt to answer the questions. The facilitator may share additional information provided on the cases if asked, and redirect inquiries if the group is off target. Once the case is completed, each learner should take the assessment quiz for an independent assessment and ensure they understand the key points of the PBL.

What if we don’t have time for 2 sessions or sessions of more than 1 hr.?

Programs can choose to use the PBL in whatever way works for their learning environment. If you develop other ways to use this product, please let the ASC know, as we are always interested in new educational initiatives.

One possibility is to schedule one 1.5-2 hr. meeting for the essential work of session 2; skipping session 1 can be achieved by assigning each learner a topic to research in advance. This skips the self-directed learning step of identifying your own learning objectives, but can shorten the process.

Another alternative is to have 3 or more shorter sessions with the group. The first session would be very similar to a regular session one. The second session would be devoted to the learners teaching each other on their assigned topics. The third session would be devoted to reviewing the readiness questions and solving the problem statement questions.

Can you provide tips for faculty facilitators?

Being a facilitator does not mean you need to know everything about the topic. Instead you are like an orchestra conductor, bringing everyone’s knowledge together. The primary roles of a facilitator are to:

1. Help the learners work as a cohesive group
2. Guide critical thinking
3. Encourage reasoning and discussion
4. Support evidence-based knowledge and resources
5. Assess progress

Helping learners work as a cohesive group

Facilitators should make sure all learners are participating in the exercise. Asking for another learner’s viewpoint is a helpful way to redirect from another overly enthusiastic and talkative learner. Help to ensure the distribution of work is even, and suggesting a subtopics or redistribution if a topic seems overly broad. Encourage constructive comments, and discourage destructive criticisms.
Guide critical thinking and encouraging reasoning
Ask Socratic-type questions to make sure the learners understand the topic and their discussion. Commonly used Socratic questions include:

- What do you mean by __?
- Is that always the case? Do you think that assumption holds here?
- What led you to that decision?
- When you say __, are you implying __?
- To answer this, are there other questions we need to ask first?

Support evidence based knowledge and resources
Question where the learner has obtained the information they are sharing; you can ask if the group finds that reliable (Wikipedia vs. a peer-reviewed journal article), particularly if it is incorrect.

Other tips
- Try to talk as little as possible.
- Don’t be afraid to pause and let the group think quietly.
- Keep control of the discussion, or if it gets off track, bring it back to topic.
- Wonder aloud about a topic if they have missed something critical.
- Summarize what people have found periodically
- Resist the impulse to give them the answers – let them try to figure it out.
- Don’t be surprised or discouraging if your learners come up with learning objectives not in the PBL – you may learn something extra.