Activity: Study Techniques in Bio 93

Based on Lecture Concepts:
This activity is separate from lecture content. It can be used at the beginning of the quarter, or for discussions immediately after the first midterm when new content is minimal and exam performance is clearly lacking.

Activity Type
Group work with easy student presentations, discussion leader solo presentation

Time Needed in Discussion
30 - 50 minutes

Purpose
• To explore what helped previous Bio 93 students do well in the class
• To encourage students to seek help as soon as possible

Abstract:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short quiz (optional)</td>
<td>15 min</td>
</tr>
<tr>
<td>Group work: successful student in class</td>
<td>10 min</td>
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<tr>
<td>Group work: successful student out of class</td>
<td>10 min</td>
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<tr>
<td>Teacher presents past tips, summarizes most important</td>
<td>10 min</td>
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Supplies
• 2 Sheets of 16”x26” pieces of paper per 3 students
• An assortment of sharpies, colored pens, etc.
• White Board, markers
• “Tip Sheet” Poster (Figure 3)
• Sample figures for instructor (see attached)

Pre-class prep
• It is encouraged that a practice quiz (worse points) whether or not passed out in class or discussion section has been taken by students.

In Class
(8-10 min) Have the students form groups of three to five and lay out one large sheet of paper. Tell them to discuss the things that a successful student would do in class, and one student should write out the list. Ideas can be realistic or unrealistic.

Have two members from several groups share first of all their ideas and secondly whether or not this is realistically or unrealistically achievable for them to do (Figure 1). If unrealistically achievable, have the students share to the class why is it so (i.e., Asking questions

General Teaching Tip:
Group Size
When forming groups, remember that large groups enable all groups to share their answers in a short amount of time, but also allow shy or confused students to keep quiet. Keep groups small enough that everyone participates.
during lecture might be intimidating because of embarrassment). You can write out the list on the board, or assign two students to do the writing and you can wander around the classroom.

(8-10 min) On the second sheet of paper, have the students write out their ideas on what a successful student would do outside of class (Figure 2). Likewise if unrealistically achievable, have the students share to the class why is it so (i.e., visiting professor’s office hours is intimidating because the professors are busy or will think the questions are simplistic).

Have two members from the rest of the groups share their ideas. Write these on the board as well.

(5 min) Present the tip sheet from past Bio 93 students. Discuss similarities or differences to the current list.

**Things to Ask or Emphasize**

Emphasize the following points for students to do in-class:

- **Watch:** When the instructor does a special activity, it is usually to clarify a difficult concept. Figure out the point of the activity. When the instructor repeats concepts or revisits slides, it is important enough to be on the exam.
- **Listen:** Not all important facts are pre-printed on the Powerpoint slides. Write down what the instructor says.
- **Take notes:** The lecture notes are not complete; they need your input. Figure out the note-taking technique that helps you focus and learn the most (this may not be printing the powerpoints and writing on them. Other options are writing bullet points, drawing figures, etc.). If a point is confusing, make a notation to get help understanding it.

Emphasize the following points for students to do outside of class:

- **Read:** The pages assigned in the text are relevant and important. But it is not to be memorized. Treat it as another voice explaining the material.
- **Take notes:** When your reading helps your understanding of lecture material, add the information to your lecture notes.
- **Work problems:** Do the assigned problems. Work with a friend. Have your friends check your answers so you are not tempted to just look in the back of the book.
- **Review:** Summarize notes, re-label blank figures, review lecture slides. Practice explaining concepts to a friend with your notes closed.
- **Recognize confusion:** The one skill that separates great students from adequate ones is the ability to recognize lack of understanding. If you can’t explain a concept, or work a problem, or summarize a lecture without notes, then you don’t understand it well enough. Recognize that you are confused and get help!

**Comments**

If this activity is used before the midterm, have students take a practice quiz (using old exam questions, perhaps) beforehand. It will help wake students up as to the difficulty of the course.
**Related Research:**
Studies show that high-performing students are able to accurately predict their score on an exam, but low-scoring students consistently feel that they scored higher than they actually did, and will continue to think they will do better on future exams when they will not. Recognize this tendency in your struggling students and convince them their scores will stay poor until they get help.