

Facilitating group work and discussions

As Bio367 students, you will have a number of opportunities to work with the Bio067 students in class: 1. short small-group discussions of questions I pose during class, 2. problem-solving activities and 3. paper discussions. Helping students find answers to their questions about biology, helping lead discussions, and facilitating problem-solving activities should both deepen your understanding of biology (even some of the more basic concepts) and help you develop communication skills that will be useful in the future.

Given that the ratio between Bio067 and Bio367 students is almost 1:1, we run the risk of the Bio067 students (many of whom are first-years) feeling a little overwhelmed by those of us who yearn to talk in more detail about the fascinating topics we are discussing. Luckily we will have the opportunity to discuss relevant topics in greater biological detail on Monday afternoons. Therefore, we will need to consider the dynamics of these group activities carefully and find ways to optimize everyone's experience.

To stimulate Monday's discussion of mentoring, I've included the following below:

- I. Excerpts from an online document "Working in Groups" from the Derek Bok Center for Teaching and Learning at Harvard University.
- II. Excerpts about facilitating group discussions from an online handbook for teaching assistants at Princeton University.
- III. The Bio067 handout about in-class discussions including guidelines for effective discussion and discussion skills.

As you read these sections, think about which parts you think will be the most useful when you are either 1. discussing readings or 2. facilitating problem-solving activities with the Bio067 students (one example of a problem-solving activity would be the discussion of what to do following John Snow's observation of the cholera cases around the Broad Street pump).

Also think about which of these ideas might be useful in leading discussions about a paper from the scientific literature for our Monday sections (which you will be doing in pairs).

I. Working in Groups

"Some reasons to ask students to work in groups

Asking students to work in small groups is one of many approaches allowing students to learn interactively. Small groups are good for:

- generating a broad array of possible alternative points of view or solutions to a problem
- giving students a chance to work on a project that is too large or complex for an individual
- allowing students with different backgrounds to bring their special knowledge, experience, or skills to a project, and to explain their orientation to others
- giving students a chance to teach each other
- giving students a structured experience so they can practice skills applicable to professional situations

Some benefits of working in groups (even for short periods of time in class)

- students who have difficulty talking in class may speak in a small group
- more students, overall, have a chance to participate in class
- talking in groups can help overcome the anonymity and passivity of a large class or a class meeting in a poorly designed room
- students who expect to participate actively prepare better for class" (1)

"Getting Started

- Groups work best if people know each others' names and a bit of their background and experience, especially those parts that are related to the task at hand. Take time to introduce yourselves.
- Be sure to include everyone when considering ideas about how to proceed as a group. Some may never have participated in a small group in an academic setting. Others may have ideas about what works well. Allow time for people to express their inexperience and hesitations as well as their experience with group projects." (2)

"Group Leadership

The leader is responsible for seeing that the work is organized so that it will get done. The leader is also responsible for understanding and managing group interactions so that the atmosphere is positive.

-The leader must encourage everyone's contributions with an eye to accomplishing the work. To do this, the leader must observe how the group's process is working. (Is the group moving too quickly, leaving some people behind? Is it time to shift the focus to another aspect of the task?)

-The leader must encourage group interactions and maintain a positive atmosphere. To do this the leader must observe the way people are participating as well as be aware of feelings communicated non-verbally. (Are individuals' contributions listened to and appreciated by others? Are people arguing with other people, rather than disagreeing with their ideas? Are some people withdrawn or annoyed?)" (3)

"Concerns of Individuals That May Affect Their Participation

How do I fit in? Will others listen to me? Am I the only one who doesn't know everyone else? How can I work with people with such different backgrounds and experience?

Who will make the decisions? How much influence can I have?

What do I have to offer to the group? Does everyone know more than I do? Does anyone know anything, or will I have to do most of the work myself?" (3)

"How People Function in Groups:

Roles Individuals Can Take That Contribute to the Work and to the Atmosphere

If a group is functioning well, work is getting done and constructive group processes are creating a positive atmosphere. In good groups the individuals may contribute differently at different times. They cooperate and human relationships are respected. This may happen automatically or individuals, at different times, can make it their job to maintain the atmosphere and human aspects of the group.

Roles That Contribute to the Work

Initiating - taking the initiative, at any time; for example, convening the group, suggesting procedures, changing direction, providing new energy and ideas. (*How about if we.... What would happen if... ?*)

Seeking information or opinions - requesting facts, preferences, suggestions and ideas. (*Could you say a little more about... Would you say this is a more workable idea than that?*)

Giving information or opinions - providing facts, data, information from research or experience. (*In my experience I have seen... May I tell you what I found out about...?*)

Questioning - stepping back from what is happening and challenging the group or asking other specific questions about the task. (*Are we assuming that... ? Would the consequence of this be... ?*)

Clarifying - interpreting ideas or suggestions, clearing up confusions, defining terms or asking others to clarify. This role can relate different contributions from different people, and link up ideas that seem unconnected. (*It seems that you are saying... Doesn't this relate to what [name] was saying earlier?*)

Summarizing - putting contributions into a pattern, while adding no new information. This role is important if a group gets stuck. Some groups officially appoint a summarizer for this potentially powerful and influential role. (*If we take all these pieces and put them together... Here's what I think we have agreed upon so far... Here are our areas of disagreement...)*" (4)

"Roles That Contribute to the Atmosphere

Supporting - remembering others' remarks, being encouraging and responsive to others. Creating a warm, encouraging atmosphere, and making people feel they belong helps the group handle stresses and strains. People can gesture, smile, and make eye-contact without saying a word. Some silence can be supportive for people who are not native speakers of English by allowing them a chance to get into discussion. (*I understand what you are getting at...As [name] was just saying...*)

Observing - noticing the dynamics of the group and commenting. Asking if others agree or if they see things differently can be an effective way to identify problems as they arise. (*We seem to be stuck...Maybe we are done for now, we are all worn out...As I see it, what happened just a minute ago...Do you agree?*)

Mediating - recognizing disagreements and figuring out what is behind the differences. When people focus on real differences, that may lead to striking a balance or devising ways to accommodate different values, views, and approaches. (*I think the two of you are coming at this from completely different points of view...Wait a minute. This is how [name] sees the problem. Can you see why she may see it differently?*)

Reconciling - reconciling disagreements. Emphasizing shared views among members can reduce tension. (*The goal of these two strategies is the same, only the means are different... Is there anything that these positions have in common?*)

Compromising - yielding a position or modifying opinions. This can help move the group forward. (*Everyone else seems to agree on this, so I'll go along with... I think if I give in on this, we could reach a decision.*)

Making a personal comment - occasional personal comments, especially as they relate to the work. Statements about one's life are often discouraged in professional settings; this may be a mistake since personal comments can strengthen a group by making people feel human with a lot in common.

Humor - funny remarks or good-natured comments. Humor, if it is genuinely good-natured and not cutting, can be very effective in relieving tension or dealing with participants who dominate or put down others. Humor can be used constructively to make the work more acceptable by providing a welcome break from concentration. It may also bring people closer together, and make the work more fun.

All the positive roles turn the group into an energetic, productive enterprise. People who have not reflected on these roles may misunderstand the motives and actions of people working in a group. If someone other than the leader initiates ideas, some may view it as an attempt to take power from the leader. Asking questions may similarly be seen as defying authority or slowing down the work of the group. Personal anecdotes may be thought of as trivializing the discussion. Leaders who understand the importance of these many roles can allow and encourage them as positive contributions to group dynamics. Roles that contribute to the work give the group a sense of direction and achievement. Roles contributing to the human atmosphere give the group a sense of cooperation and goodwill."

(4)

II. Facilitating discussions

Note: Although Bio367 students will moderate the first discussion of readings, I hope that subsequently Bio067 students will also moderate some discussions; many of these suggestions should still be helpful, regardless of who is moderating the discussion.

" From Leading to Facilitating: What is Your Role?"

Perhaps the most important general question the discussion leader faces is whether his/her role is to direct closely or to mediate loosely the students' contributions in class. Will you try to steer students toward certain agendas or answers? Or will you act more as facilitator, stepping back to let the class set or select goals at the outset, and encouraging them to arrive at their own conclusions in their own ways? Obviously, there is no simple answer. The following was expressed by a preceptor in English:

As a preceptor, you should talk as little as possible. You are somewhat similar to the referee in basketball, although you may at times be compelled to participate in the play. You should always keep the ball within the bounds prescribed by the reading and lecture material, and you should do everything possible by short verbal directional thrusts to keep the game moving and to obtain full coverage. Sometimes, however, the score becomes too one-sided, or the action tends to concentrate in one end of the court. Then the preceptor should jump in to rectify.

Remember that as a discussion leader, your role is very different from that of the lecturer. You can assist, clarify, and help demonstrate the major points expressed by the lecturer and through the readings, but your goal is to lead your students into discussion, foster understanding and stimulate intellectual growth. To accomplish these tasks, consider the following:

- **Stress the separation of major points from minor ones.** Concentrate only on those parts of students' comments which relate to the agenda you have established. Let the students know why you are responding selectively to their remarks, and assure them that you are available to discuss other issues during office hours.
- **Ask more divergent than convergent questions.** That is, try to steer the students toward inquiries for which a number of answers are equally valid, rather than toward those for which there is one correct answer.
- **Encourage students to hold discussions with each other, instead of expecting the ultimate response or final word to come from you.** A thoughtful debate is more enriching than collective agreement.
- **Instead of your frequently summarizing the discussion along the way, ask one or two students what they think were the most important points made at each stage of the discussion.**
- **Listen to what your students are saying.** Consider jotting down notes while a student is talking, and refer back to these comments during the discussion or at a later point in the term. Your students will respond better to you and the class when they feel you listening to what they are saying.
- **Just before the end of the class, summarize the main points of the discussion, or ask one or two students to summarize them for you.** Also, talk about your next meeting, including issues that may be discussed. At this point, you may want to ask students to bring in questions of their own." (5)

"The Art of Questioning

Good questions are the backbone of effective group discussion, but it will take time for you to learn how to ask the questions that will elicit interesting responses. The most productive questions provide openings to a variety of responses, and invite students to think about and respond at a high level to the material. Alternate between posing some questions to the entire class and addressing others to individual students. Remember too that you need to give your students enough time to respond. Don't give the answer yourself or change the subject by asking another question. In fielding questions, make sure you listen closely. If a student's question is vague, ask him/her to clarify the communication. Don't do the work for them! When students ask you questions, ask other students to respond. Do whatever it takes to stimulate a *group* discussion. Here are some of the most common types of questions."

"How do you control the overly talkative student, including the one who tries to capture the sole attention of the preceptor?"

You will need to make it clear to the overly talkative one(s) that the floor belongs to everyone. Thank the talkative student for his comments, but then divert the conversation to other members of the class, calling on specific students by name if need be. Ask other members of the class to answer his question. If the student still does not take the hint, talk to him privately. Explain your position clearly: although the student's comments in class are valid and welcome, he must allow others to participate as well. Also stress the fact that listening to other students is an important feature of the discussion format. Because overly talkative students may often be insecure, you want to avoid personally attacking them; tactfully point out the situation and work together toward a solution.

How do you draw out the shy student?

Clearly shy students need extra encouragement to participate in class. If you encounter such students, try to bring them into class discussion by asking questions (easier ones at first to help boost confidence). Encourage students to relate classroom discussions to their own experiences. Also, students will feel more connected to you and the class if you try to make eye contact with them." (5)

References

- (1) Derek Bok Center for Teaching and Learning (1997) "Working in Groups: A Note to Faculty" <http://isites.harvard.edu/fs/html/icb.topic58474/wigintro.html> [Sept. 1, 2007]
- (2) Derek Bok Center for Teaching and Learning (1997) "Working in Groups: Quick Guide for Students #1" <http://isites.harvard.edu/fs/html/icb.topic58474/wigintro.html> [Sept. 1, 2007]
- (3) Derek Bok Center for Teaching and Learning (1997) "Working in Groups: Quick Guide for Students #3" <http://isites.harvard.edu/fs/html/icb.topic58474/wigintro.html> [Sept. 1, 2007]
- (4) Derek Bok Center for Teaching and Learning (1997) "Working in Groups: Quick Guide for Students #5" <http://isites.harvard.edu/fs/html/icb.topic58474/wigintro.html> [Sept. 1, 2007]
- (5) Wilson, JF Assistant in Instruction Handbook, Princeton University. <http://www.princeton.edu/~aiteachs/handbook/facilitating.html> [Sept. 1, 2007]

Bio067 handouts

Bio067 "Discussion Preparation" (students will bring these to class to stimulate discussion)

To help everyone clarify their thoughts prior to the discussion, the "preparation" should consist of **THREE** distinct parts:

(1) **A list of questions, comments, and thoughts related to the material.** These should be issues that you find **interesting** and that seem likely to **evoke discussion**. These points will come to mind while reading the assigned material, during lectures or after careful reflection, so make sure you write them down as they occur to you. The important point is that you are coming to class "armed" with topics for discussion. A few of these may be relatively straightforward **questions** (e.g., Exactly what did Garrett mean when she used the term "xxxxxx" on page XX?). Others should deal with **more complicated issues** (e.g., What were the main reasons that medical microbiology and biology had little overlap until the middle of the 20th century?), or relate to other topics or situations that come to mind (e.g., How much do you have to know about disease processes to develop therapies? What are different ways therapies are developed?). Critiques of the material are also helpful here as long as they are specific (Instead of writing something like "I did not agree with the material on page xxx", you would write something like "I did not find Lederberg's argument on page xxx convincing, since he is assuming blah blah blah.")

(2) **A short summary of the reading.** The summary section of the discussion preparation should help you clarify your thoughts about what was written. To summarize something forces you to go back over the material in your mind, and then to put in the mental effort of constructing a condensed version of the author's arguments in your own words.

(3) **A passage or two highlighted for group consideration.** These passages may be chosen for a variety of reasons. For example, it is possible that you simply found the prose itself worthy of examination (whether for praise or criticism). Perhaps you think that this passage highlights a central assumption or key observation made by the author. Perhaps you were confused by a particular passage and would like the group to discuss possible interpretations of the author's words. For this part of the discussion preparation you should simply list the page and "block out" the quotation (e.g., Lederberg, page 290, "In hindsight...more diffusible forms."), followed by a brief note detailing why you chose this passage (e.g., This passage made me wonder: If a virus that isn't a huge public health risk mutates into a more dangerous form, why would studies of the original form be helpful? Wouldn't important properties of the virus have changed?).

Guidelines for Effective Discussions:

Most of these apply to class-wide discussions as well as the small-group discussions.

1. All members of the group should be **respectful** of all other members at all times.
2. **Learn the names** of group members as soon as possible.
3. **No individual should dominate** the discussion. Instead, always strive to include the entire group and involve everyone.
4. Be **encouraging** and **polite** to all members of the group. All group members should feel free to remind the group of discussion guidelines politely.
5. **Take turns speaking.** With only one person from the group speaking at any one time, there should be no reason to raise one's voice in order to be heard. Following this guideline will also help keep the total volume in the room low enough that everyone within the group should be able to hear the entire discussion.
6. **Respect the opinions of others.** Everyone should feel comfortable disagreeing or presenting a divergent opinion, but the atmosphere should never become aggressive or offensive.
7. Come to class **prepared** both to **talk** and **listen**. Listen carefully to what each person says.

8. Agree upon a **group moderator** at the beginning of each session. This responsibility should change often, so everyone has a chance to lead the group in this manner. The moderator should try to make sure that **everyone in the group is heard**, and they should try to help **guide the group by posing open-ended questions** and **occasionally summarizing progress** before moving on.
9. Groups should try to **stay focused** on specific topics until the group decides to move to a different topic. Recognize that it usually takes practice for a group to arrive at the right balance of flexibility and structure.
10. One person in the group (it could be the moderator, or it could be someone else) should take **brief notes** during the discussion. The group should spend the **last five minutes** trying to **summarize the most interesting questions or discussions** that came up. These points should be **written down** and **handed in** at the end of class (please **write the names of all the group members** at the top of the sheet). Group members will often be asked to share these topics for general discussion at the end of class.
11. Each group will have one student who has a **background in biology**. This person can serve as the moderator for the first session and subsequently can help explain biological processes being discussed.

Discussion Skills

You will find that the ability to function effectively in discussion groups is useful in many situations, both during your college career and beyond. Indeed, many would argue that this is one of the most valuable abilities to be gained from a good education.

With that in mind, here are some "Discussion Skills" that you will have the opportunity to hone this semester:

1. **Effective Questioning:** asking different types of questions, including those requiring higher-level thought processes (e.g., analysis or synthesis of the readings).
2. **Active Listening:** hearing what a person is trying to say, and trying to assess their understanding of the subject and how it may differ from your understanding.
3. **Including Everyone:** trying to see and hear the entire group, encouraging participation from reluctant members, discouraging aggressive or offensive responses.
4. **Empathy:** seeing things from the other person's perspective and encourage the contribution of opinions that are not popular or in the majority.
5. **Sense of Timing:** knowing when to intervene with a question, summary, or bridge from an earlier remark, and when to remain silent.
6. **Clarity:** knowing how to convey information in a way that is easy to understand.
7. **Differentiation:** separating yourself and your personal feelings from the group discussion so that you can facilitate the group process without taking things personally.
8. **Variability:** sensing when to be serious or humorous, thought-provoking or supportive, depending on the circumstances.
9. **Connecting with the Group:** reaching each participant in the discussion, accounting for the emotional and intellectual state of each individual in the group.
10. **Self-disclosure:** willingness to share some feelings, thoughts, and appropriate personal information with the group if that will enhance communication.
11. **Flexibility:** willingness to make changes in the discussion format and content in order to accommodate the interests of group members.