Designing a Background Questionnaire

Cooperative groups should be carefully structured to maximize the active and appropriate participation of all students in the group. In general, instructor-assigned groups of mixed ability tend to perform better than student-selected groups.

To determine a priori how students might work together in a group, a background questionnaire can serve as a guide for rational group design. We suggest asking at least one of each of the following three types of questions:

1. **Knowledge-based questions** address students understanding of facts at various levels of complexity.
   - What is the enzyme used in PCR?
   - What argument could a defense attorney use to damage the credibility of DNA evidence?
   - Who wrote *The Jungle*?
   - How did the 1904 beef strike in Chicago and Upton Sinclair’s subsequent response affect U.S. governmental policy on meat standards?

2. **Skills-based questions** assess students’ ability to perform a task at varying proficiencies.

   For example, rate your comfort in performing the following task:

   *Measure the \([H^+]\) of a solution using a pH meter.*

<table>
<thead>
<tr>
<th>Not confident at all</th>
<th>Somewhat confident</th>
<th>Confident</th>
<th>Very confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I’ll ask my mom)</td>
<td>((H^+) is acidic, right?)</td>
<td>(I did it in lab)</td>
<td>(I have a PhD)</td>
</tr>
</tbody>
</table>

3. **Interest-based questions** measure students values and attitudes towards the subject by rating them (often on a sliding scale).

   *Are you interested in campaigning for stricter EPA vehicle emission standards?*

   - No. (I love smog)
   - Indifferent (check out my SUV)
   - Perhaps (I signed a petition)
   - Sign me up (I was President of the Sierra Club)

   Some other common descriptors are:

   - Easy - Difficult
   - Strongly Agree-neutral-Strongly Disagree
   - Enthusiastic - Disinterested
   - Worried - Confident
   - Took class as requirement – Took it as Elective

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developed by Matt Merrins and Chris O’Neal Center for Research and Learning on Teaching
Designing Questions to Assess Students Backgrounds

Think about the typical introductory course in your discipline. Imagine that you are trying to assess the preparation, ability, knowledge, and enthusiasm of students on the first day of this class.

1. What is one question that would assess their preparation to take the course?

2. What is one question that would investigate their motivations and/or enthusiasm for taking the course?

3. What is one question that would evaluate students’ preparation and willingness to work in small groups together?
As a class, agree on ground rules for classroom interaction and discussion. By asking students for their input, you give them a sense of ownership that may help them to take the ground rules more seriously. Refer to p. 48 in the GSI guidebook for additional examples.

### Sample Ground Rules for Small Groups

1. Respect each person’s right to their values, beliefs, and perspective.
2. Listen to each other with a spirit of learning, curiosity, and openness.
3. One person speaks at a time.
4. Use “I” statements, speak for yourself and not for others.
5. Check out assumptions before reacting, assume that everyone’s trying their best.
6. Be open – bring up issues and concerns that are important to you, and share all relevant information.
7. No put downs of self or others.
8. Be specific and give examples.
9. Stick to the topic at hand.
10. Share air time.
11. No cross-talking or side conversations.
12. Keep the big picture and group goal in mind; think about what’s best for the group and not just you individually.
13. Be flexible and open to alternative viewpoints and solutions.

Adapted by Alex Jakle from Matt Merrins, “Getting Started,” CRLT Orientation, Fall 2009
Feedback for Groups

Please take a moment to fill out the following feedback form. When you have finished, please share your responses with the rest of your lab group and discuss reactions.

1. Take a moment to rate your triad/quad on each of the following statements.

   + indicates that you think your group is doing very well in regards to the statement. √ indicates that you are satisfied with how your group is doing in regards to the statement, and – indicates that your group needs to work on this aspect.

<table>
<thead>
<tr>
<th>+</th>
<th>√</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>All group members are contributing to the completion of labs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No group members are dominating discussions or tasks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All group members engage with the task at hand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We listen carefully to each other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We acknowledge and appreciate each others differences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We give each other constructive feedback when appropriate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. What steps should we take to improve group process within our group?

3. What could you specifically do to improve your contribution to the group?
Case studies: GSI observations of students working in groups

Background:
On the first day of class, the GSI divides the class into groups of three students each to work on the various class projects. During the semester, the GSI observes the following scenarios in different groups of students.

In Group 1:
Duane talks disproportionately more than the other students. He is always the first to speak on any issue during group work, speaking for long periods each time. Duane frequently interrupts other students and raises his voice to argue when other students offer their opinions. He rarely asks what the other group members think. During each activity, he makes statements such as, “Here is what we are going to do, Beth you do X, William you do Y, and I’ll do Z, then we’ll meet on Thursday.” or “Dude, that’s crazy, I know what I am doing and we should definitely do it like XX”. His teammates are increasingly silent during class activities and they often sigh, roll their eyes, or exhibit frustrated facial expressions and avoid eye contact with Duane. Whenever the GSI approaches the group, Duane stops paying attention to the other group members, even if they were speaking, and immediately engages the GSI in conversation.

In Group 2:
Helen frequently apologizes to her group members for not being prepared or completing the work she agreed to finish before class. When the group tries to schedule a meeting outside of class, Helen is very vocal about why she can’t come. She needs to sleep during the mornings after working all night at the League, she has class in the afternoons, and she has tickets to the football game on Saturday and Sunday is her only day to study for her other classes. She also likes to tell long stories that have nothing to do with class or the assignment. Helen’s policy has been to assign the same grade to each member of the group for each assignment. However, during group presentations, Helen always has the easiest part. Furthermore, it is clear that she is not familiar with the material or what other group members have done, especially during the question and answer sessions that follow the presentations.

In Group 3:
During every activity, Nate, John, and Margarita assume the same roles. John is the group manager, Nate is the spokesperson when groups report back to the entire class, and Margarita is always the recorder/scribe for the group. John and Nate were obviously friends before this class. During group work, they frequently talk and joke loudly. Margarita does not participate in these conversations. Instead she watches and listens to what other groups are doing. During group work, Nate rarely looks at Margarita and addresses all his statements and questions directly to John. Margarita is often silent and pensive and John frequently pauses to offer explanations of difficult concepts to Margarita. When Margarita offers suggestions, Nate and John often nod their heads and then move on to other subjects. On one occasion, Nate repeated Margarita’s comments, paraphrasing them and John acknowledged them as good ideas.

What are the issues in these examples?
What advice would you give to the GSI regarding the management of group work?
What strategies could he/she use to remedy any problems?
Resources on Group Learning and Team-Based Learning


Resources on Effective Questioning and Cognitive Development


