GROUP PROBLEM SOLVING

I. Goals/Outcomes

1. To move a group through a structured, step-by-step problem solving approach
2. To tap the creative ideas of a group and reduce the power of debilitating criticism
3. To consider a variety of options and their potential consequences in generating solutions
4. To develop specific action plans for agreed-upon solutions

II. Background/Context

Solving institutional problems can be a very difficult task under the best of circumstances. In higher education, there is an additional complexity. We have often found that campuses can be dominated by critical judgment and argument. We have been in meetings where winning the argument and eviscerating the opponent takes on greater importance than solving the problem. An adversarial climate is not conducive to creative problem solving. When people don’t feel safe in exploring different, creative, or even out-of-the-box ideas, good ideas will never see the light of day.

It is important to create intellectual safety in a group that is dealing with a complex or important issue. The change leader can do this by: 1) creating a specific structure to the problem-solving process; 2) allowing creative ideas to blossom before they are attacked; 3) building in time for criticism at the appropriate time/place; and 4) ensuring that a diversity of ideas and perspectives are shared.

Who you invite to this type of meeting is often the key ingredient to its success. It is important to have diversity in the group (i.e., people with different perspectives and experiences) and have some individuals who know something about the problem to be solved.

In our example for this design, we deal with the problem of retaining out-of-state freshmen. We strongly suggest that you have some students in this problem-solving session. When dealing with a curriculum issue, obviously you would want faculty to be heavily involved. We would like you to consider having some diversity—even with a curriculum issue. This could be administrators, former students, and even faculty members from another institution.

We have found that having different and diverse perspectives always enhances the quality of the ideas. It might take a little longer at times, but diversity is worth it.
This design has several steps to it, one building upon another, until you have specific solutions with well thought out action plans. The design can be conducted in two parts if time is a problem. We utilize other designs within this design, specifically Organized Brainstorming (see page 2.117) and The Las Vegas Vote (see page 2.137).

III. Logistics

Materials: Flipcharts, magic markers
Space needs: Large, comfortable room with moveable chairs
Time frames: Part 1: 1 hour and 15 minutes; Part 2: 2-1/2 hours
Number of participants: 12 to 24

IV. Implementation

We will use 12 participants as a model for this design. We will use the issue of too many freshmen leaving a college after their first year.

1. In this design, the change leader has to do some upfront homework. It is important to provide relevant and usable information for all the participants and be very clear about the problem you are trying to solve.

2. As you begin this meeting, it is helpful to provide a clear problem statement and relevant information. In our example, your problem statement might look like this: “There is an increasing number of out-of-state students leaving our college after their freshman year. In 1990, we had approximately 3 percent of our freshmen who left, currently, in 2001, we have 7 percent leaving.”

3. It would be helpful to then provide any relevant information that would educate the participants. For example:

   Student Life conducted exit surveys for 57 out-of-state freshmen that left the college over the last two years. The following six reasons were given, in priority order:
   • Lack of things to do on campus, especially on weekends
   • Poor teaching
   • Academic expectations were too rigorous
   • School wasn’t what they expected it to be
   • Personal (psychological) problems
   • Unable to make friends

4. At this time, the change leader facilitates a brief discussion about people’s reactions to the survey data. Do not get into problem-solving ideas. Your goal is to make sure the data makes sense to participants before continuing.
5. The facilitator has the group count off from one to three, and the participants arrange themselves into three mixed groups with four participants each.

6. The facilitator instructs the groups in using the Organized Brainstorming design (see page 2.117) to generate some solutions to the problem of freshmen leaving. The goals as a group are to generate ideas and then agree on the top three solutions to the problem. This should take approximately 20 minutes.

7. After the groups have engaged in brainstorming, the facilitator then creates a master list in front of the whole group. This is done by taking one idea from each group (by round robin) and using as many rounds as necessary to capture all the suggestions.

   At the end of this section you might have a list that looks like this:
   
   - Have paid, senior students act as mentors for incoming freshmen
   - Have “freshmen only” weekend concerts
   - Have well-known professors give Saturday lectures and presentations throughout the semester
   - Set up a tutoring program for students who are having academic difficulties
   - Extend the hours of the Student Life Counseling Center until 9:00 p.m. during the week and all day Saturday
   - Have more religious services available on campus during the weekend
   - Create an “Orientation Week” for incoming freshmen so that they understand the academic expectations of faculty; know what activities are available for them on the weekends
   - Have freshmen “mixers” during the semester
   - Give freshmen free passes to all the athletic events
   - Have a faculty member “adopt” a small group of students during freshmen year. They would meet throughout the semester for lunch to check in on how they are all doing. (Faculty would have to be compensated.)
   - Note: One group had more than three solutions.

8. As you can see, there are a lot of good ideas. The challenge is to choose the best ones and begin to create specific action plans that would help put them into operation.

   To determine what the best solutions are from the group’s perspective, you can utilize the Las Vegas Vote (see page 2.137). Another way to determine the best ideas is to have each participant choose their top three ideas (anonymously) in priority order. Pass out index cards and have each participant put down their top three choices. The facilitator explains that each of the priority choices has a “value.” A number one priority vote gets five points; a number two gets three votes; and a number three choices gets one vote.
9. The facilitator then collects these cards and record the votes in full view on the flip chart. For example:
   - Have paid, senior students act as mentors for incoming freshmen. Total score: 29
   - Have “freshmen only” weekend concerts. Total score: 1
   - Have well known professors give Saturday lectures and presentations throughout the semester. Total score: 7
   - Set up a tutoring program for students who are having academic difficulties. Total score: 6
   - Extend the hours of the Student Life Counseling Center until 9:00 p.m. during the week and all day Saturday. Total score: 20

   - Have more religious services available on campus during the weekend. Total score: 1
   - Create an “Orientation Week” for incoming freshmen so that they understand the academic expectations of faculty; know what activities are available for them on the weekends. Total score: 5
   - Have freshmen “mixers” during the semester. Total score: 5
   - Give freshmen free passes to all the athletic events. Total score: 1
   - Have a faculty member “adopt” a small group of students during freshmen year. They would meet throughout the semester for lunch to check in on how they are all doing. (Faculty would have to be compensated for this.) Total score: 27

As you can see, the following ideas received the most votes:
#1: Have paid senior mentors for freshmen. Total score: 29
#2: Have faculty members “adopt” a group of freshmen. Total score: 27
#3: Extend the hours of the Student Life Counseling Center. Total score: 20

This is the end of the first part of this design. You can choose to continue to the second half or conduct it at another time. If you are continuing the design, let the participants take a 10 minute break.

### Schedule, Part 1

<table>
<thead>
<tr>
<th>Step</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>1. Facilitator clarifies purpose of the meeting</td>
<td>10 minutes</td>
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<tr>
<td>2. Facilitator shares important information with meeting participants and solicits brief reactions</td>
<td>10 – 15 minutes</td>
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<tr>
<td>3. The facilitator uses a counting off method to create mixed groups</td>
<td>5 minutes</td>
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<tr>
<td>4. Small groups utilize the Organized Brainstorming design (page 2.117) to generate solutions</td>
<td>20 minutes</td>
</tr>
<tr>
<td>5. Facilitator creates master list of solutions</td>
<td>10 – 15 minutes</td>
</tr>
<tr>
<td>6. Facilitator uses the Las Vegas vote (page 2.137) or index cards to determine the best solutions</td>
<td>10 minutes</td>
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**Total Time: 1 hour 15 minutes**
Part Two of the Design

At this stage of the design, you have these three solutions identified as the best ideas:

- Have paid senior mentors for incoming freshmen;
- Have faculty members "adopt" a group of freshmen; and
- Extend the hours of the Student Life Counseling Center.

1. The facilitator informs participants that they can select one of the solutions to work on. (By letting participants select their choice, you ensure that people will be working on solutions they believe in and have some interest in making successful.)

2. Your selected groups might look like this:

3. The facilitator should encourage creative ideas for the action planning process. We suggest that you share the following example with all the participants before they begin their action plans:

We were involved in a creative problem solving session on a campus with a freshmen-housing shortage. Due to unanticipated construction delays, there were going to be nearly 50 incoming freshmen without housing.

We created a diverse group of participants (four students, three mid-level administrators, a dean, four faculty members, and the director of facilities). Then, we walked them through a problem-solving session.

We encouraged creative thinking because we needed an unusual solution to a difficult problem. Someone in the group suggested that they create a metaphor for the problem they were trying to solve (freshmen housing). They came up with the symbol or picture of a large jar of olives that was stuffed and full to the brim. With the freshmen housing shortage, we were trying to fit more students (or olives) into a place where there was no more room. They realized that somehow they had to create an opening at the bottom of the jar and let some of the olives (students) out.

Using the metaphor of letting olives out of the jar, they came up with the following solution:

They proposed that a lottery for senior students who might be interested in living off campus be conducted. There were two incentives for living off campus: 1) the seniors would be given a $750.00 stipend to leave the campus; 2) arrangements with a local hotel would be made to house approximately 50 seniors for one academic year. The local hotel was having difficulty filling its rooms.

The seniors who opted for this choice would have the same amenities as regular hotel guests (e.g., room service, rooms cleaned daily, etc.). The hotel was close enough to the campus for students to walk to classes. It also had security and plenty of technology.
Student life administrators made the final selection for the “hotel seniors” because they knew the students best. Regular campus regulations were enforced at the hotel. Over 150 seniors applied for the lottery. Hotel and campus administrators met weekly to discuss issues and problems. By all counts, it was a creative and elegant solution to a tempory problem.

As you can see, this was an unusual solution that could easily have been shot down by a critical audience. Comments like, “What about the insurance costs? What are we, a hotel university?” could have submarined the inventive solution before it blossomed. It takes real discipline to be creative and this particular group was committed to allowing a creative approach before it criticized every element. They followed the steps in this design and answered all the criticisms at the appropriate time.

4. The facilitator gives each group 30 minutes to create an action plan for their proposed solution. Each group writes their ideas clearly on flipchart paper and utilizes the following format:
   - Proposed solution
   - Step(s) to operationalize the solution
   - Identify resources needed (money, technology, personnel)
   - Identify a possible “champion” or person responsible for implementation
   - Who needs to be involved in the implementation
   - Estimate the time necessary for implementation
   - Indicate measures of success

5. After 30 minutes, have each group present its action plan to the other participants. The groups should explain their rationale and all the elements of their proposed solution. There can be questions for clarification but no feedback at this time.

6. After all three presentations have been made, the facilitator then asks each participant to vote for their favorite solution. Once again, have everyone put his or her top choice anonymously on an index card and pass it to the facilitator. Tally the votes in full view. In our example we will assume that “paying senior mentors” won the vote. If you have a tie between two outstanding solutions, you can utilize the same process that follows.

7. At this time have the participants count off from one to three and form three, mixed groups.

8. Give each mixed group 15 minutes to come up with strengths and negative aspects of the favorite proposal.

9. The facilitator records the strengths of the proposal in full view, on flipchart paper. Then, record the weaknesses of the proposal in full view. Do this by taking one idea from each group and make as many rounds as necessary to solicit all the strengths and weaknesses.

10. At this time, we might have four negative elements to the “pay senior mentors to work with freshmen” solution.
   - How do you ensure a positive match between a senior and a freshman?
   - Where will we get the money to pay seniors?
   - What will be the quality control for managing the effectiveness of this process? (How do we check up and make sure that the seniors are doing their jobs?)
   - The legal liability of the senior mentors has not been articulated.
11. The facilitator then assigns small groups of three participants to examine one of the four negative elements. Give each small group 15 minutes to generate solutions to their assigned weaknesses, and post them on a flipchart. (If you have more than four negative elements or weaknesses, utilize the Las Vegas Vote, see page 2.137, to prioritize the most important weaknesses, and assign participants to generate solutions for the top three or four. 

12. Now, you have some solutions to the weaknesses that have been identified. Have each small group present its solutions. 

The following are solutions for two of the weaknesses of the senior mentor proposal:

**#1. How do you ensure a positive match between a senior and a freshman?**

A. Have freshmen and seniors take the Myers-Briggs assessment and match them according to their personality style.

B. Have freshmen and seniors meet for two days before the semester begins. Design a highly interactive, leadership development program where people will get to know each other through fun activities. At the end of the two days, have the freshmen choose three seniors they would like to have as mentors. Use these preferences to match the mentors.

C. Make freshman information (within the legal limits) available to the seniors. Have each senior choose three freshmen to mentor after they have read about the incoming freshmen. Use their choices to match people.

**#2. Where will we get the money to pay the senior mentors?**

A. Student Life has allocated $50,000 for the retention of freshmen because they are so concerned about this issue.

B. We could hold a freshmen only concert early in the fall semester and whatever profits we realize will go to this program. We have a good track record with making money from concerts.

C. Find a trustee that would be interested in this project and name it after him or her. There are several board members who are very interested in campus life and culture, such as Mr. Seitz and Mr. Nicoletto.

Now, you have solutions to the identified weaknesses of the best proposal. You have the ingredients to implement the best solution because you have a clear action plan and a way to deal with any blocks to success.

Thank participants for their time and work and explain how the solutions will be used (e.g., go to the Administrative Council for approval, go to the president’s task force on student retention, etc.).
**Schedule, Part 2**

1. The facilitator lets the participants self-select their solutions  
   5 minutes
2. The facilitator discusses the importance of supporting creative ideas and shares example provided  
   10 minutes
3. The facilitator gives each solution group 30 minutes to create action plans  
   30 minutes
4. Solution groups make presentations  
   15-20 minutes
5. Participants vote for their favorite solution  
   5 minutes
6. The facilitator creates mixed groups  
   5 minutes
7. Small groups create the strengths and weaknesses of the favorite proposed solution  
   15 minutes
8. The facilitator records the strengths and weaknesses in full view  
   15 minutes
9. The facilitator assigns small groups to one of the negative elements of the favorite proposal  
   15 minutes
10. Small groups share solutions to the identified weaknesses  
    15 minutes
11. The facilitator thanks participants for their time and hard work, and explains the next steps  
    10 minutes

*Total time: Approximately 2-1/2 hours*