

Process Loss and Process Gain:  
Using the Lost On the Moon Task to Illustrate Group Processes  
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Time: 45+ minutes

Group Discussion: 15 minutes

Scoring: 10-15 minutes

Class Discussion: 15-30 minutes, at a minimum

I. The Lost on the Moon Task (LOTM)

A. Distribute the LOTM handout to students a few days beforehand.

Have students do the task by themselves and come to class with their rankings

B. In class

1. Have students re-do it reaching a group decision. Groups of 4-5 are ideal.

2. Stop after 10-15 minutes

3. Distribute answer sheet have them score how they did alone and as a group

4. Scoring:

Calculate error for each item, for individual rankings and group rankings

Error = Absolute value of | ranking – NASA's ranking|

i.e., how far off group rank is from NASA's rank, ignoring  
direction of the difference

For example, if NASA ranks an item as 5 and the group said it was 7, the error is 2.

Add up the error scores for the individual items

Calculate a total error score for both the group rankings and the individual rankings

5. Have groups put summary statistics on board:

a) Average of individual scores (i.e., the available resources within group)

b) Team error score

c) Gain score (Average of Individual scores – Team Score)

+ did better than resources "winners" → process gain (synergy)

- did worse than resources "losers" → process loss

d) Best individual score (lowest)

e) Worst individual score (highest)

f) The number of people in the group who did better when they were alone  
than when they were part of the group discussion

II. Class Discussion

A. Winners and Losers. Ask the class:

1. Which group(s) is the "winner"? Why?

2. Which group(s) is the "loser"? Why?

3. Students may look at Team score or may complain that they had a weak team member.

Looking over the stats, point out which groups achieved process gain or loss.

B. **Process Gain:** is when the groups outperform even their best member

1. Called **Group synergy** (Hall, 1971). These groups are the winners!

2. According to Hall (1971) synergy occurs when:

a) group searches for good solutions for the group rather than  
compromises or bargains or good solutions for themselves as individuals

b) group relies on the person with the most expertise

3. According to Hall (1971) groups can foster synergy by:
  - a) avoid arguing for own way ----- think!
  - b) don't think "win-lose" think acceptable for all, or integrative solutions
  - c) do not change mind for sake of harmony
  - d) disagreements mean a range of ideas – seek them out, all contributions are valuable

C. **Process Loss:** when the raw resources of the group (what the individuals bring to bear on the task) is lost due to problems in the functioning of the group. These groups are the losers! (Ok, that might be a bit harsh)

- D. Examples of group dynamics that prevent groups from doing their best. (Discuss any or all, making reference to students' experience from the task):
1. Lack of communication, not sharing unique information, etc.
  2. Groupthink
  3. Conformity (e.g., age, gender, status, camping experience, etc.) including informational social influence and normative social influence
  4. Social Loafing
  5. Group Polarization

### III. Pointers

1. The task is meant to be ambiguous (not having all the information they need to solve the task, light side vs. dark side, etc.). If all of the information was provided then it would be an exercise in problem-solving, not in group dynamics. That is, we wouldn't be able to see the group dynamics in action. Remind them that all groups did the best they could with the information they had been given.

2. Experiment with putting time pressure on groups to finish, or offer prizes for the winning groups or the fastest groups. These should lead to process loss.

3. Experiment with group size. Larger groups should have greater process loss. Smaller groups may not have enough of a range of opinion to reach synergy.

4. Experiment with having students choose their own groups or by random assignment or by instructor assignment. More cohesive groups (e.g., friendships groups) may have more problems (e.g., groupthink).

5. See if anybody in the class has done this before. Some will have, but may not have done it in the context of a discussion of group dynamics, or may not have actually received the answers. See if students who know the answers were able to get the group to go along with their answers. Why or why not?

6. Take home message: Groups function as well or as poorly as their members make them function. Remembering this lesson will make them all winners!!

### References

Hall, J. (1971). Decisions, decisions, decisions. *Psychology Today*, November, pp. 51–54, 86– 88.