

Effectively Working in Groups: The Fundamentals

Welcome! Please sit in groups of three or four, with people you do not know, and make the groups as heterogeneous as possible.

Facilitator: *Laura Lavine*

Please sit in groups of 3-4

- Introduce yourselves
- The person who has the “Instructions to Managers” should follow the directions.

Please Note

- Manager = Facilitator
- Recorder = Quality Control
- Presenter = Spokesperson
- Reflector = Process Analyst

Individual Work

- On a piece of paper, write down what you expect to learn today and what you hope to gain – be very specific (Use ACTION verbs)
 - 2 minutes
 - *For example, After today I will be able to use verbal communication to let members of my team or group know what I have to contribute and let them know when I don't have something to contribute.*

Group Work

- Discuss with your group your expectations for today
 - 5 minutes
- Be ready to report out. (Spokesperson only)

Objectives and Outcomes

After attending this session, participants will be able to:

- List desirable student learning outcomes from working in a group
- Create strategies to manage groups effectively

Objectives and Outcomes

Participants will:

- Examine POGIL process skill definitions
- Experience classroom activities and techniques of facilitation that can be used in a POGIL classroom to build student buy-in and help students identify and improve process skills.

Process Skills

- required for student-directed learning teams
- current focus of POGIL research groups*
- essential for work in the 21st century
- not a traditional way of learning

- a centerpiece of POGIL pedagogy

Process Skills

- Information Processing
 - Critical Thinking
 - Problem Solving
 - Communication
 - Teamwork
 - Management
 - Assessment
-
- Which of these are listed on your syllabus?

A POGIL Classroom Experience



Drawing Activity

The facilitator will describe a pattern. You will draw it based on the description.

- Work alone - do not talk
- Do not look at each other's papers
- You may want to take notes as instructions are provided

Draw a Parallelogram

Draw a parallelogram that is:

- skewed 45 degrees to the right
- with height = 2 inches
- with width = 4 inches

Draw a Venn Diagram

Draw a symmetrical Venn diagram consisting of three one-inch diameter circles.

- Center it in the middle of the parallelogram
- The Venn diagram should show an area in the middle where all three circles intersect

Draw a Star of David

Draw a Star of David inside of the parallelogram to the left of the Venn Diagram.

- The star should be about 1 inch across

Draw a Peace Sign

Draw a peace sign, with a diameter of one inch, to the right of the Venn diagram inside of the parallelogram.

Draw a Sine Wave

Draw a sine wave above the parallelogram

- Its amplitude should be one inch
- It should start at the top left corner of the parallelogram and end at the top right corner of the parallelogram
- The top left corner of the parallelogram corresponds to $x = -\pi/2$
- The sine wave should complete exactly three cycles

Rate Your Confidence Level 1-10

- On a scale of 1 to 10, how confident are you that your drawing is correct?
 - 1 = not at all confident
 - 10 = very confident
- Write your rating on the back of your paper large enough that it can be seen by the facilitator at the front of the room

Now Work as a Team

- Do not make marks on your original drawings.
- Take out a clean piece of paper. The recorder will be the first to draw.
- Work together to draw the pattern described:
 - Use all your notes and original drawings
 - You may ask questions of the facilitator (raise your hand if there is a question)
 - Consult with other teams if you wish
 - Do not consult outside resources (e.g., web)
- Each team must produce **ONE CONSENSUS DRAWING**

5 Minutes

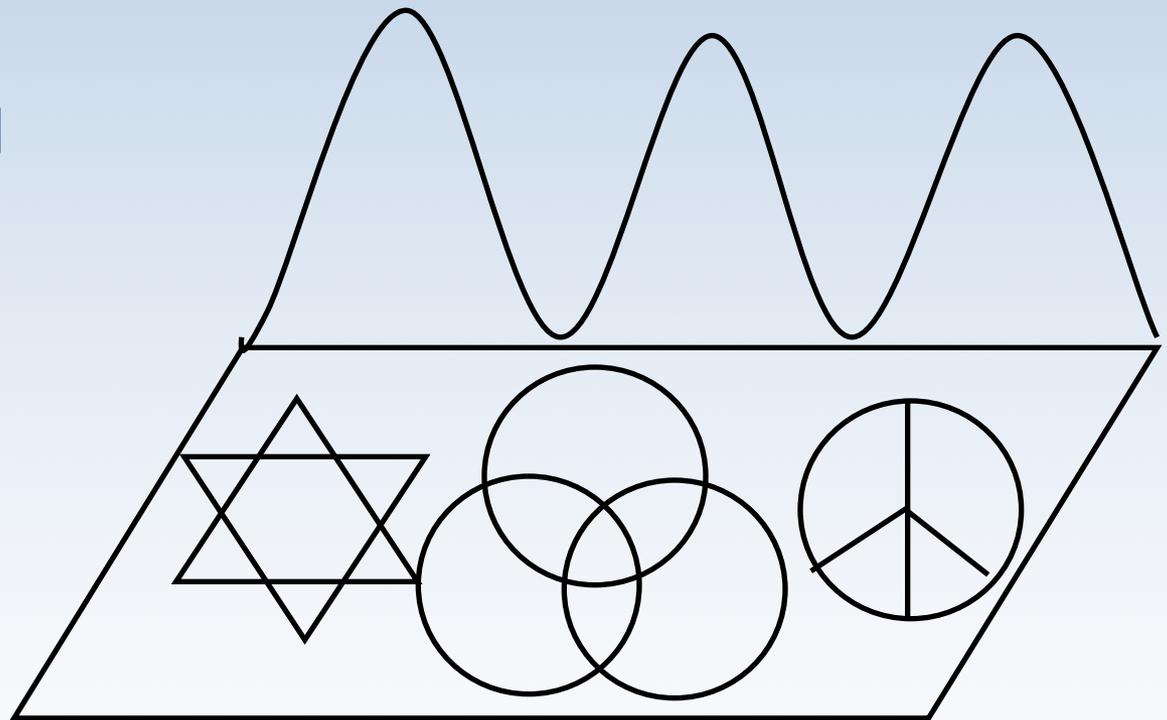
Rate Your Confidence in Your Team

- How confident is your team that your drawing is correct?
 - 1** = not at all confident
 - 10** = very confident
- Write your team's rating on the back of your team drawing large enough that it can be seen by the facilitator at the front of the room

Grade Your Drawings

- Compare both your individual and team drawings to the solution shown
- Assign each of your drawings a grade of A - F

1 Minute



Lessons from the Parallelogram Activity

- Individually write down three ways the team drawing experience differed from the individual drawing experience.
- Individually write down one insight about how this may relate to teaching and learning.

2 Minutes

Lessons from the Parallelogram Activity

- As a team, share your experiences and insights
- Be prepared for the Presenter to share one agreed upon insight from your team

5 Minutes

Parallelogram Activity Reporting Out

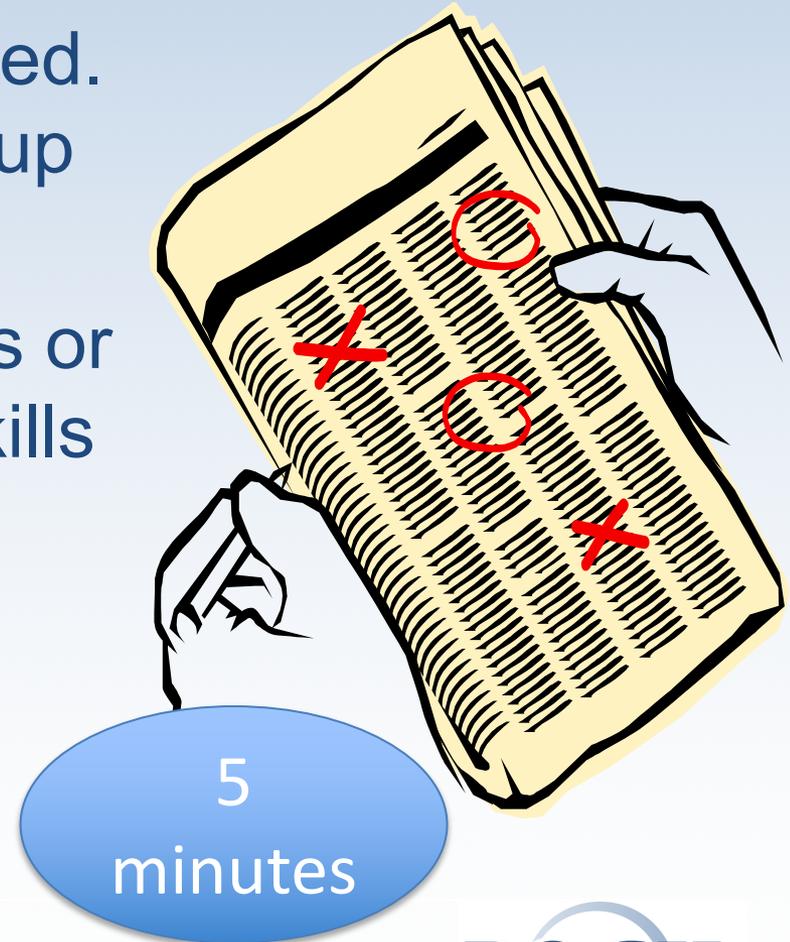
Report Out

Process Skills

Step 2 Identifying Process Skills

Job Listings Activity

- Read the job listings provided. Divide the work among group members.
- Circle or highlight the words or phrases that indicate job skills **other than content knowledge** that employers want.



Employable Skills

Here are the 10 skills employers say they seek, in order of importance:

1. Ability to work in a team
2. Ability to make decisions and solve problems
3. Ability to plan, organize and prioritize work
4. Ability to communicate verbally with people inside and outside an organization
5. Ability to obtain and process information
6. Ability to analyze quantitative data
7. Technical knowledge related to the job
8. Proficiency with computer software programs
9. Ability to create and/or edit written reports
10. Ability to sell and influence others

Forbes website, October, 2013, Susan Adams

POGIL Process Skill Benefits

With your group:

- Read through the chart of process skills and operationalized definitions.
- Answer the question - What would these skills add to the development of content knowledge?

9 min timer



POGIL MetaActivity Process Skills

- Manager assign roles
- Read Model 1 in the MetaActivity:
Process Skills
- Answer Critical Thinking Question 1.
 - 8 minutes
 - Report Out

POGIL MetaActivity Process Skills

- Please do Model 2.
- Answer CTQ Questions 2-3
 - 10 minutes
 - Report Out

Making Process Skills a Focus

Transitioning to student-directed groups can be envisioned as a set of three steps:

1. Building student buy-in for improving process skills
2. Teaching students to identify process skills
3. Helping students improve process skills

Paper Tower Activity

Rules for the tower:

1. Has to be free standing-no taping the tower to any furniture
2. Can only use provided materials (12" of masking tape and 5 pieces of 8½ x 11" paper)
3. Whichever group has the tallest tower wins

10 Minutes

Insights

- Individually reflect on your experience (1 minute)
- Share your insights with your group (3 minutes)
- Report out (5 minutes)

Student Buy-In

- Construction activity
- Team vs. Group
- Other suggestions?

Process Skills

Part 3 Improving Process Skills

Improving Process Skills

- Choose a skill for students to work on during every activity
 - Have teams reflect on this and include evaluations in the recorder's report
- Establish a group role of reflector / strategy analyst – this person records observations of team functioning

“Rubrics”

- Provide a structure for reflecting on the use of process skills
- Process Skill rubric can be copied for use by the Reflector/Strategy Analyst who marks for the whole group or cut apart for individual reflection
- Personal Effectiveness rubric is completed by the Reflector (process or strategy analyst) for the whole group

Process Skills Rubric

- Skills related to individual qualities
- Students can set goals for improvement and mark these themselves
- Students keep these in order to show growth
 - Use the collection for a personal effectiveness essay

Personal Effectiveness Essay

- Use Process Skills Rubrics to identify at least three areas of strength and three areas of improvement
- Articulate goals for the remainder of the year, and specific strategies, to work on areas of improvement

Personal Effectiveness Essay

“I used to feel uncomfortable asking so many questions to my teammates because I didn’t want to bother them. But now they’ve changed my mind by making me understand that asking question is a good skill and they like it. It makes me feel good and confident about myself because I have been using this skill since the beginning without knowing that it is a positive talent.”

Personal Effectiveness Essay

“One major thing I can improve on is being more patient. I am always in a rush and sometimes I get frustrated with my group mates that are lagging behind. This creates a negative atmosphere and an uncomfortable working condition. So from now on I will aim to hold myself accountable and be patient so that the work will be less of a struggle. Additionally, I could improve on giving positive feedback. I do not always give praise to someone if he or she answers a question correctly or successfully explains a topic. Also, I can grow in the area of including others. Sometimes my leadership qualities may intimidate other group members, and that is the last thing I want.”

The POGIL Project

- Launched by sequential National Science Foundation (2003-2012) and other grants
- Based on curricular work done by a variety of like-minded people in the mid-1990s
- Became a not-for-profit organization in 2010
- The mission of The POGIL Project is to connect and support educators from all disciplines interested in implementing, improving, and studying student-centered pedagogies and learning environments.

What is POGIL?

Process Oriented
(Cooperative Learning):
Develop Key
Process Skills

Guided Inquiry
(Constructivism):
Learning Cycle
Activities

Process Oriented
Guided Inquiry
Learning

```
graph TD; A[Process Oriented (Cooperative Learning): Develop Key Process Skills] --> C[Process Oriented Guided Inquiry Learning]; B[Guided Inquiry (Constructivism): Learning Cycle Activities] --> C;
```

The POGIL Project

The POGIL Project is run by:

- A Board of Directors
- A Director (Rick Moog, Franklin & Marshall College)
- A Steering Committee of experienced practitioners (eight college and high school faculty)
- Eight part-time and full-time staff in the POGIL National Office (Lancaster, PA)

The POGIL Project

- Offers faculty development
 - More than 20 workshops each year for high school and college faculty
 - Institutes for workshop facilitators
- Actively involves almost 1,000 individuals each year
 - Workshop attendees, workshop facilitators, curriculum developers
- Has touched thousands of people
 - More than 1,000 people are implementing POGIL pedagogy across multiple disciplines

Q & A