



## IMPLEMENTATION GUIDE



<https://www.youtube.com/watch?v=ivOb5kfBncY>

# Welcome to our Implementation Guide!

This resource was initially developed through the High School POGIL Initiative (HSPI), a 3-year project designed to bring student-centered, guided inquiry instruction to secondary school classrooms.

Effective implementation of the Process Oriented Guided Learning (POGIL) strategy is key to having a successful teaching and learning experience. Within this implementation guide, you will find suggestions, tips, links to video clips and materials files, and more to help you as you make the transition from a teacher-centered to a learner-centered classroom. These materials were all created by other POGIL practitioners in a variety of settings, ranging from large and urban to small and rural, from public schools to private academies. Each of these practitioners has experienced success facilitating a learner-centered classroom while using POGIL activities and materials and all of the materials share the common goal of improving education.

Making the change to a POGIL classroom is a big transition for most teachers and their students, a change that goes far beyond introducing new materials to the classroom. Adopting POGIL represents a real philosophical shift in your perceptions of the roles of teacher and student in a learning environment. We encourage you to attend a workshop and to explore the POGIL website to deepen your understanding of the POGIL pedagogy.

<http://www.pogil.org/events> and <http://www.pogil.org/about>

We would like to thank you for taking this first step to advance your teaching technique to one of active learning and for your interest in POGIL. This transition will take time, patience, reflection and training, and reading this guide is just the first step in your journey. We hope you are excited and enthusiastic about transforming your classroom and, that after reading this implementation guide, you will consider connecting further with the POGIL community at a workshop where you can network and learn from other POGIL implementers and facilitators.

—The POGIL Project

## Table of Contents

What is POGIL?	3
POGIL Process Skills	4
What Makes POGIL Different?	5
When Do I Use a POGIL Activity?	6
Communication	8
Classroom Setup	9
Grading	11
Student Roles	14
Appendices	19

# Shifting to a Student-Centered Classroom



<https://vimeo.com/93407527>

Whether you are looking to test the waters with some preliminary adjustments to your classroom routines or are ready to dive in the deep end of the pool, here are some points to consider *BEFORE* implementing your first activity.

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## What is POGIL?

POGIL is an acronym for Process Oriented Guided Inquiry Learning. POGIL originated in college chemistry departments in 1994; there are now thousands of implementers in a wide range of disciplines in high schools and colleges around the world.

POGIL is based on constructivism and uses guided inquiry – a learning cycle of exploration, concept invention and application is the basis for many of the carefully designed materials that students use to guide them to construct new knowledge. POGIL is a student-centered strategy; students work in small learning teams with individual roles to ensure that all students are fully engaged in the learning process.

POGIL activities focus on core concepts and encourage a deep understanding of the course material while developing higher-order thinking skills. POGIL develops process skills such as critical thinking, problem solving, and communication through cooperation and reflection, helping students become lifelong learners and preparing them to be more competitive in a global market.

POGIL is a classroom and laboratory technique that seeks to simultaneously construct knowledge and develop key process skills such as the ability to think analytically and work effectively as part of a collaborative team. A POGIL classroom or lab consists of any number of students working in small learning teams on specially designed guided inquiry materials. These materials supply students with data or information followed by leading questions designed to guide them toward formulation of their own valid conclusions. The instructor serves as facilitator, guiding the process, observing and periodically addressing individual and classroom-wide needs.

POGIL is based on research indicating that a) *teaching by telling* does not work for most students, b) students who are part of an interactive community are more likely to be successful, and c) knowledge is personal; students enjoy themselves more and develop greater ownership over the material when they are given an opportunity to construct their own understanding.

We have found that a discovery-based team environment energizes students and provides instructors with instant and constant feedback about what their students understand *and misunderstand*. Students quickly pick up the message that logical thinking and teamwork are prized above simply getting “the correct answer.” This emphasizes that learning is not a solitary task of memorizing information, but an interactive process of refining one’s understanding and developing one’s skills.

## POGIL Process Skills

One principle that characterizes POGIL as a teaching strategy and philosophy is the explicit emphasis on the development of process skills as an important component of the student learning process. The process skills referred to here include both cognitive and affective processes that students use to acquire, interpret, and apply knowledge. The POGIL Project has identified seven key process skills that must be the focus of development in a POGIL classroom.

### Operationalized POGIL Process Skills Definitions

PROCESS SKILL	Operational Definition
ORAL & WRITTEN COMMUNICATION	<p>Oral Communication: Exchanging information and understanding through speaking, listening, and non-verbal behaviors.</p> <p>Written Communication: Conveying information and understanding to an intended audience through written materials (paper, electronic, etc.)</p>
TEAMWORK	Interacting with others and building on each other’s individual strengths and skills, working toward a common goal.
PROBLEM SOLVING	Identifying, planning, and executing a strategy that goes beyond routine action to find a solution to a situation or question.
CRITICAL THINKING	Analyzing, evaluating, or synthesizing relevant information to form an argument or reach a conclusion supported with evidence.
MANAGEMENT	Planning, organizing, directing and coordinating one’s own and others’ efforts to accomplish a goal.
INFORMATION PROCESSING	Evaluating, interpreting, manipulating, or transforming information
ASSESSMENT (Self assessment and Metacognition)	<p>Self and Peer Assessment: Gathering information and reflecting on an experience to improve subsequent learning and performance.</p> <p>Metacognition: Thinking/reflecting about one’s thinking and how one learns, and being aware of one’s knowledge.</p>

# What Makes POGIL Different?

## Why Teachers Use POGIL



<https://vimeo.com/108973858>

There are a number of student-centered instructional techniques that can be effective for achieving valid learning goals in the classroom. POGIL differs from other approaches in its use and design of distinct classroom materials. Three characteristics of POGIL materials are as follows:

- A POGIL activity is designed to be used with self-managed teams that employ the instructor as a facilitator of learning rather than as a source of information.
- A POGIL activity guides students through an exploration to construct, deepen, refine, and/or integrate understanding of relevant disciplinary content.
- The application and development of at least one of the targeted process skills is embedded in the structure and/or content of a POGIL activity and is not solely dependent upon the facilitation of the activity in the classroom or laboratory.

## How POGIL Helps Students



<https://vimeo.com/109415622>

## When Do I Use a POGIL Activity?

Once you have a grasp on the *WHYS*, you can move on to the *WHENS* of using POGIL with these tips shared by our practitioners.

Do consider using a POGIL activity WHEN:

- Introducing a unit.
- Introducing a difficult concept.
- Replacing a lecture.
- Reviewing or checking for understanding.
- A deep conceptual understanding is necessary, i.e.- more than just delivery of facts.
- Lecture is not efficient or effective.
- Students have known misconceptions or to uncover student misconceptions.
- Covering dense, chunkable content.

Do NOT use a POGIL activity WHEN:

- Assigning something to be completed as an independent worksheet.
- A substitute is in the room, unless the students are well trained in POGIL methodology and the substitute knows how to properly facilitate an activity.

## Curriculum Considerations

When using POGIL-vetted materials, you can rest assured that the topics included cover the typical units found in any traditional science curriculum. They are aligned with the most frequently cited national standards [NSTA](https://www.ngss.nsta.org) (<https://www.ngss.nsta.org>) and the new [K-12 Framework](https://www.nap.edu/catalog/13165/a-framework-for-k-12-science-education-practices-crosscutting-concepts) (<https://www.nap.edu/catalog/13165/a-framework-for-k-12-science-education-practices-crosscutting-concepts>)

However, these activities do not serve as a stand-alone course; they are designed to be incorporated into your existing curriculum. You will need to spend some time reviewing your school's curriculum requirements to determine which activities are the best match for your needs. Each HSPI activity lists clear learning objectives, background knowledge pre-requisites and extension questions, all of which will help guide your selection and placement in your course timeline.

## My New Role as POGIL Classroom Facilitator

The list that follows covers important points shared by our practitioners to help you transition to the new role of Facilitator of student learning.

- Using POGIL changes how the classroom is controlled and directed.
- Using POGIL takes the spotlight off the teacher.
- The teacher in a POGIL classroom is not the source of information—the data/model is the source of information.
- Because the teacher in a POGIL classroom is not the primary source of information, he/she does not answer questions directly, but refers students back to the data/model.
- Gain the expertise to not give students the answer but be able to guide them to the evidence required to invent concepts and draw conclusions.
- The teacher's workflow may shift in a POGIL classroom, with more preparation and planning required prior to class and less obvious tasks taking place during class.
- Facilitation is ACTIVE!
- Become a data collector. Watch and listen to your students as they work.
- Roam the classroom with a clipboard, so you can record misconceptions or points to expand

in mini-lectures or for specific learning teams or the entire class.

- Have answers in your hand as you facilitate an activity.
- Prepare to listen more as the facilitator.
- Teachers report a change in their internal dialogue, from thinking about what *they* are going to say to instead focusing on what *students* are saying.
- Student centered learning invites more conversation from the students and less from the teacher - mouth closed, eyes and ears wide open!
- Develop techniques to have students ask questions of each other.
- Model questioning techniques for students.
- The teacher should only talk to the person in each group whose assigned role includes that function, to honor the assigned roles.
- Ask students questions, but do not interrupt team learning.
- Develop eavesdropping skills or use the ones you already have to listen to learning team discussions.
- Think of yourself as a project manager that delegates, guides and coaches learning teams.
- Set process skill development goals for your class each day.
- Be transparent about your goals for yourself as the teacher and your goals for your students.
- Summarize your facilitator role after an activity. Keep a log of [SII evaluations](#).  
(<http://www.pogil.org/uploads/media-items/duel-sii.original.pdf>) (Appendix #1 SII Evaluation form)
- Develop and use tools to evaluate and provide feedback for both content goals and **student process skills** being developed. (see page 6)
- Frame and relate POGIL to [Bybee's 5E model](#) for students.  
(<http://enhancinged.wgbh.org/research/eeeeee.html>)
- Do an “Engage” activity before doing the POGIL: question, demo, quiz, survey, to allow misconceptions to surface, KWL-like warm up, or use [AAAS assessment website](#) (<http://assessment.aaas.org/>) for misconception list and test questions
- Have students map Explore/Explain/Elaborate in POGIL activity to see learning cycle - Exploration/Concept Invention/Application.
- Extend - revisit and compare starting point with current state of understanding, have students write/report out reflections after activity, provide an explanation to a new situation that is recognizable as similar to original and/or revise original explanation.
- Don't offer general praise (like “Great!”) because it encourages students to seek affirmation from the teacher.
- Exude confidence and comfort with this technique. Students will sense your hesitation and discomfort with POGIL and they will be uncomfortable, too.
- Fake it 'till you make it! Don't get discouraged - it takes time to master new skills for new methods. Be patient with yourself and your students.

# Communication

Because a POGIL classroom operates in a very different way than traditional lecture-based classrooms, clearly communicating the changes in expectations is critical. Here are some points to consider when developing your communication plan.

## With Administration and the Community:

- Work early to get support from your administration.
- Administrators need to understand you are using research-based cooperative learning strategies. Share [the research](#) \*on the POGIL website. \*(see Appendix, #2 Effectiveness of POGIL)
- Invite administrators to observe your classroom.
- Get support from the local community. Science or business related industries in your area may be interested in the [21st Century Skills](http://www.p21.org/index.php) (<http://www.p21.org/index.php>)

## With Fellow Teachers:

- Offer to hold informational meetings to describe the purpose of the activities.
- Share with colleagues to allow for peer support. Having 2 practitioners in a building, regardless of content area, can be a valuable tool for professional development and growth.
- Use [Critical Friends](http://www.nsrffharmony.org/) (<http://www.nsrffharmony.org/>) or [Professional Learning Community](http://www.allthingsplc.info/tools-resources/page,1/filtered,0/categories,/type) tools. (<http://www.allthingsplc.info/tools-resources/page,1/filtered,0/categories,/type>)

## With Parents:

- Model the process on “Parent Days” and “Back to School” nights.
- Use the [“Talking Points”](http://www.pogil.org/uploads/media_items/hspi-talking-points.original.pdf) list to highlight the benefits of this instructional practice. ([http://www.pogil.org/uploads/media\\_items/hspi-talking-points.original.pdf](http://www.pogil.org/uploads/media_items/hspi-talking-points.original.pdf)) (see Appendix #3 Talking Points)
- Highlight the [21st Century Skills valued by business and industry](https://www.professionalpractice.org/about-us/skills_for_success_2/) that the learning activities are designed to build. ([https://www.professionalpractice.org/about-us/skills\\_for\\_success\\_2/](https://www.professionalpractice.org/about-us/skills_for_success_2/))

## With Students

Students need to understand what you are doing to create buy-in.

Explain and “sell” the idea of POGIL to students and make the philosophy transparent.

Share with students the research on learning and why you have chosen to use the activities.

Spend time early in the year on the importance of student roles and the value of sharing constructive feedback.

Create a rubric for POGIL on Task (POT) and Daily on Task (DOT) points.

Some teachers don’t use the term POGIL and instead just call the activities a “Learning Activity”, as it is just another part of their class and another learning tool.

Send a postcard home to students before school starts to welcome them to your course and start a positive relationship. Be aware that parents will read this before the students!

## Classroom Setup

Physical set up of a POGIL classroom can vary, depending on the limitations of the space. The following tips are applicable in any classroom arrangement and should be considered when beginning to plan for implementing group learning on a regular basis.



Make a plan for how to arrange tables/desks for both team and individual work in the classroom. Draw room sketches for both configurations.

- Try to set up your classroom so that there is no direction or “stage” in the classroom during group work situations.
  - Arrange room for learning teams so that instructor can move around easily.
- If at all possible, students should face each other when doing POGIL work, to be able to look at each other and also have a surface to write on.
  - Develop a procedure for rearranging the desks/tables and have students practice moving things into place.

### Materials Needed / Implementation Costs

Implementing POGIL in your classroom is relatively low cost. After the initial fees for training and the cost of materials, the activities are mainly pencil/paper based and require no special equipment or materials. However, many teachers find advanced planning for some organizational tools to be helpful.

#### Equipment for the classroom:

- Chime or gong for audio cues.
- Timer or download an [electronic version](http://www.online-stopwatch.com/) (<http://www.online-stopwatch.com/>)
- Classroom sets of materials like colored pencils, rulers, highlighters, and calculators.
- Copy and laminate classroom sets of [role cards](#). (see Appendix, #4 Role Cards)
- Create sets of materials (periodic table, calculator, set of manipulatives, etc) for each group.

- POGIL collections of materials <https://pogil.org/educators/become-a-pogil-practitioner/curricular-materials>).
- Plan for photocopying costs for student versions of activities.

*Materials for Students:*

- Develop a system for students to keep and organize their completed POGIL activities to study as a reference for the rest of the year. (3-ring binders work well)
- Provide students a summary sheet to help them summarize, keep and reflect on the knowledge gained through the POGIL activities.
- Develop a system to inform students what to use for notes.

*Additional Costs:*

- Trainings - workshops and meeting fees.

# Grading

Determining POGIL's place in your classroom grading system is an important consideration when planning for implementation. POGIL practitioners have found success using a variety of grading policies, pieces of which are outlined below. Within all of these ideas, one guiding principle is evident - whatever grading policy you create, you want it to complement and encourage your students' process skill growth and the emerging group dynamic. Be it individual or learning team grades, participation points or content focused, be mindful of your instructional goal(s) in choosing to use a POGIL activity versus some other instructional technique. In other words, always keep the group process in mind!

- POGIL activities are designed as learning tools, not assessment instruments.
- Use activities primarily as notes, not necessarily for grades.
- Feedback on learning is most effective when that feedback is not linked to a grade.
- Reflect on what you are choosing to grade and why you grade particular items. Does the grade reflect student learning (content) or student participation?
- If grading an activity, the emphasis should be on the process skills rather than the mastery of the content knowledge.
- Use rubrics (ELIPSS.org) so you can compare scores across classes and years and so that students understand your expectations.
- Consider creating a rubric for "POGIL on Task (P.O.T.)" points.
- Award participation points for on task behavior. Create a clipboard rubric to carry with you around the room.
- Use a checklist to reflect on student's view of their participation compared to the teacher's impression of participation. Sample checklists are available in the *POGIL Instructor's Guide*, available as a free download [here](http://www.pogil.org/resources/implementation/instructors-guide). (<http://www.pogil.org/resources/implementation/instructors-guide>) (see Appendix #5 POGIL Instructor's Guide)
- Have students collect and store activities in a binder/notebook and then selectively grade a small sample of the activities for quality of completion.
- Sometimes collect all of a learning team's work just to check if a particular question is exactly the same then score 10/10 if ALL the same or 0/10 if not the same. Note - the answer may or may not actually be correct. This encourages reaching a consensus and proper recording of the consensus answer.
- Collect one copy of the activity per group (choose randomly) to check for completion.
- Give a quiz the day after doing a POGIL activity.
- Consider having "Open POGIL" quizzes (i.e. - using the completed POGIL to answer the quiz questions, like an "Open Book" quiz). This encourages all learning team members to record the answers.
- Start class with a daily mini-quiz, focusing on the key concepts from class the day before.
- Use a concept check with tools such as clickers, as described by the [CWSEI](http://www.cwsei.ubc.ca/resources/clickers.htm), (<http://www.cwsei.ubc.ca/resources/clickers.htm>) or [NCTE's exit slips](http://www.readwritethink.org/professional-development/strategy-guides/exit-slips-30760.html). (<http://www.readwritethink.org/professional-development/strategy-guides/exit-slips-30760.html>)
- If the POGIL activity covers a particularly difficult concept, or if you notice that all members in a group didn't write answers, collect the activity and check for accuracy. Pay particular attention to the key questions or points you might have discussed during the course of the day in class, helping students to learn to zero in on those important concepts.
- Provide opportunities for students to earn both individual points and learning team points during POGIL activities.
- Alternate between awarding learning team and individual points.
- Be sure to match the assessment questions you develop to the target objectives of the activity.

- Grade only the key questions.
- Consider giving extra points for the supplemental / extension questions.
- Put one of the questions from the POGIL activity on the test/summative assessment for the unit.
- Don't forget to assess process skills that you have taught and expect students to demonstrate. Remember if you don't let them know process skills are important, the students won't value process skills.
- Evaluate process skills objectively by using a rubric and translate to 10% of grade in "Personal Skills" category.
- Establish a partnership with other colleagues to compare test questions used during an assessment and then reflect on student performance on those assessment items. Use this data as a springboard to brainstorm on how the instructional sequence or learning activities can be modified to improve student learning.
- Keep a POGIL journal with time needed for an activity, and areas where students/learning teams struggled.

# Student Roles

The use of student roles is a hallmark of the POGIL pedagogy and successful implementation of this learning strategy is dependent upon their use. Many practitioners believe roles are the real key to having a positive experience with POGIL. Particularly in the high school setting, because of the broad range of cognitive and social skill levels that exist within any given group of teenage students, it is essential to clearly define and provide instruction about the appropriate, pro-social behaviors associated with working in cooperative teams. This section of the guide provides tips and resources developed by our practitioners to help you incorporate student roles successfully into your classroom.

## Examples of Student Roles

Include: Time keeper/timer, Cheerleader/Encourager, Facilitator, Spokesperson, Quality Control, Process Analyst, Manager, Recorder, Reader, Materials Manager, Document Controller, Technician. Most teachers form learning teams of 3 or 4 students, so not every role is used during an activity.

Roles rotate so students can experience teamwork (process skill) from different viewpoints. For a set of downloadable POGIL role cards, visit <https://pogil.org/uploads/attachments/cj8omoyxb0c4ri8x4qp52fmw2-2017-pogil-laminated-role-cards.pdf>

## Description of Roles

In POGIL courses, most of the class work is done in learning teams of about four. The membership of the teams should change. The roles within a learning team will change to allow everyone an opportunity to master a role. Below are some roles that are commonly used

## Description of Roles

<b>Manager / Facilitator</b>	Manages the team. Ensures that members are fulfilling their roles, that the assigned tasks are being accomplished on time, and that all members of the learning team participate in activities and understand the concepts. Your instructor will respond to questions from the manager only (who must raise his or her hand to be recognized.)
<b>Reader</b>	Reads the activity out loud to the learning team. The reader must monitor their volume so that their team can hear them, but other learning teams are not disturbed. This helps to keep everyone in the team together. The Manager will tell the Reader when it is time to read the next part of the activity.
<b>Recorder / Presenter / Spokesperson</b>	Records the names and roles of the learning team members at the beginning of each activity. Records the important aspects of the learning team's discussions, observations, insights, etc. The recorder's report is a log of the important concepts that the team has learned. This person is also responsible for reporting orally to the class when called for in class discussions.
<b>Reflector/ Strategy Analyst / Quality Control</b>	Observes and comments on learning team dynamics and behavior with respect to the learning process. These observations should

	be made to the manager on a regular basis (no more than 20 minutes between reports) in an effort to constantly improve team performance. The reflector/analyst may be called upon to report to the team (or the entire class) about how well the group is operating (or what needs improvement) and why.
<b>Technician / Equipment Manager</b>	Gathers materials and uses any equipment other than paper and pencil. Performs all technical operations for the learning team, including the use of a calculator or computer. Unless otherwise instructed, only the team's technician may operate equipment such as this.
<b>Encourager / Cheerleader</b>	Acknowledges the good ideas and insights of learning team members (or the learning team as a whole) through expressions such as "That was a really good point!" at appropriate times.
<b>Sigfig Checker</b>	Checks all numbers for correct significant figures and correct units.

*Note: Not all roles are assigned on any given day, and additional roles may be assigned to learning team members as needed.*

- Students must be trained to use roles, as many have never done this type of learning work before.
- Start at the beginning of the year to train students—use roles often enough that the students do not forget how to use roles, forms, procedures, etc.
- Use consistently and pervasively from the first day roles are introduced to the end of the school year.
- Continually reinforce the use of roles.
- Show [videos](https://pogil.org/educators/resources/interpersonal-effectiveness-videos) (https://pogil.org/educators/resources/interpersonal-effectiveness-videos) to demonstrate roles and skills needed to successfully work in a learning team. This page contains links to a collection of more than 40 videos, created through the POGIL / HACH Northern Colorado Consortium. The videos were designed as instructional tools to help students better understand the importance of effective interpersonal skills in team work. The brief vignettes show both positive and negative examples of interactions between students, providing a starting point for class discussion on student roles and appropriate behavior in learning team situations.



<https://pogil.org/resources/implementation/interpersonal-effectiveness-videos>

- Point out positive examples of behavior when it occurs.
- Have a class discussion / lesson on roles.
- Practice roles and provide **rationales** for using the roles.

### **Use of Roles in POGIL Learning Activities**

Cooperative learning as an instructional strategy has a large base of research spanning more than 20 years. Numerous studies support the effectiveness of cooperative learning strategies on improving learning as compared to individualistic or competitive learning structures. One necessary component of a successful cooperative learning structure is the positive interdependence of a team of learners. One strategy to achieve positive interdependence is the assignment of roles to individual learning team members. The specific names or responsibilities of the roles for team members vary throughout the different research studies but the **overarching principle of using the roles to explicitly create positive interdependence of the group members remains consistent.**

#### **Some other benefits:**

1. Reduction of the stress-level of the students. Once students know what is expected of them they are able to feel more at ease and focus on the learning of the content material or the targeted process skills.
2. Reduction of lost instructional time due to repeating instructions to students or distributing instructional materials.
3. Keeps team focused (expectations/guidelines.)

#### **Notes on effective strategies on implementing roles in the classroom:**

1. Be sure to have some type of training on what roles “look like” -what behaviors are expected for each role
2. Provide both written and verbal instructions on each of the roles
3. Use the roles consistently-if you as the teacher don't value the roles the students will not "buy in" to using the roles and consequently not develop the necessary positive interdependence.

4. Have some system for rotating the roles within the groups so that every student has regular opportunities to be in each of the different roles throughout the year.
5. Leading up to the first few activities, introduce and emphasize roles each day by role-playing.
6. Introduce the POGIL classroom with a role-focused activity.
7. Have groups stay constant for the first few activities of the year to ensure that each group member has the chance to try each role.
8. Shift roles within groups on a regular basis.
9. Create posters as reminders of the responsibilities of each role. (see Appendix #7 Role Poster)
10. Keep roles and job descriptions simple.
11. Provide role cards that include sample statements. (See Appendix #4 Role Cards)
12. Using roles promotes student leadership in the classroom.
13. Have a student classroom facilitator of the day.
14. Assess student knowledge of the roles prior to activity - ask each what is your role? What are your responsibilities in that role?
15. Make sure that each role is used once during a class period to provide accountability for all.
16. Be careful when assigning a reader - keep in mind 504 plans! Possibly allow volunteers for that job.
17. The reader is key to keep students together.
18. Place roles that need to move in easily accessible areas of the classroom.
19. Using roles reduces the chance for one person to dominate.
20. Have a part of a role be to watch the board for clarification/ notes from teacher.
21. Choose one role to monitor during each activity.
22. Assess and provide feedback on role performance as part of process skill development. (See Appendix #8 Evidence of Competency)
23. Allow for student reflection of process skills. (See Appendix #9 Process Analyst Report Form)
24. Use teaching personal effectiveness as a part of teaching roles.
25. Use the roles you are confident in monitoring as a facilitator.
26. Use a visual so you know which roles you have - each role sits in a particular seat location at the table, uses badges
27. Table tents

28. Colored placemats, (See Appendix # 4 Role Cards)
29. Use a Roles Poster
30. Use a set of magnetic role cards on the board to show groups which position at the table is which role.
31. Don't do these activities without role cards! You may be tempted, but don't do it. The visual is important, especially early in the year.
32. Manager / Facilitator tends to be the hardest role - it needs to be worked on, reinforced from teacher and peers.
33. Vary the group roles as needed, depending on the activity.
34. Customize roles you choose to match students' abilities in process skills and make sense for your students and the type of activity.
35. Coordinate with other teachers that use collaborative group work so that the names and jobs of students are consistent from class to class, department to department.
36. Using roles effectively may be the most important factor in successfully implementing POGIL!

# Appendices

1. POGIL SSI Form
2. POGIL / HACH Northern Colorado Consortium Interpersonal Effectiveness Videos  
URL's
3. Evidence of Competency
4. Process Analyst Report Form

# Assessment Form

NAME (OPTIONAL) \_\_\_\_\_

WORKSHOP LOCATION/NAME \_\_\_\_\_ WORKSHOP DATE \_\_\_\_\_

Your feedback is a critical part of improving our workshops. We want to improve both the content and materials of the workshop (Activities, on the left, below) and the effectiveness of our facilitators (Facilitation, on the right, below). Please be specific and candid with your comments.

## 1. Strengths

Describe at least one strength in each category and explain **why** it is a strength.

### ACTIVITIES

### FACILITATION

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

## 2. Areas for Improvement

Describe at least one area for improvement in each category and **how** to achieve that improvement.

### ACTIVITIES

### FACILITATION

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

## 3. Insights into Teaching/Learning

Please describe at least one insight into teaching or learning that you gained from this experience and explain **how** that insight is helpful to you.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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## POGIL / HACH Northern Colorado Consortium Interpersonal Effectiveness Videos URL's

This page contains links to a collection of more than 40 videos, created through the POGIL / HACH Northern Colorado Consortium. The videos were designed as instructional tools to help students better understand the importance of effective interpersonal skills in group work. The brief vignettes show both positive and negative examples of interactions between students, providing a starting point for class discussion on student roles and appropriate behavior in group situations. You can view these online at <https://pogil.org/educators/resources/interpersonal-effectiveness-videos>

- Video #1 - [Communicating Clearly](#) (mumbling)  
<https://www.youtube.com/watch?v=FfZe8phRgSE>
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- Video #2 - [Communicating Clearly](#) (distracted - texting)  
<https://www.youtube.com/watch?v=h4u9ieJV0Aw>
- Video #3 - [Communicating Clearly](#) (avoiding partner work)  
<https://www.youtube.com/watch?v=fj6XpSsJGpl>
- Video #4 - [Communicating Clearly](#) (not contributing)  
<https://www.youtube.com/watch?v=4qs7ERyaQZ0>
- Video #5 - [Communicating Clearly](#) (brusque, no eye contact)  
<https://www.youtube.com/watch?v=9tmvXzcTbe0>
- Video #6 - [Communicating Clearly](#) (negative attitude)  
<https://www.youtube.com/watch?v=1miiGzIK9hQ>
- Video #7 - [Listening Skills](#) (positive example of active listening)  
<https://www.youtube.com/watch?v=BjkoRRaoLvU>
- Video #8 - [Listening Skills](#) (positive example of active listening)  
<https://www.youtube.com/watch?v=JsN6kBOvdk>
- Video #9 - [Listening Skills](#) (positive example of active listening)  
<https://www.youtube.com/watch?v=pT19NRQ6wZc>
- Video #10 - [Listening Skills](#) (positive example of active listening)  
<https://www.youtube.com/watch?v=yQDz455In2I>
- Video #11 - [Listening Skills](#) (positive example of active listening)  
<https://www.youtube.com/watch?v=qYab2m6lwJo>
- Video #12 - [Listening Skills](#) (positive example of active listening)  
<https://www.youtube.com/watch?v=vhWCRGXldrQ>
- Video #13 - [Listening Skills](#) (negative example, no eye contact)  
<https://www.youtube.com/watch?v=WcwLsmyahew>
- Video #14 - [Listening Skills](#) (negative example, minimal discussion)  
<https://www.youtube.com/watch?v=6j5syHqm1uE>

- Video #15 - [Listening Skills](https://www.youtube.com/watch?v=Sa45zQqRWrc) (negative example, distracted)  
<https://www.youtube.com/watch?v=Sa45zQqRWrc>
- Video #16 - [Courteous Interactions](https://www.youtube.com/watch?v=JMP9yP2GqUE) (positive example of helping)  
<https://www.youtube.com/watch?v=JMP9yP2GqUE>
- Video #17 - [Courteous Interactions](https://www.youtube.com/watch?v=GwfQo-q5ZeE) (negative example, not sharing information)  
<https://www.youtube.com/watch?v=GwfQo-q5ZeE>
- Video #18 - [Courteous Interactions](https://www.youtube.com/watch?v=RuDT2hogCu8) (positive example, correcting a peer)  
<https://www.youtube.com/watch?v=RuDT2hogCu8>
- Video #19 - [Courteous Interactions](https://www.youtube.com/watch?v=y0KSfuouEss) (negative example)  
<https://www.youtube.com/watch?v=y0KSfuouEss>
- Video #20 - [Courteous Interactions](https://www.youtube.com/watch?v=sQR0W-7ZB1A) (negative example, not cooperative with group)  
<https://www.youtube.com/watch?v=sQR0W-7ZB1A>
- Video #21 - [Courteous Interactions](https://www.youtube.com/watch?v=A-EAM1jjuhY) (negative example, not cooperative with group)  
<https://www.youtube.com/watch?v=A-EAM1jjuhY>
- Video #22 - [Taking Responsibility](https://www.youtube.com/watch?v=Su94EQljU4M) (positive example, student forgot homework)  
<https://www.youtube.com/watch?v=Su94EQljU4M>
- Video #23 - [Taking Responsibility](https://www.youtube.com/watch?v=xKzoLOyz7Nc) (positive example, student forgot homework)  
<https://www.youtube.com/watch?v=xKzoLOyz7Nc>
- Video #24 - [Taking Responsibility](https://www.youtube.com/watch?v=rVLHg2Y4_Fk) (positive example, student forgot homework)  
[https://www.youtube.com/watch?v=rVLHg2Y4\\_Fk](https://www.youtube.com/watch?v=rVLHg2Y4_Fk)
- Video #25 - [Taking Responsibility](https://www.youtube.com/watch?v=HYJefFrailM) (negative example, blaming teacher)  
<https://www.youtube.com/watch?v=HYJefFrailM>
- Video #26 - [Taking Responsibility](https://www.youtube.com/watch?v=KGdtQ-VaiXg) (negative example, making excuses)  
<https://www.youtube.com/watch?v=KGdtQ-VaiXg>
- Video #27 - [Taking Responsibility](https://www.youtube.com/watch?v=c_cRk7Cb2TE) (negative example, rushing and copying)  
[https://www.youtube.com/watch?v=c\\_cRk7Cb2TE](https://www.youtube.com/watch?v=c_cRk7Cb2TE)
- Video #28 - [Accepting Feedback](https://www.youtube.com/watch?v=4uQ8AsdvJ68) (positive example, correcting an answer)  
<https://www.youtube.com/watch?v=4uQ8AsdvJ68>
- Video #29 - [Accepting Feedback](https://www.youtube.com/watch?v=Tdcye6JBjIM) (positive example, correcting a peer)  
<https://www.youtube.com/watch?v=Tdcye6JBjIM>
- Video #30 - [Accepting Feedback](https://www.youtube.com/watch?v=AJWU6vqoHSQ) (positive example, different answers)  
<https://www.youtube.com/watch?v=AJWU6vqoHSQ>
- Video #31 - [Accepting Feedback](https://www.youtube.com/watch?v=2_kv-4_beCU) (negative example)  
[https://www.youtube.com/watch?v=2\\_kv-4\\_beCU](https://www.youtube.com/watch?v=2_kv-4_beCU)
- Video #32 - [Accepting Feedback](https://www.youtube.com/watch?v=xLIDYIV7COU) (negative example, disagreeing on answer)  
<https://www.youtube.com/watch?v=xLIDYIV7COU>

- Video #33 - [Accepting Feedback](https://www.youtube.com/watch?v=IOCyDq-6XBg) (negative example)  
<https://www.youtube.com/watch?v=IOCyDq-6XBg>
- Video #34 - [Dealing with Conflict](https://www.youtube.com/watch?v=uFI7RRdRYdU) (positive example, handling disagreement)  
<https://www.youtube.com/watch?v=uFI7RRdRYdU>
- Video #35 - [Dealing with Conflict](https://www.youtube.com/watch?v=SvPKK6oqVoY) (positive example, handling disagreement)  
<https://www.youtube.com/watch?v=SvPKK6oqVoY>
- Video #36 - [Dealing with Conflict](https://www.youtube.com/watch?v=xAkFh6wVZck) (positive example, handling disagreement)  
<https://www.youtube.com/watch?v=xAkFh6wVZck>
- Video #37 - [Dealing with Conflict](https://www.youtube.com/watch?v=LFQPthdGnqw) (negative example, responding with anger)  
<https://www.youtube.com/watch?v=LFQPthdGnqw>
- Video #38 - [Dealing with Conflict](https://www.youtube.com/watch?v=-Oj0fz7qCR0) (negative example, arm wrestle)  
<https://www.youtube.com/watch?v=-Oj0fz7qCR0>
- Video #39 - [Dealing with Conflict](https://www.youtube.com/watch?v=gu2a0QfHvkM) (negative example, no consensus)  
<https://www.youtube.com/watch?v=gu2a0QfHvkM>
- Video #40 - [Dealing with Conflict](https://www.youtube.com/watch?v=jyTNPUh_gf0) (negative example, partners don't get along)  
[https://www.youtube.com/watch?v=jyTNPUh\\_gf0](https://www.youtube.com/watch?v=jyTNPUh_gf0)
- Video #41 - [Dealing with Conflict](https://www.youtube.com/watch?v=HlxI4HJp8Dc) (negative example, fighting over paper)  
<https://www.youtube.com/watch?v=HlxI4HJp8Dc>
- Video #42 - [Dealing with Conflict](https://www.youtube.com/watch?v=Uth8OpMTI2Y) (negative example, partner conflict)  
<https://www.youtube.com/watch?v=Uth8OpMTI2Y>

### Evidence of Competency

Role: Facilitator  
Spokesperson  
Quality Control Name: \_\_\_\_\_ Date: \_\_\_\_\_

#### Role Competencies

Role Competency	Evidence for...
<b>Facilitator</b>	
Utilizes a systematic method to insure every group member expresses substantive communication directed toward achieving the group's goal	
Maintains an efficient pacing through the activity	
Asks purposeful questions of group members to insure true comprehension has occurred	
<b>Spokesperson</b>	
Utilizes an active listening method to clarify the group's question before seeking outside assistance	
Seeks appropriate and timely assistance from the teacher or other groups' spokespersons when the group needs help	
Speaks clearly (annunciation and volume), confidently, and properly located (minimize having back face anyone) when addressing the larger group	
<b>Quality Control</b>	
Employs a systematic method to insure every answer written by group members is correct or comparable quality (reasons why questions)	
Respectfully provides feedback to group members when a discrepancy is discovered in the written responses	
<b>Process Analyst</b>	
Provides respectful and substantive feedback to group members related to their Role and Personal Effectiveness Competencies	
Observes group practices and attitudes and suggest ways the group could be more efficient and encouraging to one another	

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### Group's Area for Improvement

Role: Process  
Analyst Name: \_\_\_\_\_ Date: \_\_\_\_\_

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Role: Facilitator  
Spokesperson  
Quality Control Evidence of Competency Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Personal Effectiveness Competencies**

	Evidence for...
<b>Interpersonal Skills</b>	
Speaks clearly, confidently, and with appropriate eye-contact with audience	
Applies active listening skills using reflection, restatement, questioning, and clarification	
<b>Integrity</b>	
Treats others honestly, fairly, and courteously (words required)	
Accepts responsibility for one's decisions and actions	
<b>Professionalism</b>	
Accepts feedback and attempts to learn from mistakes or misunderstandings	
Demonstrates positive attitude toward work and others	
Manages conflict respectfully while maintaining progress toward a goal	
<b>Lifelong Learning</b>	
Seeks feedback and asks questions to strengthen own understanding	
Uses newly learned knowledge and skills to complete specific tasks	

Role: Facilitator  
Spokesperson  
Quality Control Evidence of Competency Name: \_\_\_\_\_ Date: \_\_\_\_\_

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Role: Process  
Analyst **Group's Area for Improvement** Name: \_\_\_\_\_ Date: \_\_\_\_\_

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## Process Analyst Report Form

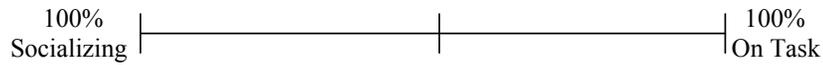
Activity Title \_\_\_\_\_

Team Members \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

☺ Evidence of Effective Process Skills	☹ Evidence of Ineffective Process Skills

1. Use of Time



2. Which three process skills (from the list) did your group do particularly well?

3. What process skill(s) need improvement? Explain.

4. What frustrated your group most today?

5. Team Effectiveness:

