

Teams:

1 Turn Groups into Teams

All students understand the concept of teams, but unless a coach has explicitly taught them principles of teamwork, they rarely understand the underpinnings that make teams succeed. A good first step is to establish the difference between groups and teams.

Five principles define a team:

Commitment. *Teams consist of individuals committed to the success of the team and to upholding their individual responsibilities to make the team work. If one individual fails to contribute, the team may fail.*

Knowledge of strengths and roles. *Team members know how to best contribute to a team. They know their roles and obligations, as well as when and where they will likely need help.*

Focus on a common goal. *Groups focus on process; teams focus on achievement. Teams work best when the goal is well defined and doable. All teamwork begins with the end in mind: What do we need to create, produce or achieve?*

Ability to critique performance. *Teams continuously improve by regularly reviewing objectives, measuring accomplishments, and deciding next steps. They learn from one another through objective praise and analysis*

Acceptance of a process. *Teams operate by formal mechanisms and guidelines designed to foster efficiency, communication, and productivity. Forming a team to accomplish goals is often a good choice. You may want to share with students some of the key reasons why they should work in teams:*

Motivation. *Many times, you can meet your individual goals only through group success.*

Social cohesion. *When more than one person cares about a goal, it's easier to accomplish it.*

Cognitive advantages. *The group mind increases mastery, finds divergent solutions, and improves critical thinking.*

Cognitive elaboration. *If you can explain a concept to a teammate and discuss it in depth, you understand it.*

Interpersonal skills and self-awareness. *Putting team members together forces students to know one another better, appreciate strengths and differences, and engage in growth-inducing reflection on their personal habits and personality attributes.*

*Establish the differences between groups and teams through discussion, reflection, or guest speakers from industry who can talk about the central role of teams in business. Once the discussion is over, however, you will need to consistently employ a set of tools to train students in teamwork. This process can be lengthy and frustrating, but **teaching students to work in teams is one of the most important goals of a twenty-first-century teacher.***

Keep in mind that teams operate in stages. Early on, they may not be effective. Give them the time and support necessary to get better at their job, just as individuals do. When the teams begin to function at a higher level, move the bar of assessment higher.

Build Collective Knowledge through Collaboration

1. Prepare the Teams
2. Insist on Norms
3. Empower Students to Coach One Another
4. Challenge the Teams
5. Value Beautiful Work

Once the project is under way, the focus shifts from organizing to performing. Your ultimate goal is to have students take responsibility for the quality of their products and learn tools for reflection, analysis, and judgment that result in peak performance and outstanding products. In projects, this process occurs through collaboration, either using whole-group collaboration in lower grades or forming high-functioning teams with older students. Research in learning confirms that collaboration leads to deeper understanding, higher-order thinking, and better performance on complex tasks. But the ultimate power of collaboration stems from the experience of discovering solutions that cannot be found by the individual alone. **Teaching how to work together as a coherent team, in pursuit of quality or a purpose, is one of the most profound gifts you can give to your students.**

1 Prepare the Teams

Forming teams that will do quality work is a crucial task in the first days of the project. The earlier team members begin to work together, the more responsibility for the project they take on. Follow a step-by-step process. Allow for these steps in your Project Schedule (see the form at the back of this book).

- **Discuss teams versus groups.** Remind students of the difference between a group and a team. A team relies on each member's commitment to one another's success, has a well-defined purpose, and uses the combined resources of the team to produce a better product.
- **Issue guidelines.** The process of actually forming teams can be highly directive (you may choose all members beforehand), or it can be a longer process of self-selection based on interests and abilities. If you opt for the longer process, have strict guidelines in place when you introduce the project. Decide the size of teams (teams of three to five members work well, but use your best judgment), how teams will function, and the

criteria that students will use to decide how teams are formed. One rule of thumb: If teams have not worked well before, take more time with the team selection and formation process

- **Balance teams.** No team exists in which every member contributes exactly the same amount of time, energy, and expertise. Humans vary— and it is your job to get the best combination of students on each team. Introduce exercises to help students identify their strengths and potential contributions, or simply assign team membership based on past performance, your knowledge of the students, and goals for the project.
- **Require team roles.** Assign roles for team members, or let students decide on their roles. Give them time to work out issues. Determining roles is a valuable lesson in negotiation and teamwork.
- **Teach the cycle of reflection and perfection.** Link the conversation to the expectations of the work world. Establish the idea that reflection and revision lead to quality work. Consistently test teams to make sure they are moving in the direction of higher quality. Never wait until the conclusion of the project to review and assess student work.
- **Early in the project, introduce the concept of continuous improvement and the cycle of quality.** Many variations exist in this cycle, but all contain the same basic elements. One simple version, for example, looks like this:

Informal guideline about what is considered normal (what is correct or incorrect) social behavior in a particular group or social unit

2 Insist on Norms At the beginning of the project, set expectations and lay the foundation for smooth team functioning. Expect teams to operate by agreements and norms. At the same time, recognize that this process is ongoing. Early in the project, all team members should be able to answer the following five questions:

1. What do I bring to the team?
2. What are our commitments to one another?
3. What differences exist between us?
4. How will we operate?
5. How will we know we are succeeding?

You can take a number of actions to develop performance standards and direction:

Help teams set norms. With younger students, this step may require more time. Teams should begin with agreements on how they will operate, speak to one another, honor their commitments, and handle breakdowns. Each time a new member joins a team (if a new student arrives, or if teams get reshuffled for any reason), the team needs to readdress their norms. Approve contracts and operating documents. Norms vary, from informal short lists of agreements to more comprehensive contract documents. If you want teams to write a longer document, allow time in the Project Schedule.

Reflect on commitments. Have students discuss their commitments to one another's success— and why they could fail. How will they regroup?

Reflect on strengths. After students understand the project, have them examine and reflect on the strengths and challenges they bring to the team.

Review rubrics. Teams should review the assessments for the project so that their tasks and objectives are clear.

Mine for conflict. Take time to discuss differences and potential personality conflicts.

Have teams identify the skills necessary for success.

Discuss problem solving, communication, listening, objectivity, empathy, and asking for help.

Emphasize first meetings and initial actions. Start fast. Give teams a task to accomplish right away. Review results. Set a quick pace, with high expectations.

Intervene early. Be ready to regroup and go back to basics if a team falls apart. Remember that introducing a new team member requires revising the norms.

Use positive feedback. Becoming a good, contributing team member takes time and maturity. Look for what students are doing right as team members. Use positive feedback to instruct other team members.

Celebrate success. If a team finishes tasks early or shows signs of good performance, allow them downtime and the opportunity to ce

The ultimate power of collaboration stems from the experience of discovering solutions that cannot be found by the individual alone.

Review the tools for teams in Chapter 4. Incorporate into your project plan the use of contracts, work ethic rubrics, or collaboration rubrics. These tools will enable you to gauge and direct team performance.

3 Empower Students to Coach One Another PBL incorporates best practices for inquiry, and these practices should be evident within teams. Are students having a sustained conversation about the quality of their work? Do they demonstrate a continuous effort to address the complexities of their task? As teams move through the work of the project, look for opportunities for students to teach each other. A number of methods are available.

- **Make students answer their own questions.** Instead of students forming a line to ask you a question, make sure they have first asked each of their teammates that same question.
- **Use experts.** Instead of teaching an entire team, draw together team leaders (for example, the test engineers) and explain to them how a process or procedure will work. Their responsibility is to return to their teams and become the trainer.
- **Turn an open-ended, debatable issue into a teachable moment.** If teams are wrestling with a common issue, take time for each team to come up with their best ideas— then share with the class.
- **Ask students to brainstorm and share.** Break teams into pairs or triads to brainstorm a difficult solution. Have them report results back to the teams.
- **Jigsaw the teams.** Have members of teams rotate through other teams to share solutions, offer ideas, or reflect on drafts and prototypes.

4 Challenge the Teams your goal is to have teams develop a “growth mindset.” Keep them challenged. Use fresh thinking strategies. Consider the following ideas:

- Introduce the Driving Question in the second week of the project. Occasionally, letting your students grapple with information or wrestle with an issue before you share the Driving Question with them works better. After a bit of research and thinking, they may find the question more provocative.
- **Introduce a twist.** In classic problem based learning, teachers introduce a “twist” or new piece of information that changes the direction or parameters of the project. Use this technique by withholding— and then disclosing— a key set of facts or conditions that forces students to rethink and replan.
- **Use “Big Think” tools.** Use the visible thinking routines cited in Chapter 5 or similar thinking games to stimulate argument, inquiry, and exchange. For example, in The Big Think (Hi Willow Research

and Publishing, 2009), authors David Loertscher, Carol Koechlin, and Sandi Zwaan suggest that students “stretch their thinking” by asking questions:

- How is _____ related to _____?
 - What perspectives are (not) represented _____?
 - Why is _____ important to _____?
 - Is there another way to _____?
 - How might _____ change in the future?
- Use the “sandbox approach.” Encourage fun and creativity by having teams construct interpretive visuals, string webs to connect information, brainstorm how a concept “feels” or what it “sounds like,” build a collage of ideas, or create a short skit.

5 Value Beautiful Work In the work world, quality results matter. Many jobs require an understanding of the cycle of quality improvement and excellence. Allowing students to reflect and revise their work teaches this approach and leads to improved results.

Review the rubrics. Well-written rubrics constitute the best guide for quality. Carry the rubrics with you as you work with teams; constantly bring students back to the expectations and standards contained in the rubrics. Use the rubrics as a coaching tool to improve products.

Grade drafts and prototypes. In the Project Schedule, establish clear due dates for drafts, prototypes, or any other products that give you a clear view of progress. Grade these products, with extensive feedback.

Allow time for practice for exhibitions or presentations. The bigger the audience for the final presentation, the more practice students need. Allot time in the last week for peer-to-peer practice and final run-throughs under conditions as close as possible to the real event. Many students find that practicing their presentation in the hall or auditorium helps make the final product sharper.

Make the work public. If the project does not include presentations, make sure that the core product will be posted in a public place or be viewed outside of class— or school. **Re-plan the final week.** As the project comes to a close, review your schedule and r-plan if

necessary. A coach knows that your schedule and re-plan if necessary. A coach knows that flexibility is essential; always respond to changed circumstances with a revised plan to fill gaps, anticipate unexpected delays, or teach essential information that dropped out along the way.

Turn an open-ended, debatable issue into a teachable moment.

Resources:

Most notable are the Project Based Learning Handbook: A Guide to Standards-Focused Project Based Learning for Middle and High School Teachers, written by myself and colleagues at the Buck Institute for Education; and the PBL Starter Kit and PBL in the Elementary Grades, also published by the Buck Institute for Education. See www.bie.org for more resources.

Online links and assistance can be found as well through the George Lucas Educational Foundation (www.edutopia.org). A number of projects have been filmed and documented, and are available at www.edutopia.org and www.bie.org, or on YouTube channels.

More information can be found at www.thommarkham