Project-learning teaching strategies can also improve your everyday classroom experience. BY TRISTAN DE FRONDEVILLE

As a teacher, my goal was to go home at the end of each day with more energy than I had at the beginning of the day. Seriously.

Now, as I travel the country coaching teachers on how to successfully use project learning, my goal remains the same. And I try to teach educators the strategies they need to achieve this goal in their own classrooms.

A teacher in one of my workshops said, "When my students and I are in the flow, then I don't feel like I have to work as hard." I heartily agree. When 90 to 100 percent of my students are excitedly engaged in their tasks and asking deep and interesting questions, I experience joy, and joy is a lot less tiring than the frustration that comes with student apathy.

Project-based classrooms with an active-learning environment make such in-the-flow moments more common. Yet these same classrooms require many teacher and student skills to work well. As teachers, we can feel overwhelmed when we try something new and experience chaos instead of flow.

The good news is that the strategies for creating and managing high-quality project-learning environments are productive in any classroom, whether project learning is a central part of the curriculum or not. Here are ten ideas that you can start practicing in your classroom today to help you create more moments of flow.

Create an Emotionally Safe Classroom

Students who have been shamed or belittled by the teacher or another student will not effectively engage in challenging tasks. Consider having a rule such as "We do not put others downs, tell others to shut up, or laugh at people." Apply it to yourself as well as your students. This is the foundation of a supportive, collaborative learning environment. To learn and grow, one must take risks, but most people will not take risks in an emotionally unsafe environment.

Create an Intellectually Safe Classroom

Begin every activity with a task that 95 percent of the class can do without your help. Get your students used to the fact that when you say, "Please begin," they should pick up a pencil and start working successfully. This gets everyone on the bus. Then make sure your students know that these initial easy tasks will always be followed by increasingly challenging

ones. Create rich and complex tasks so that various students have a chance to excel and take on the role of helping others.

Cultivate Your Engagement Meter

Be acutely aware of when your students are paying strong attention or are deeply engaged in their tasks. Master teachers create an active-learning environment in which students are on task in their thinking and speaking or are collaboratively working close to 100 percent of the time. Such teachers notice and measure not only when students are on task but also the quality of their engagement.

Although it may take years to develop the repertoire of skills and lessons that enable you to permanently create this active-learning environment, you can begin by discerning which activities truly engage your students. The more brutally honest you are with yourself, the faster you will get there.

Create Appropriate Intermediate Steps

The first question I ask educators when I coach them on project learning is how many of their students say, "We can't wait to do another project," versus "Oh, no! Not another project." Teachers tend to get the first response when they scaffold challenging tasks so that all students are successful.

For example, take the typical task of interviewing an adult outside the classroom. Some teachers assign the task on Monday and expect it to be done the following Monday, confident that by including the weekend, they are providing sufficient support. Other teachers realize that finding, cold calling, and interviewing an adult are challenging tasks for most young people, so they create intermediate steps -- such as brainstorming, searching online for phone numbers, crafting high-quality interview questions, and role-playing the interview -- that train all students for success.

Practice Journal or Blog Writing to Communicate with Students

Japanese teachers highly value the last five minutes of class as a time for summarizing, sharing, and reflecting. A nice way to change the pace of your class is to have students write regular reflections on the work they have done. Encourage and focus their writing with a prompt, such as "The Muddiest Point and the Clearest Point: What was most confusing about the work you did today, and what new thing was the most clear?" Use this approach to guide future lessons and activities. Consider writing responses to student journal entries in order to carry on a conversation with students about their work.

Create a Culture of Explanation Instead of a Culture of the Right Answer

You know you have created a rich learning event when all students are engaged in arguing

about the best approach to the assignment. When you use questions and problems that allow for multiple strategies to reach a successful outcome, you give students the opportunity to make choices and then compare their approaches. This strategy challenges them to operate at a higher level of thinking than when they can share only the "correct" answer. Avidly collect problems and tasks that have multiple paths to a solution. As a math teacher, I create problems that have a lot of numbers instead of the usual two. For example, I can present this problem:

5 + 13 + 24 - 8 + 47 - 12 + 59 - 31 - 5 + 9 - 46 - 23 + 32 - 60

Then I can say, "There are at least three fundamentally different strategies for doing the following problem. Can you find them all?"

Teach Self-Awareness About Knowledge

All subjects build on prior knowledge and increase in complexity at each successive level of mastery. Effective learning requires that certain skills and processes be available for quick recall. Many students let too much of their knowledge float in a sea of confusion and develop a habit of guessing, sometimes without even knowing that they are guessing.



Credit: Courtesy of Tristan de Frondeville

To help students break this habit, paste the graphic at right next to each question on your assessments. After the students answer a question, have them place an X on the line to represent how sure they are that their answer is correct. This approach encourages them to check their answer and reflect on their confidence level. It is informative when they get it wrong but marked "for sure" or when they do the opposite and mark "confused" yet get the answer right.

Use Questioning Strategies That Make All Students Think and Answer

Pay a visit to many classrooms and you'll see a familiar scene: The teacher asks questions and, always, the same reliable hands raise up. This pattern lends itself to student inattention. Every day, include some questions you require every student to answer. Find a question you know everyone can answer simply, and have the class respond all at once.

You can ask students to put a finger up when they're ready to answer, and once they all do, ask them to whisper the answer at the count of three. They can answer yes, no, or maybe with a thumbs-up, thumbs-down, or thumbs-sideways gesture. That also works for "I agree,"

"I disagree," or "I'm not sure."

Numerical answers under ten are easy to show with fingers, but don't limit yourself to math questions. For instance, if you're teaching time management, have students let you know what their progress is halfway through the class by putting up one or more fingers to show whether they are one-, two-, or three-quarters done with the assignment, or finished. Do these exercises at least two or three times per class.

Practice Using the Design Process to Increase the Quality of Work

Students in school get used to doing work at a consistent level of quality. Unfortunately, lowperforming students get used to doing poor-quality work. To help them break the habit, use a draft-and-revision process.

Many professionals use such a design process to increase the quality of their work. Engineers build prototypes, respond to critical feedback, and refine their design before going into production. Artists make sketches of big works and revise their ideas before creating their final piece. Use the design process to drive your students to produce higher-quality work than they are used to doing when they create only a first effort. Include peer evaluation as part of the feedback they receive.

Market Your Projects

When your students ask, "Why do we need to know this?" you must be ready with the best answer possible. Great projects incorporate authentic tasks that will help students in their lives, jobs, or relationships. Engage students by developing an inventory of big ideas to help you make the connections between your assignments and important life skills, expertise, high-quality work, and craftsmanship. The Partnership for 21st Century Skills provides a good starter list.

Also, search out the powerful processes and ideas experts in your own subject use repeatedly. (In math, for instance, my list includes generalizing and parts and wholes.) Keep a journal of the big ideas you've discovered simply by teaching your subject. By continually referring to these big ideas, you will encourage students to think and act like subject-matter experts and develop skills they will use throughout their lives.

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