

INQUIRY



With project-based lessons, you'll deepen kids' learning experience and have more fun teaching. **By Jeff Wilhelm**

Inquiry-based learning is about more than moving desks out of those neat rows and avoiding lecture and recitation, says Jeff Wilhelm in his newest book, *Engaging Readers & Writers With Inquiry* (Scholastic 2007). It's about turning the way you teach upside down and inside out by asking students the big questions and letting them find their own way to the answers.

Here's a secret: You probably already use inquiry at least some of the time. But how do you go full-time? Here are five tips that will help you transform your teaching.

1. TEACH SO IT MATTERS

How do you bridge the gap between what your students care about and what they need to learn? Start by focusing on what *you* care about. Think about what matters to you, and jot it down on a piece of paper. Then make connections—literally and figuratively—between these passions and the content you are required to teach.

Maybe you've loved astronomy since you were a child, but lately there have been fewer clear nights for stargazing. What questions does this bring up about air quality in your area? What about

climate? Long-term weather patterns?

Now ask yourself what your students like to do in their spare time. Better yet, ask them. Maybe they go sledding together in a park on snow days. Ask students if there have been more or fewer snow days this year than in the past. Why might that be? Students will become more interested in climate science because it's related to an activity they love. Learning becomes as exciting as detective work, because students see how the material is relevant.

2. BUILD ON WHAT STUDENTS ALREADY KNOW

Kids have their own communities of practice. Whether it's a mutual interest in video games, sports, music, or animé, these communities define and enrich their identities. With inquiry, we help students become aware of—and adept at—working with an array of communities. We do this by using the identities and knowledge they already have as a bridge to the new identities and knowledge to be learned.

For example, a child in a science classroom engaged in real inquiry must be willing to take on an identity as a certain type of scientific thinker, problem solver, and doer. The child must see and make connections between this identity and others he or she has already formed.

So, instead of telling children all about Native American tribes and the settling of the West, ask them what they know about it based on movies they may have seen, like Disney's *Pocahontas*, or *The New World*. Then find out what questions they had after seeing those movies. Start the discussion there, and let the children drive it forward.

3. SHOW, DON'T TELL

When we tell—imparting only information—students tend to forget much of it within two weeks and practically all of it within two years. But when we teach students *how* in a meaningful context, they have the motivation to use the conceptual material. Through doing, they learn more deeply and retain what they learn.

Think about this in terms of your **➤➤**

expert opinion

teaching. Sure, you can benefit from reading books about teaching and from taking methods courses, but you really learn how to teach once you're in the classroom. (The sidebar on page 45 is an example of how to show students about potential energy rather than telling them.)

4. RECAST YOUR ROLE AS COLLABORATOR

Think of yourself as a guide. This means resisting the urge to give students the answers and, instead, talking them through the learning process.

Here's an example from a real classroom. Third-grade teacher Heather Bauer began the study of number theory by asking her class the question: "What do you know about numbers?" Groups of students brainstormed what they knew and wished they knew. Several groups asked a variant of, "Where do numbers end?" Since this was a question of general interest, Heather decided to start a discussion of the concept of infinity. She

asked the class: "What do you already know about infinity? How would you define it in words?" One student answered, "I think it's like a container for numbers, except the container doesn't have any sides." Heather then gave students strips of paper and asked them: "What could you do with this paper to show infinity?" Three students made a Möbius strip without knowing what it was. The unit continued with students studying Fibonacci cubes and sequences and theorizing about patterns—all the subjects she was required to cover in the unit.

Simply by asking questions, Heather was able to support lively discussions that promoted deep understanding. These questions made the kids do the thinking and the work. They shared, responded, and provided uptake for one another. Heather learned from what the students said and did in ways that informed her next question. She was a

guide in the process, but she empowered the students drive the lesson.

5. TEACH FOR UNDERSTANDING

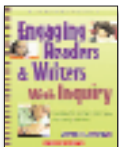
Using guiding questions to frame your lessons leads to powerful student questions and animated learning conversations that build understanding. The guiding question reaches into students' lives. Teaching becomes easier because you now have a compelling hook. Imagine teaching your students about the scientific method by telling them its definition. Now imagine leading them through an investigation into why the heating pipes in the school make noise in the winter. Hey, guess what? Your students just used the scientific method. Now they don't need to be given a definition. They understand it on a much deeper level.

You can incorporate this approach into every subject you teach by starting every lesson with a mystery to be solved, a statement to be defended or argued

1/2 Horizontal Left

against, a question to be debated. On the way to solving the case, the problem, the vexing question, dialogues occur that consolidate major concepts, vocabulary, strategies, and ideas. The curriculum comes alive—it is current and it has currency. It means something to the kids.

What's more, your teaching will become more animated; you'll be more interested in your lessons. They'll change from year to year based on where your students go with your guiding questions. And the more excited you become, the more your students will pick up on your love of teaching and develop their own love of learning. Before you know it, you'll be a teacher your students will never forget. □



JEFF WILHELM IS PROFESSOR OF ENGLISH EDUCATION AT BOISE STATE UNIVERSITY AND FOUNDING DIRECTOR OF THE BOISE STATE WRITING PROJECT. THIS ARTICLE WAS ADAPTED FROM HIS NEWEST BOOK *ENGAGING READERS & WRITERS WITH INQUIRY*. TO ORDER, CALL 1-800-SCHOLASTIC.

INQUIRY [IN ONE ACT]

THE SETTING:

A mixed third- and fourth-grade class. The students are in small groups, at stations scattered around the room, where they've built Lego cars. Chris, the teacher, is using the inquiry method to introduce the class to the concept of potential energy. Here's how the project goes:

THE SCENE:

TEACHER: **Your challenge is to power your car using energy that is stored in a rubber band. How do you think you can release that energy?**

BOY 1: (jumps out of his seat) **Twist it; let it go!**

GIRL 1: **You could stretch it and let it go too!**

BOY 2: **But you can't use the energy unless you connect it somehow to the axle or the wheels on the car. You have to, like, transfer it—the energy, I mean—to the car.**

TEACHER: **"These are excellent ideas. Get to work. Remember to keep track of what works best and what doesn't work. Learning means you have to make some mistakes and hit some dead ends, so that is good stuff, too!"**

Chris doesn't end the lesson by giving his students the answer, because the answer is not the point. It's how they get there that matters. When students ask themselves the questions that intrigue them most, the knowledge they acquire will be more than just a series of facts they had to remember. It will actually mean something to them.

1/2 Horizontal Right