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# What Kids Learn from Experts

*Feedback from experts helps students see how to improve their work—and why it matters.*

**Cheryl Becker Dobbertin**

**W**hen the city of Springfield, Massachusetts, needed data to help determine energy-conservation measures for the municipality's school buildings, facilities engineer Joseph Forest turned to an unusual source—9th grade students at Springfield Renaissance School.

Students in Aurora Kushner's environmental science class worked with Forest to complete energy audits in

Springfield schools. Then, with Forest and Kushner's guidance, they helped prepare and review contractors' proposals to retrofit school buildings through such actions as installing cost- and energy-saving heating and cooling systems.

Kushner then asked Forest to take an unusual next step: to provide feedback on the accuracy and style of students' work as they edited, published, and presented *Green Print*, a lengthy report that detailed the students' recommendations and their cost-benefit analysis. Kushner's students presented the final report

to an audience that included Springfield's mayor. Hundreds of thousands of dollars' worth of projects the students recommended were funded, and the work to save energy dollars in Springfield's schools is underway. "These students are now part of the solution to energy conservation in our city," notes Forest.

## **Real-World Stakes**

Springfield Renaissance, for students in grades 6–12, is one of a network of 165 schools that use the Expeditionary Learning model, a framework

that promotes project-based learning, partnerships with experts, and positive school culture. Expeditionary Learning aims for students to reach high levels of academic achievement through problem solving, critical thinking, and active citizenship. Like Renaissance, secondary schools that adopt Expeditionary Learning are often located in low-income, urban areas. Most achieve 100 percent graduation and college acceptance rates among their students.

Renaissance's 650 students—who selected the school through Springfield's school choice system—come from all over the city. Almost 60 percent come from families that live in poverty, and 14 percent qualify for special education services. Connecting these learners to academic work is central to Renaissance's mission; projects with real-world stakes and mentors from the working world support that mission.

Projects like the energy audits bring to life the skills required by state standards, Kushner says,

but even when the work is embedded in a real-world context, students sometimes don't understand how important it is to do their work well. When Joe critiqued their work and offered them feedback, when he highlighted how important it was for them to be accurate and precise, I saw their willingness to improve their work to professional standards increase dramatically.

Ron Berger, chief program officer of Expeditionary Learning and author of *An Ethic of Excellence*, a guide to helping students develop quality work, notes that

There is a special excitement in classrooms when students are anticipating the visit of a paleontologist or an engineer not just as a classroom guest, but as a collaborator who will assess and improve their work. A classroom teacher's feedback, however clear, is not the same as having a professional architect critiquing student blueprints or a biologist checking student experimental protocols and data analysis.

At Tapestry High School in Buffalo, New York, U.S. history teacher Jessica Mascle discovered something similar. In her second year leading a project in which students took photographs to document justice and injustice in Buffalo, Mascle and her fellow 11th grade teachers realized it was important for students to display their work pub-

licly. But even when the teens showcased their photographs in a local art gallery, Mascle said, the group realized that although "it was a really nice exhibit of student work, it wasn't yet 'professional.'"

The following school year, Mascle and students partnered with Sean Donaher, an artistic director of a pho-



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tography gallery in Buffalo. Using a collection of his own work as an example, Donaher showed students and teachers how to create a coherent whole out of the pieces of an exhibit. He showed students how to group and sequence photographs and use text to guide an audience. Essentially, Donaher acted

as artistic director for these emerging photographers, guiding and shaping students' plans through overall critique and individualized feedback.

Projects like this take substantial time. But Mascle believes the expenditure of time pays off, noting that 100 percent of her students passed the New

York State Regents Exam in U.S. History last year. Benefits go beyond the academic, Mascle says:

My students are motivated to learn the content of my course . . . But even more important, they are developing this sense of the importance of quality, of taking care and making things right. . . . Now when they're working on [other tasks], we have this common touchstone of the quality of work they are capable of producing.

## Getting the Most from the Pros

To work with professional experts in your classroom,

- Cast the net wide, especially through e-mail. Many of the best connections come when friends and professional acquaintances pass the e-mails along.

- Create a binder describing the expertise that parents have to offer.

- Contact your local university's service learning and volunteer offices.

- Talk with representatives from the relevant field before you invite anyone into your classroom.

- Meet with experts ahead of time to ascertain their comfort level with students of the age you teach. Discuss your students' needs and the specifics of any assignments.

- Be open to experts' feedback; they may suggest valuable methods to improve novices' work in the field.

- Be clear about what you want students to get from these interactions. A typical invitation to an expert might read, "We are developing a garden in our school's courtyard. Can you share with us your methods for designing gardens? Will you give students feedback on their garden designs and help us choose the best design?" If possible, show experts a model of the kind of work you're hoping they will become involved in.

- Provide students the background knowledge needed to make the most of the visit. Share protocols, rubrics, or other feedback tools with invited guests.

- Prepare students to greet, welcome, and introduce the expert.

- Offer a small honorarium.

- Acknowledge the expert's involvement in all written materials associated with the project.

- Have students present a thank-you note or other token of appreciation.



## Excellence and Ethics

Howard Gardner—whose work includes the GoodWork Project, a study with Mihaly Csikszentmihalyi and William Damon of excellent, engaging, and ethical work—recently gave a speech at the 2010 Expeditionary Learning National Conference. In it, he described one of a teacher's fundamental roles: "It's our job to help students become good workers . . . people who are technically excellent, engaged, and always thinking about the ethical thing to do."

Students at Polaris Expeditionary Learning School, a public secondary school in Fort Collins, Colorado, are investigating the effect of reintroducing wolves into Yellowstone National Park. Polaris students live out all three of the GoodWork Project's tenets—high-quality work, intense involvement, and a focus on ethical choices. They examine the implications of the wolves' presence and prepare to recommend whether reintroduction efforts should expand.

The students spent several hours interviewing ranch operator Warren Johnson, who owns property in the mountains bordering Yellowstone, delving deeply into the effect of wolves on livestock and the ranchers' attitudes toward wolves. After hearing from Johnson, students interviewed representatives from the Turner Endangered Species Fund and encountered live

wolves through the organization Wolf Sanctuary. Access to people grappling with complex issues helped students understand that opinions about what is right or wrong in any situation depend on people's perspectives—and perspectives vary widely.

The Polaris students prepared and presented their recommendations about wolf reintroduction to several audiences, including listeners to the live Critter Patter show on their local radio station 88.9 KRFC. "Listening to our students make these presentations and handle the questions of others, I realized that they had developed deeply informed opinions," said Matt Strand, a Polaris teacher. "They weren't just saying back things they had heard from others."

### **Finding Student-Friendly Experts**

Locating experts to connect with students in classrooms may not be as challenging as teachers think, according to Cree Bol, coteacher with Strand at Polaris:

I often start with people I already know. I knew that one of our parents had edited a book on wolf reintroduction in Colorado. I asked him to speak to our group and talk about wolf biology as well as the editing process. He ended up donating copies of the book to our school and now it's required reading as part of the project.

Bol contacted personnel in organizations involved with wildlife management—whom she found by examining relevant websites—as well as local university professors. She recommends finding people who go beyond "canned" presentations or just discussing their careers:

We want our students to really be able to ask questions, to collaborate with our experts as partners, to move beyond the general information. So we take care that the expert is going to be comfortable with this before we set them up with our students.

## **"We want our students to really be able to ask questions, to collaborate with experts as partners."**

Expeditionary Learning's Ron Berger recommends that teachers develop relationships with skilled practitioners in a field by interviewing a variety of people, which also boosts teachers' own background knowledge. Experts who are especially articulate, clear, and engaging are the ones to invite to the classroom. (See "Getting the Most from the Pros" on p. 66 for tips on using experts successfully in your classroom.)

### **Preparing Students for Feedback**

Once work with experts is underway, it's important to prepare both them and the students for critique and feedback sessions. One way to make sure that the critiques go well is to use protocols, such as ground rules for discussions that ensure that students' experiences with professional experts are positive and productive.


As a 5th and 6th grade teacher, Ron Berger often used a protocol called Praise, Question, Suggest. Anyone providing feedback to a student first praises something about the student's work, then asks questions about the work in a way that often leads the student creator to see areas he or she wants to revise, and finally offers suggestions for improvement.

"Students knew it was a given that we would be revising our work and that our experts were coming in to help us do our work well," Berger says. "Praise, Question, Suggest became such a part of our classroom culture that our experts felt they could be very honest with kids about the quality of their work in a way that always helped them get better."

Bol and Strand prepared students for interactions with experts in several ways. They videotaped their students asking questions and provided feedback on how well they did with that skill long before the learners asked questions of a practitioner. This process helped students not only to revise their questions, but also to develop the background knowledge they needed to probe the thinking of the experts they met in a sophisticated way.

Students learned to go beyond asking simple questions and transcribing answers; they came back to initial responses from experts they questioned with substantive follow-up questions. Strand noted,

They were working in the way professional researchers and scientists and policymakers do, gathering all that they could to ensure that they really understood each person's point of view and the impact of what they were learning on the lives of all of those affected.

Strong commitment by teachers, experts, and students ultimately makes a difference. "The students were very focused," Joseph Forest of the Springfield schools project recalls. "Their enthusiasm and their true desire to make a difference came shining through in the final document. . . . I saw that when kids have the opportunity to do work that can impact their community, they really care about doing work well." 

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